

**Intergovernmental Oceanographic Commission**  
*Reports of Governing and Major Subsidiary Bodies*



**Fifty-first Session  
of the Executive Council**

Paris, 3–6 July 2018

**UNESCO**

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**TABLE OF CONTENTS**

**PART I: SUMMARY REPORT**

	page
<b>1. OPENING.....</b>	<b>1</b>
<b>2. ORGANIZATION OF THE SESSION .....</b>	<b>2</b>
2.1 ADOPTION OF THE AGENDA.....	2
2.2 DESIGNATION OF THE RAPPORTEUR .....	2
2.3 ESTABLISHMENT OF SESSIONAL COMMITTEES AND WORKING GROUPS.....	3
2.4 INTRODUCTION OF TIMETABLE AND DOCUMENTATION.....	3
2.5 ROGER REVELLE MEMORIAL LECTURE .....	4
<b>3. STATUTORY REPORTS .....</b>	<b>4</b>
3.1 REPORT OF THE EXECUTIVE SECRETARY ON THE WORK ACCOMPLISHED SINCE THE TWENTY-NINTH SESSION OF THE ASSEMBLY AND ON BUDGET IMPLEMENTATION (JULY 2017–MAY 2018).....	4
3.2 WORK OF THE PRIMARY REGIONAL SUBSIDIARY BODIES .....	7
3.3 REPORT OF INTERGOVERNMENTAL COORDINATION GROUPS FOR REGIONAL TSUNAMI AND MULTI-HAZARDS WARNING SYSTEMS.....	9
<b>3.3.1 Fourteenth Session of the Intergovernmental Coordination Group             for the Tsunami Early Warning and Mitigation System             in the North-eastern Atlantic, the Mediterranean and Connected Seas             (ICG/NEAMTWS-XIV), Lisbon, Portugal, 21–23 November 2017.....</b>	<b>9</b>
<b>3.3.2 Thirteenth Session of the Intergovernmental Coordination Group             for the Tsunami and Other Coastal Hazards Warning System             for the Caribbean and Adjacent Regions (ICG/CARIBE EWS-XIII),             Willemstad, Curaçao, 23–27 April 2018.....</b>	<b>9</b>
<b>3.3.3 Eleventh Meeting of the Working Group on Tsunamis             and other Hazards related to Sea-Level Warning             and Mitigation Systems (TOWS-WG), UNESCO,             Paris, 16–17 February 2018.....</b>	<b>10</b>
<b>3.4 REPORTS OF IOC TECHNICAL SUBSIDIARY BODIES .....</b>	<b>12</b>
3.4.1 Fifth Session of the Joint WMO-IOC Commission for Oceanography and Marine Meteorology (JCOMM-5), Geneva, Switzerland, 25–29 October 2017 .....	12
<b>4. IOC AND THE FUTURE OF THE OCEAN: STRATEGIC DEVELOPMENTS.....</b>	<b>13</b>
4.1 DRAFT IMPLEMENTATION PLAN FOR THE UNITED NATIONS DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT.....	13
4.2 ENHANCED COHERENCE, IMPACT AND FUTURE ORIENTATIONS OF THE IOC OCEAN SCIENCE PORTFOLIO IN SUPPORT OF THE UN DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT AND 2030 AGENDA .....	18

4.3	PROPOSED IMPLEMENTATION PLAN FOR CONDUCTING THE SECOND EDITION OF THE GLOBAL OCEAN SCIENCE REPORT (GOSR).....	19
4.4	FOLLOW-UP TO IOC CUSTODIANSHIP ROLE IN RELATION TO SDG 14 INDICATORS.....	20
4.5	REPORT OF IOC REGULAR WORKING GROUP ON USER REQUIREMENTS AND CONTRIBUTIONS TO GEBCO PRODUCTS.....	21
4.6	IOC RELEVANT ISSUES RELATED TO THE INTERGOVERNMENTAL CONFERENCE ON AN INTERNATIONAL LEGALLY BINDING INSTRUMENT UNDER THE UN CONVENTION ON THE LAW OF THE SEA ON THE CONSERVATION AND SUSTAINABLE USE OF BIOLOGICAL DIVERSITY OF AREAS BEYOND NATIONAL JURISDICTION .....	23
4.7	A TEN-YEAR STRATEGY FOR THE GLOBAL OCEAN OBSERVING SYSTEM (GOOS) .....	24
4.8	EVOLVING CAPABILITIES OF THE ARGO PROFILING FLOAT NETWORK.....	26
4.9	IOC CONTRIBUTION TO OCEAN LITERACY IN 2018–2021 .....	28
<b>5.</b>	<b>REVIEW OF IOC PROGRAMMES CO-SPONSORED WITH WMO .....</b>	<b>29</b>
5.1	RECOMMENDATIONS OF THE WMO GOVERNANCE REVIEW REGARDING JCOMM, GCOS, GOOS AND WCRP .....	29
5.2	REVIEW OF THE WORLD CLIMATE RESEARCH PROGRAMME (WCRP).....	31
5.3	A 10-YEAR STRATEGY FOR THE GLOBAL CLIMATE OBSERVING SYSTEM .....	32
<b>6.</b>	<b>ADMINISTRATION, FINANCE AND MANAGEMENT.....</b>	<b>33</b>
6.1	FOLLOW-UP TO RESOLUTION XXIX-2: FINANCE AND REGULATIONS, GOVERNANCE, WORKING METHODS AND PROCEDURES .....	33
6.2	REPORT BY THE CHAIRPERSON OF THE FINANCIAL COMMITTEE .....	34
6.3	PREPARATION OF THE THIRTIETH SESSION OF THE ASSEMBLY AND NEXT SESSIONS OF THE EXECUTIVE COUNCIL .....	36
<b>7.</b>	<b>REPORT .....</b>	<b>36</b>
<b>8.</b>	<b>CLOSURE.....</b>	<b>37</b>

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**PART II: RESOLUTIONS AND DECISIONS**

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Resolution <b>EC-LI.1</b>	United Nations Decade of Ocean Science for Sustainable Development .....	39
Resolution <b>EC-LI.2</b>	Financial matters of the Commission .....	40
<b>EC-LI/Dec.____</b>		
<b>2</b>	I. Agenda.....	78
	II. Rapporteur .....	78
	III. Sessional Committees and Working Groups .....	78
<b>3.1</b>	Report of the Executive Secretary .....	78

<b>3.2</b>	Work of the Primary Regional Subsidiary Bodies.....	79
<b>3.3</b>	Regional Tsunami and Multi-Hazards Systems .....	79
	I. North-Eastern Atlantic, the Mediterranean and Connected Seas Tsunami Warning and Mitigation System (NEAMTWS) .....	80
	II. Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (CARIBE-EWS) .....	80
	III. Working Group on Tsunamis and Other Hazards Related to Sea-Level Warning and Mitigation Systems (TOWS-WG) .....	80
<b>3.4.1</b>	Fifth Session of the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM-5) .....	81
<b>4.2</b>	Enhanced Coherence, Impact and Future Orientations of the IOC Ocean Science Portfolio in support of the United Nations Decade of Ocean Science for Sustainable Development and the 2030 Agenda.....	81
<b>4.3</b>	Proposed Implementation Plan for Conducting the Second Edition of the Global Ocean Science Report (GOSR) .....	84
<b>4.4</b>	Follow-up to IOC’s Custodianship Role in Relation to SDG 14 Indicators .....	84
<b>4.5.</b>	Report of the IOC Working Group on User Requirements and Contributions to General Bathymetric Chart of the Oceans (GEBCO) Products.....	85
<b>4.6</b>	IOC relevant issues related to the Intergovernmental Conference on an International Legally Binding Instrument under the UN Convention on the Law of the Sea on the conservation and sustainable use of biological diversity of areas beyond national jurisdiction.....	85
<b>4.7</b>	The Global Ocean Observing System (GOOS) .....	86
	I. A Ten-Year strategy for GOOS.....	86
	II. OceanObs’19 .....	86
<b>4.8</b>	Evolving Capabilities of the Argo Global Array of Profiling Floats .....	86
	I. Global implementation of six new biogeochemical parameters for Argo floats.....	87
	II. The approval framework for additional new parameters for Argo.....	87
<b>4.9</b>	IOC’s contribution to Ocean Literacy in 2018–2021.....	87
<b>5.1</b>	IOC recommendations regarding the proposed reform of the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM) .....	88
<b>5.2</b>	Review of the World Climate Research Programme (WCRP).....	90
<b>5.3</b>	A Ten-Year Strategy for the Global Climate Observing System (GCOS).....	90
<b>6.1</b>	Follow-up to Resolution XXIX-2: Finance and Regulations, Governance, Working Methods and Procedures .....	90
<b>6.3</b>	Preparation of the Thirtieth Session of the Assembly and the Next Sessions of the Executive Council.....	90
<b>7</b>	Report.....	91

## ANNEXES

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### I. AGENDA

II. ADDRESSES AND STATEMENTS

- A - Address by Ms Audrey Azoulay, Director-General of UNESCO
- B - Address by Prof. Yutaka Michida, Chair of the Resolutions Committee
- C - Address by Mr Ariel H. Troisi, Chair of the Financial Committee
- D - Statements to the agenda item 4.1 on Decade of Ocean Science for Sustainable Development 2021–2030

III. IOC ROGER REVELLE MEMORIAL LECTURE, 2018

IV. INFORMATIONAL ANNEX

V. SOCIAL MEDIA

VI. LIST OF DOCUMENTS

VII. LIST OF PARTICIPANTS

VIII. LIST OF ACRONYMS



## PART I

## SUMMARY REPORT

**1. OPENING**

1 The Chairperson, Professor Peter M. Haugan, opened the Fifty-first Session of the IOC Executive Council at 10 a.m. on Tuesday 3 June 2018 in Room IV at UNESCO Headquarters.

2 In his opening statement, Professor Haugan highlighted that IOC had ridden on a wave of optimism during the previous year. IOC had been received and welcomed in many external fora in extremely positive ways. He also noted that the year had been unprecedented in its level of activity and achievements. He thanked UNESCO, including both the present and former Directors-General, for their support of IOC and their recognition of the Commission as an important contributor to the goals and aspirations of UNESCO, as well as a body with functional autonomy within UNESCO. That had been made very clear during the UNESCO General Conference the previous November. The Chairperson also referred to how, outside UNESCO, IOC was riding on a wave of unprecedented attention to the ocean. The United Nations Ocean Conference that had taken place just before the IOC Assembly in 2017 had begun to create a lasting impact led by the United Nations Secretary-General's Special Envoy for the Ocean, Peter Thomson, his group of Friends of Ocean Action and the nine Communities of Ocean Action, in which IOC also played an important role. He also recalled that IOC had hosted a meeting of UN-Oceans earlier in the year and been received with great interest, expectations and willingness to collaborate in all sister United Nations agencies.

3 Regarding the United Nations Decade of Ocean Science for Sustainable Development, he noted that the establishment of the High-Level Panel on Building a Sustainable Ocean Economy by the Norwegian Prime Minister Erna Solberg showed strong interest in the Decade. There were also other initiatives with strengthened focus on the ocean, including the United Nations Global Compact and its Sustainable Ocean Business Action Platform, as well as increased involvement and attention from regional organizations, Member States, industry and philanthropists.

4 He stressed that the ongoing intergovernmental conference aiming to establish a legally binding instrument for the protection and sustainable use of biodiversity in areas beyond national jurisdiction (BBNJ) also provided a venue for discussing and developing an ocean science base and capacity development, with a key role for IOC.

5 The Chairperson concluded by reminding participants that the decade was a once-in-a-lifetime opportunity and invited all stakeholders to engage and be active.

6 Ms Audrey Azoulay, Director-General of UNESCO, addressed the IOC Executive Council. She emphasized the fragile state of the ocean and its importance for the livelihoods and cultures of humankind. She referred to the United Nations Decade of Ocean Science for Sustainable Development as an unprecedented opportunity for all and highlighted the central role it would play in achieving the sustainable development goals (SDGs) enshrined in the 2030 Agenda for Sustainable Development. The Decade would therefore be important throughout UNESCO to facilitate and ensure the links between science, policy and action. She stressed the need to reinforce the intergovernmental coordination of ocean research in that respect, and to acknowledge that doing so was important for key sectors of society such as fisheries, transport and food security. In addition to specific ocean challenges, humanity had to combat climate change and fight for employment for all. She therefore emphasized the need to join a large group of partners to work together to meet the objectives of the United Nations Decade of Ocean Science for Sustainable Development, overcome its challenges and make full use of the new opportunities it offered the global community. She noted that regional mechanisms would help reach Decade objectives, in particular in Africa and small island developing States (SIDS). She recalled that UNESCO was particularly suited to engaging the education sector, e.g., though the

UNESCO Associated Schools Network, which, as an example, would introduce ocean literacy in 36 Member States. The Director-General concluded by stressing that greater investment in ocean science was required and that UNESCO remained committed to facilitating that in a multidisciplinary approach. Moreover, UNESCO was confident of the wise guidance of IOC Member States in outlining a strategic vision to bring about “the ocean we need for the future we want”. The full opening statement can be found in [Annex II-A](#) hereto.

7 The Chairperson asked participants to stand and observe a minute of silence to honour the following distinguished individuals who had participated in the work of the Commission and passed away during the previous year: Samantha Hettiarachchi (Sri Lanka); Matthew K. Howard (United States); Lâm Hồ Hiến (France); Prof. Selim Morcos (Egypt); Stephen R. Piotrowicz (United States); Mark Van Crombrugge (Belgium); Volodymyr Vladymyrov (Ukraine).

8 He announced that one new Member State had joined IOC since the last session of the Assembly in 2017: Turkmenistan, as of 8 January 2018.

9 The Chairperson welcomed the new Officers of IOC subsidiary bodies; for the IOC Regional Committee for the Central Indian Ocean (IOCINDIO), Dr Atmanand, for the Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS), Dr Chacón Barrantes; for the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas (ICG/NEAMTWS), Dr Papadopoulos, and for the Working Group on Tsunamis and Other Hazards related to Sea Level Warning and Mitigation Systems (TOWS-WG), Dr Postnov.

## 2. ORGANIZATION OF THE SESSION

### 2.1 ADOPTION OF THE AGENDA

10 The Chairperson reminded participants that the agenda of the Council mainly focused on the preparation of an implementation plan for the United Nations Decade of Ocean Science for Sustainable Development (2021–2030) with a view to its adoption by the IOC Executive Council in 2020. Representatives of United Nations agencies and key partners would provide statements under [item 4](#) on day 2. Although none of IOC’s regional subsidiary bodies would be holding meetings during the intersessional period, their representatives were given an opportunity to report on their current work and perspectives in the context of the Decade.

#### [Decision EC-LI/2\(I\)](#)

The Executive Council,

Adopts the agenda and the timetable of work as set out in document IOC/EC-LI/1 Prov. Rev.2 and Addendum with the following additional modifications:

Agenda item 4.6 should read: IOC relevant issues related to the Intergovernmental Conference on an International Legally Binding Instrument under the UN Convention on the Law of the Sea on the conservation and sustainable use of biological diversity of areas beyond national jurisdiction;

### 2.2 DESIGNATION OF THE RAPPORTEUR

#### [Decision EC-LI/2\(II\)](#)

The Executive Council,

Upon a proposal from Germany, seconded by Argentina and Spain,

Designates Andrew Stewart of Canada Rapporteur for its present session to assist the Chairperson and the Executive Secretary in the preparation of the draft summary report of the session;

## 2.3 ESTABLISHMENT OF SESSIONAL COMMITTEES AND WORKING GROUPS

11 The Chairperson invited the Executive Council to form two sessional committees, the Resolutions Committee and the Financial Committee, and asked whether there were any proposals for sessional working groups. There were no proposals for sessional working groups. Member States were invited to show their intention of participating in each committee by a show of hands.

### [Decision EC-LI/2\(III\)](#)

The Executive Council,

Establishes the following open-ended sessional committees and refers the following agenda items and responsibilities to them:

Financial Committee: examine the financial implications of draft decisions/resolutions and prepare a resolution under items [3.1](#), [6.1](#) and [6.2](#) under the chairpersonship of Ariel H. Troisi (Argentina, Vice-Chairperson) and with the participation of the following Member States: Argentina, Australia, Belgium, Brazil, Canada, China, Colombia, Egypt, France, Germany, Grenada, India, Italy, Japan, Kenya, Norway, Philippines, Portugal, Republic of Korea, Russian Federation, Senegal and United States of America (observer). Ms Ksenia Yvinec provided secretarial support to the Financial Committee;

Resolutions Committee: report on all draft resolutions duly submitted for consideration by 29 June and the draft resolution covering financial matters drafted during the session under the chairpersonship of Prof. Yutaka Michida (Japan) and with the participation of the following Member States: Canada, China, France, Indonesia, Japan, Norway, Portugal, Republic of Korea, Russian Federation and Thailand. Mr Julian Barbière provided secretarial support to the Resolutions Committee.

## 2.4 INTRODUCTION OF TIMETABLE AND DOCUMENTATION

12 Dr Ryabinin, Executive Secretary of IOC, introduced the item. He briefly reviewed the list of working documents and reminded the Executive Council that the report would focus on decisions. Referring to [IOC/EC-LI/Inf.1](#), the Executive Secretary reminded participants that draft decisions were to be adopted during the discussion of each agenda item. The Action Paper was intentionally drafted as a pre-report in order to streamline the reporting process during the session. Draft resolutions would be examined for adoption under agenda item [7](#). The draft summary report would be prepared in four languages during the session in view of its adoption at the end of the session, or after the session by correspondence considering the Council's tight schedule. Member States that wished to have specific, particularly important plenary interventions recorded were invited to provide written records thereof using a dedicated template through an e-mail address ([iocgovbody@unesco.org](mailto:iocgovbody@unesco.org)) set up for that purpose ([IOC/EC-LI/Inf.1 Add.](#)).

13 With reference to the timetable of the session, the Executive Secretary explained that it had been carefully crafted by the Officers and the Secretariat to ensure the following logical sequence of proceedings. The first day would cover all the statutory items in terms of reporting and follow-up to resolution XXIX-2 on the Financial Matters of the Commission, enabling the sessional Financial Committee to begin its work. The second and third days were planned to be largely devoted to the discussion of the key strategic developments, including the United Nations Decade of Ocean Science for Sustainable Development, for which the guidance of the Executive Council was of critical importance. He also informed the Council about the arrangements for interpretation during the session. English and French interpretation would be provided during the meetings of the Financial Committee.

## 2.5 ROGER REVELLE MEMORIAL LECTURE

14 The Chairperson of IOC introduced the Roger Revelle Memorial Lecture. He recalled that the lecture, in commemoration of the celebrated oceanographer, was devoted to a talk by a distinguished scientist whose contribution to oceanography and society was widely recognized or ought to be acknowledged. Professor Haugan stated that he was proud to introduce the most renowned of oceanographers, Professor Walter Munk, as the 2018 IOC Roger Revelle Memorial Lecturer.

15 Looking back at his career, which had, by and large, contributed to the development of contemporary ocean science, Professor Munk dedicated his lecture to none other than Roger Revelle, his mentor and friend, himself. He expressed his admiration for Revelle as “an independent great man” and major founder of modern oceanography. Walter Munk’s presentation celebrated almost a hundred years of oceanography, and his extended audience included the IOC Executive Council, guests and viewers all over the world, who watched via live stream.

16 Among Professor Munk’s best known breakthroughs was the Heard Island Feasibility Test of 1993, which had demonstrated that low-frequency sound pulses could be recorded half-way around the Earth, confirming the use of Ocean Acoustic Tomography as a tool for monitoring temperature and oceanic climate change over large regions of the ocean. Through another experiment to record the progression of waves over 6,000 nautical miles, from New Zealand to Alaska, he also proved that the California summer swell could originate in the Indian Ocean, halfway around the world. Professor Munk concluded his lecture with his forward-looking motto, “This task was done with more enthusiasm than knowledge”, referring to the fact that enthusiasm was the ultimate driver of knowledge generation, scientific discoveries and the scientific community’s contributions to society.

17 On behalf of the Commission, the Chairperson of IOC paid tribute to Professor Munk in the following terms: “We come out of your lecture with more enthusiasm than when we entered, and certainly with more knowledge.” Professor Munk was awarded the IOC Roger Revelle Memorial Medal in honour of his lifetime achievements in ocean science.

## 3. STATUTORY REPORTS

### 3.1 REPORT OF THE EXECUTIVE SECRETARY ON THE WORK ACCOMPLISHED SINCE THE TWENTY-NINTH SESSION OF THE ASSEMBLY AND ON BUDGET IMPLEMENTATION (JULY 2017–MAY 2018)

18 In accordance with Rules of Procedure 8 (b) and 49, the Executive Secretary reported on the work accomplished by the Commission since the Twenty-ninth Session of the IOC Assembly (Paris, 21–29 June 2017) and on budget execution for the 2016-2017 biennium. He also provided a brief outline of the budget for 2018–2019 ([IOC/EC-LI/2 Annex 2](#) and [Corr.](#)). Dr Ryabinin then drew the attention of the Executive Council to the fact that the Analytical Programme Implementation Report for the complete quadrennium 2014–2017 had been provided as an appendix to the statutory report contained in document [IOC/EC-LI/2 Annex 1](#).

19 The statutory report was further complemented by: (i) an update on the IOC communications activities in follow-up to the Communications Advisory Report ([IOC/EC-XLIX/Inf.2](#)) reviewed by the Executive Council at its Forty-ninth Session (Paris, 7–10 June 2016); (ii) information about the activities concerning the Second International Indian Ocean Expedition (IIOE-2); and (iii) the report of the first meeting of the IOC Group of Experts on Capacity Development (UNESCO, 21–23 March 2018).

20 Before proceeding with a more detailed report on the work accomplished under each of the six functions of the Commission, Dr Ryabinin congratulated Member States on a most

important achievement, resulting from years of relentless efforts to highlight the essential and cross-cutting role of ocean science in sustainable development. After two years of preparatory work, during which Member States and other interested parties had been consulted on the concept and potential value of a United Nations Decade of Ocean Science in support of the implementation of the 2030 Agenda, IOC's efforts had earned the ultimate recognition in December 2017.

21 At its Seventy-second Session, within Part XI of the Omnibus Resolution for Oceans and the law of the sea relating to "Marine Science" ([A/RES/72/73](#)), the United Nations General Assembly (UNGA) decided to proclaim "***the United Nations Decade of Ocean Science for Sustainable Development*** for the 10-year period beginning on 1 January 2021, within existing structures and available resources" and called upon "*the Intergovernmental Oceanographic Commission to prepare an implementation plan for the Decade in consultation with Member States, specialized agencies, funds, programmes and bodies of the United Nations, as well as other intergovernmental organizations, non-governmental organizations and relevant stakeholders.*"

22 The proclamation of the Decade by the United Nations was a tremendous success for IOC, but also an extraordinary responsibility. The strategic approach to the Decade needed to be transformative. Real change would be relative to the declining health of the oceans and a scientific basis that was currently inadequate or inadequately taken up by policymakers to support the SDGs relevant to the ocean. Decision-makers needed to know that ocean science could deliver actionable information. The guidance of IOC Member States at that session of the Executive Council was of paramount importance to set the Commission on the right track in terms of developing the implementation plan, raising support for the Decade and creating key stakeholder alliances. That guidance should be the main outcome of the session and provide a sound roadmap towards the next Assembly.

23 The Executive Secretary also shared with the Executive Council his concern that the Secretariat would face a major challenge in the coming months and years due to the current incompatibility between its size and the scope of its activities. Dr Ryabinin reminded the Executive Council that the Secretariat still operated with a regular budget consisting of Member States' assessed contributions to UNESCO, reduced to the Organization's actual cash inflow. He reminded the Executive Council that, at its Twenty-ninth Session, the IOC Assembly had adopted four budgetary scenarios for the Commission within the following allocations from UNESCO's regular budget for 2018–2019 (39 C/5), ([IOC-XXIX/2 Annex 5 Rev.2](#)):

- \$14,459,000 for IOC in the zero nominal growth (ZNG) + \$667 M budget for UNESCO;
- \$10,681,300 for IOC in the ZNG + \$518 M expenditure plan for UNESCO;
- \$13,868,900 for IOC in the ZNG \$653 M budget for UNESCO;
- \$10,198,200 for the IOC in the ZNG \$507 M expenditure plan for UNESCO.

24 He further recalled that in compliance with the decisions of UNESCO Member States, the 2018–2019 budget was based on an integrated budgetary framework (IBF), allowing for greater transparency of resources and helping to align resources with the collectively decided priorities. Thus, each of the four budgetary scenarios included the information on extrabudgetary funds already secured at the time of their preparation and the extrabudgetary resource mobilization targets ("gap"). While the budgets were approved on a biennial basis, the programmatic cycle was quadrennial. Consequently, the four above-mentioned budgetary scenarios supported the implementation of programmatic proposals with end-2019 targets developed for each performance indicator. Based on the results of the discussions held during UNESCO Executive Board meetings, the Assembly had given priority attention to the \$10.7 M scenario for IOC within UNESCO's \$518 M expenditure plan as the most likely to become the actual working budget for the 2018–2019 biennium.



25 The Executive Secretary further explained that, while that expenditure plan had indeed been confirmed by the General Conference of UNESCO at its Thirty-ninth Session, the total appropriated regular budget had been set at \$595.2 M following the United States of America's decision to withdraw from the Organization on 31 December 2018.

26 Accordingly, the Secretariat was invited to prepare the 39 C/5 Implementation Plan, taking into account the adjusted budget levels (204 EX/16). In that context, IOC's budgetary envelope was adopted as follows:

\$12,608,200 regular programme budget, plus \$4,800,000 of secured extra-budgetary funding, plus a \$20,773,400 resource mobilization target (gap), or a total integrated budget of \$38,181,600 (IBF). The end-2019 programmatic targets for that scenario would be the same, as approved by the IOC Assembly for the \$13,868,900 for IOC in the ZNG \$653 M budget for UNESCO.

27 The Executive Secretary further emphasized that the actual working budget of the Commission for the 2018–2019 biennium had been set in accordance with the Assembly-adopted scenario of \$10,681,300 for IOC in the ZNG + \$518 M expenditure plan for UNESCO as regards regular budget, plus \$4,800,000 of extrabudgetary funds secured at the moment of the budget's adoption, plus a \$12,776,400 resource mobilisation target (gap), or total IBF budget of \$28,257,700.

28 Dr Ryabinin also updated the Executive Council on the progress achieved with regard to the External Audit recommendations, in accordance with the implementation plan adopted by the IOC Assembly in Annex 2 to resolution [XXIX-2](#).

29 The representatives of 20 Member States of the Executive Council took the floor, followed by one observer Member State, one observer partner organization (the World Meteorological Organization – WMO) and one observer from an IOC regional subsidiary body (IOCINDIO).

30 The Executive Council was unanimous in congratulating the Executive Secretary of IOC and his team for their excellent work, which had gained its ultimate recognition with the proclamation by the United Nations General Assembly of a United Nations Decade of Ocean Science for Sustainable Development. Member States and observers expressed their commitment to working with IOC and all its partners on the implementation plan for the Decade. Among the key priority areas, the majority of speakers highlighted IOC's role in capacity development, with a particular focus on the need to build resilience to ocean-related hazards and enhance outreach and awareness-raising work, including through ocean literacy. The Executive Council stressed that to be successful, the implementation plan for the Decade would need to explicitly include the regional dimension of IOC's work, responding to regional priorities, needs and gaps.

31 In his closing remark, the Executive Secretary further highlighted that point by referring to the very encouraging emergence of national and regional ocean policies based on and supported by science.

32 The following Member States chose to provide records of their plenary intervention on this agenda item for the Informational Annex to the meeting report: [Brazil](#), [Canada](#), [China](#), [Côte d'Ivoire](#), [Indonesia](#), [Italy](#), [Japan](#), [Kenya](#), [Philippines](#), [Portugal](#), [Thailand](#), [United Kingdom](#), [IOCINDIO](#) and [WMO](#).

33 The Executive Council adopted [Decision EC-LI/3.1](#) below.

*Decision EC/LI/3.1*

The Executive Council,

Having examined documents [IOC/EC-LI/2 Annex 1](#) and [Add.](#), [IOC/INF-1351 Part 2](#), [IOC/GE-CD-](#)

[I/3](#), and [IOC/EC-LI/2 Annex 2](#) and [Corr.](#) and [Addendum](#),

Takes note of the report by the Executive Secretary of IOC on the work accomplished since the Twenty-ninth Session of the Assembly (July 2017–May 2018), including the report on budget execution for 2016–2017 and the outline of the budget for 2018–2019, subject to further examination by the Financial Committee with a view to formulating draft resolution [EC-LI/DR.\(6.2\)](#) for discussion and adoption in the plenary meeting.

### 3.2 WORK OF THE PRIMARY REGIONAL SUBSIDIARY BODIES

- 34 The representatives of IOC regional subsidiary bodies (RSBs) – Mr Mohamed Said, Chairperson of the IOC Sub-Commission for Africa and the Adjacent Island States (IOCAFRICA); Mr Francisco Brizuela, Chairperson of the IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE); Mr M. A. Atmanand, Chairperson of the IOC Regional Committee for the Central Indian Ocean (IOCINDIO) and Mr Vo Si Tuan, Chairperson of the IOC Sub-Commission for the Western Pacific (WESTPAC) – gave a brief overview of the work undertaken and results achieved in each region since the last IOC Assembly. They emphasized emerging issues and challenges and linked their work programmes to the development of the United Nations Decade of Ocean Science for Sustainable Development in terms of regional priorities and contributions.
- 35 More specifically, Mr Mohamed Said, Chairperson of IOCAFRICA, reported on the contribution of IOCAFRICA Member States to the second International Indian Ocean Expedition (IIOE-2), through the support provided by the Sub-Commission to young African marine scientists so they could participate in the cruises of the South African research vessel *Agulhas*. A number of activities had been implemented, including training courses on data management and hydrodynamics. The Government of Kenya was organizing a global conference on the Sustainable Blue Economy, scheduled for 26 to 28 November 2018, while the Government of Egypt had offered to organize a Pan-African Conference on Ocean Science and Technology in January 2020.
- 36 Mr Francisco Brizuela, Chairperson of IOCARIBE, highlighted the Sub-Commission's main strategic areas of work. Major regional issues included the exceptional bloom of Sargassum, oil pollution and hurricanes. Climate-ocean interlinkage and related coastal research were very important for the region. Progress had been achieved with the development of tsunami early warning systems and coastal hazard and forecasting systems. Despite the overall high capacity level in the region, substantiated by academic and research institutions offering M.Sc. and Ph.D. programmes, there was still a divide among countries in terms of scientific capabilities. Support was required to bring Member States in need to a reasonable level of capacity development in ocean sciences and thus facilitate their contribution to the United Nations Decade, which offered a unique opportunity for the global, regional and national development of ocean science. The Chairperson of IOCARIBE thanked Member States, particularly the Kingdom of Belgium (Government of Flanders) and the Government of Colombia, which had hosted the IOCARIBE Secretariat, for their support and their contribution to the implementation of IOCARIBE programmes.
- 37 Dr Atmanand, Chairperson of IOCINDIO, reported that due to the support of the IOC Secretariat and IOCINDIO Member States, notably India, Kuwait and the United Kingdom, the Committee had been reactivated. A work plan based on and contributing to all IOC functions had been developed with a phased implementation. The Committee had developed a number of initiatives, including the expansion of international partnerships with IIOE-2, the Network of Nansen Environmental Centres in Europe and Asia, the University of Colombia's Lamont-Doherty Earth Observatory and relevant national institutions for joint project implementation. Upon the kind offer and invitation of the Government of India, a regional scientific, technical and innovation workshop was being planned to assist Member States in their efforts to develop a national and regional framework and guidelines for addressing coastal vulnerability and storm surges. The development of the IOCINDIO website, together with the assessment of national infrastructures and ocean capabilities, were in progress. The Committee was fully committed to supporting the

development of the implementation plan and activities of the United Nations Decade and would make every effort to mobilize IOCINDIO Member States.

38 Dr Vo Si Tuan, Chairperson of WESTPAC, stated that, during each biennium, on average 2,000 scientists and governmental officials directly took part in a wide range of WESTPAC programmes and activities. Examples were the triennial WESTPAC International Scientific Conference, operations related to two regional ocean observing systems, 12 marine research programmes, two working groups and a Regional Network of Training and Research Centres (RTRCs) on marine science. The Chairperson of WESTPAC highlighted intersessional activities related to ocean acidification, microplastic research and monitoring, research on harmful jellyfish, upwelling studies, a feasibility study on the second Cooperative Study of the Kuroshio and its adjacent regions (CSK-2) and the conservation of biodiversity. He stressed the importance of the self-driven, inclusive and adaptive approach to capacity development adopted by WESTPAC, as demonstrated by the establishment of Regional Training and Research Centres (RTRCs). Two RTRCs, on ocean dynamics and climate (ODC), marine biodiversity, and ecosystem health (MarBEST) respectively, were in operation and regular training sessions were provided to all countries in the region and beyond. Finally, he expressed WESTPAC's strong willingness to engage actively in the planning and development of the United Nations Decade. That could include organizing and hosting the regional and global workshops for the Decade; contributing capacity-building opportunities and transferring marine technology; developing and strengthening centres of excellence in marine science to serve the Decade's objectives; developing, coordinating and aligning international programmes/activities to meet the Decade's objectives; positioning the triennial WESTPAC International Scientific Conference as an essential regional platform to ensure a timely response to the Decade and examine its outputs; and finally, hosting the United Nations Decade international programme coordination unit at the WESTPAC Office.

39 The representatives of nine Member States and one GEBCO representative took the floor. Member States commended the progress achieved by the primary regional subsidiary bodies (RSBs) during the reporting period and expressed their renewed commitments to and support for the work programme of each RSB. GEBCO stressed the vital role of the RSBs in the accomplishment of its mandate and work. The Chairperson of GEBCO announced that the RSBs would be invited to the next sessions of GEBCO with a view to reinforcing their involvement and contributions. The Executive Council stressed the critical role of the RSBs in the development of the Decade Implementation Plan and its subsequent operationalization.

40 The following Member States, one observer and one group of experts chose to provide records of their plenary intervention on this agenda item for the Informational Annex to the meeting report: [China](#), [Indonesia](#), [Japan](#), [Philippines](#), the [Republic of Korea](#), [Thailand](#), [United Kingdom](#) and [GEBCO](#).

41 The Executive Council adopted [Decision EC-LI/3.2](#) below.

*Decision EC-LI/3.2*

The Executive Council,

Having considered document [IOC/INF-1356](#),

Takes note of the respective reports by the representatives of the IOC Sub-Commission for the Western Pacific (WESTPAC), the IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE), the IOC Sub-Commission for Africa and the Adjacent Island States (IOCAFRICA) and the IOC Regional Committee for the Central Indian Ocean (IOCINDIO).



### 3.3 REPORT OF INTERGOVERNMENTAL COORDINATION GROUPS FOR REGIONAL TSUNAMI AND MULTI-HAZARDS WARNING SYSTEMS

#### 3.3.1 Fourteenth Session of the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North-eastern Atlantic, the Mediterranean and Connected Seas (ICG/NEAMTWS-XIV), Lisbon, Portugal, 21–23 November 2017

43 Mr Gerassimos Papadopoulos, Chairperson of the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas (ICG/NEAMTWS), introduced the item. He informed the Council about recent developments in NEAMTWS, including the NEAMWave17 tsunami exercise (31 October–3 November 2017).

44 Portugal had launched its National Tsunami Warning Centre and started operating as a Candidate Tsunami Service Provider in January 2018. Mr Papadopoulos encouraged Member States to make use of established services by subscribing to the Tsunami Service Providers (TSPs) in the NEAM region.

45 Mr Papadopoulos highlighted some rare but destructive historical tsunamis in the NEAM region and underscored that, over the previous two years, several tsunamis had been recorded in the NEAMTWS region. The most recent had occurred in the Aegean Sea (21 July 2017). Although moderate in size, those events highlighted the tsunami threat in the NEAM region, the need for optimizing the tsunami detection system, especially in North Africa, and improving the response from civil protection agencies, and the urgent issue of tsunami warning, education and awareness. He emphasized the need to start focusing on and supporting tsunami education, awareness and preparedness in the NEAM region. Finally, Mr Papadopoulos emphasized the importance of the NEAM Tsunami Information Centre (NEAMTIC), which worked in tandem with NEAMTWS, and invited Member States to contribute to its maintenance and further improvement through funding and secondments.

46 The Executive Council adopted [Decision EC-LI/3.3\(I\)](#) below.

#### *Decision EC-LI/3.3 (I)*

The Executive Council,

Acknowledges Portugal's commitment following the launch of its National Tsunami Warning Centre, which started operating as a Candidate Tsunami Service Provider (CTSP) in January 2018;

Encourages Member States who have not yet subscribed to the services of the NEAMTWS Tsunami Service Providers through IOC to do so as soon as possible;

Also acknowledges the importance of the NEAM Tsunami Information Centre (NEAMTIC) and invites Member States to contribute to its ongoing work through funding and secondments;

#### 3.3.2 Thirteenth Session of the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE EWS-XIII), Willemstad, Curaçao, 23–27 April 2018

47 Mr Gérard Métayer (Haiti), Vice-Chairperson of the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS), introduced the item on behalf of Dr Silvia Chacón Barrantes, newly elected Chairperson. He highlighted the results of the CARIBEWave18 exercise that mobilized nearly 600,000 people on 15 March 2018.

48 At its Thirteenth Session hosted in Willemstad, Curaçao, Netherlands, from 24 to 27 April 2018, the ICG had approved the ICG/CARIBE-EWS Implementation Plan for 2018–2023. It had decided that CARIBEWave19, scheduled on Thursday 14 March 2019, would consist of two scenarios including a basin-wide event at a source to the north of Panama and a local event associated with an underwater volcanic eruption at the Kick'em Jenny volcano to the northwest of Grenada in southern Lesser Antilles. Mr Métayer noted that in 2017, Hurricanes Irma and Maria had caused damage to several Caribbean observing systems critical for tsunami warning. In that regard, he reported that the ICG was grateful to the United States of America, for its support for the recovery and strengthening of seismic and sea-level stations, and to the United Kingdom, through the National Oceanography Centre (NOC), for the installation, recovery, operation and data analysis of sea-level stations in the Caribbean. He also indicated that, according to the CARIBEWave 2018 Survey, more than 200 communities had been identified by Member States as prepared to pilot TsunamiReady® guidelines. Fifty-four of those communities had already been recognized as tsunami-ready by the US National TsunamiReady® programme or by the ICG/CARIBE-EWS Tsunami-Ready Pilot Programme.

49 The Executive Council adopted [Decision EC-LI/3.3\(II\)](#) below.

*Decision EC-LI/3.3 (II)*

The Executive Council,

Recognizing the potential benefit of high-rate, real-time global navigation satellite system (GNSS) data to improve earthquake and tsunami detection and assessment, recommends the open and free distribution of 1-Hz real-time GNSS data for all GNSS Caribbean stations with suitable data communications;

Concerned about the damage that Hurricanes Irma and Maria caused to Caribbean observation systems critical for tsunami warning in 2017, expresses its thanks to the United States for its support for the recovery and strengthening of seismic and sea-level stations and to the United Kingdom, through the National Oceanography Centre (NOC), for the installation, recovery, operation and data analysis of sea-level stations in the Caribbean;

Notes the adoption by the ICG/CARIBE-EWS of its Implementation Plan 2018–2023 as a living document reflecting the work of the ICG for that period;

Also notes that CARIBEWave 19, scheduled on Thursday 14 March 2019, will consist of two scenarios that include a basin-wide event at a source to the north of Panama and a local event associated with an underwater volcanic eruption at the Kick'em Jenny volcano to the northwest of Grenada in southern Lesser Antilles;

**3.3.3 Eleventh Meeting of the Working Group on Tsunamis and other Hazards related to Sea-Level Warning and Mitigation Systems (TOWS-WG), UNESCO, Paris, 16–17 February 2018**

50 Mr Alexander Postnov, Chairperson of the Working Group on Tsunamis and Other Hazards related to Sea-Level Warning and Mitigation Systems (TOWS-WG), introduced the item. He reported on the decisions and recommendations of the eleventh meeting of TOWS-WG.

51 Agenda items [3.3.1](#), [3.3.2](#) and [3.3.3](#) were debated in unison after the introduction of 3.3.3.

52 The Executive Council emphasized the benefit of collaboration and the exchange of experiences among the IOC Tsunami Programme, Member States, the Intergovernmental Cooperation Groups (ICGs) and the Working Group on Tsunamis and Other Hazards related to Sea-Level Warning and Mitigation Systems (TOWS-WG). Some Member States expressed support for exploring new monitoring technologies, while others mentioned the need for the integration of meteorological and oceanographic monitoring for coastal hazards. The Executive Council appreciated the value of the services provided by Tsunami Service Providers (TSPs) and Candidate TSPs (CTSPs). Some Member States expressed concern over dealing with near-field tsunami events and called for reinforced cooperation on the matter. Several Member States

noted the importance of public awareness for effective early warning systems (EWS) and reaffirmed their commitment to supporting regional and national public awareness activities for effective EWS. Some Member States noted their contributions to regional capacity development and training through the ICGs. The World Meteorological Organization (WMO) encouraged IOC to contribute to the newly formed Expert Team on Disaster Risk Reduction of the Joint Technical Commission for Oceanography and Marine Meteorology (JCOMM) and participate in the second meeting on Multi-Hazard Early Warning Systems (MHEWS), to be held back-to-back with the Global Platform for Disaster Risk Reduction of the United Nations Office for Disaster Risk Reduction (UNISDR) (May 2019). Finally, WMO encouraged TSPs and National Tsunami Warning Centres to continue adding to the international register of alerting authorities through WMO Permanent Representatives.

53 The representatives of ten Member States and one observer took the floor. The following Member States chose to provide records of their plenary intervention(s) on this agenda item for the Informational Annex to the meeting report: [Chile](#), [China](#), [Indonesia](#), [Italy](#), [Japan](#), [Portugal](#) and [WMO](#).

54 The Executive Council adopted [Decision EC-LI/3.3\(III\)](#) below.

*Decision EC-LI/3.3 (III)*

The Executive Council,

Having considered the summary reports produced following the recent sessions of the Intergovernmental Coordination Groups (ICG) for the Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas (ICG/NEAMTWS-XIV) and the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS-XIII), as well as the report by the Working Group on Tsunamis and Other Hazards related to Sea-Level Warning and Mitigation Systems (TOWS-WG-XI),

Accepts the reports by the IOC/ICGs and TOWS-WG;

Notes with satisfaction the progress made during the intersessional period, including:

- (i) the success of the symposium 'Advances in Tsunami Warning to Enhance Community Responses' (12–14 February 2018, Paris, France) in identifying the current status of operational tsunami warnings and community resilience and future avenues for improvement;
- (ii) the execution of two exercises (NEAMWave 17, CARIBEWave 2018) and regular communication tests;
- (iii) the sharing of the results of tsunami exercises and communication tests with the World Meteorological Organization (WMO);
- (iv) the higher number of sea-level stations in the NEAMTWS region to ensure the reinstatement of monitoring, detection, communication and warning capacities;
- (v) the publication of the document "Plans and Procedures for Tsunami Warning and Emergency Management" ([IOC Manuals and Guides, 76](#));
- (vi) the adaptation and launch of the CARIBE-EWS tsunami-ready, community-based recognition programme by the Pacific Tsunami Warning and Mitigation System (PTWS) and the Indian Ocean Tsunami Warning and Mitigation System (IOTWMS);
- (vii) the completion of the educational strategy to address buoy vandalism with the contribution of the ICGs;
- (viii) China's ongoing support for the establishment of a South China Sea Tsunami Advisory Centre, inaugurated on 8 May 2018;
- (ix) the United States' ongoing support for the development of a standardized process and training course on Tsunami Evacuation Maps, Plans, and Procedures (TEMPP project);

Encourages Member States to:

- (i) increase and sustain technical and financial support for the tsunami and other coastal hazard warning systems in their respective regions considering the significant impacts of these hazards on lives and livelihoods in coastal communities;
- (ii) further promote tsunami awareness in communities and among authorities through communication and tsunami wave exercises, training, information, and community preparedness and recognition programmes;
- (iii) densify sea-level and seismic networks, particularly near tsunamigenic sources;
- (iv) support the rehabilitation and enhancement of the sensing, communication and warning infrastructure to ensure readiness for future events in CARIBE-EWS;
- (v) consider the recommendations ensuing from the symposium 'Advances in Tsunami Warning to Enhance Community Responses' (12–14 February 2018, Paris, France) and contained in the summary statement ([IOC/BRO/2018/3](#));

Instructs ICGs to:

- (i) advocate World Tsunami Awareness Day (5 November 2018) among Member States and inform them of the availability of material from the United Nations Office for Disaster Risk Reduction (UNISDR) in this regard, and share activities and materials with UNISDR and Tsunami Information Centres;
- (ii) recommend Tsunami Service Providers and National Tsunami Warning Centres to continue adding to the international Register of alerting authorities through WMO Permanent Representatives;
- (iii) request the ICG/PTWS to: (a) complete its present work on key performance indicators (KPIs) and tailor them to the target G indicators of the Sendai Framework; (b) develop a document containing the background and context of the proposed KPIs; and (c) provide the document to all ICGs for consideration, with a view to submitting a consolidated report to the IOC Assembly at its Thirtieth Session in 2019;

Decides to extend the tenure of Tsunamis and Other Hazards related to Sea-Level Warning and Mitigation Systems (TOWS) and its Task Teams on (i) Disaster Management and Preparedness (DMP) and (ii) Tsunami Watch Operations (TWO) with the terms of reference provided in IOC resolution XXIV-4 for TOWS-WG, [IOC/TOWS-WG-VI/3](#) Annex II for the Task Team on Disaster Management and Preparedness (TTDMP) and [IOC/TOWS-WG-X](#) Appendix I for the Task Team on Tsunami Watch Operations (TTTWO).

### 3.4 REPORTS OF IOC TECHNICAL SUBSIDIARY BODIES

#### 3.4.1 Fifth Session of the Joint WMO-IOC Commission for Oceanography and Marine Meteorology (JCOMM-5), Geneva, Switzerland, 25–29 October 2017

55 Ms Nadia Pinardi, Co-President of the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM), introduced the item. The Fifth Session of JCOMM had taken place at WMO Headquarters in Geneva, Switzerland, from 25 to 29 October 2017. Fifty-seven Members/Member States were represented by 106 delegates, 37% of whom were women, and 40% of whom represented oceanographic agencies or institutions.

56 JCOMM-5 adopted a work plan and structure of expert groups covering observations, data management and services, focusing on the objectives of both WMO and IOC. Ms Pinardi highlighted the new expert groups established. She further highlighted some intersessional activities, including the JCOMM Performance Assessment: Stakeholder Survey (JCOMM-5/INF.2.3), the JCOMMOPS observing system support and monitoring centre, and ongoing efforts to provide standards for the interface between the Ocean Data Information System (ODIS) and the WMO Information System.

57 The representatives of three Member States, as well as the International Oceanographic Data and Information Exchange (IODE) and WMO, took the floor.

58 Member States expressed their satisfaction with the outcomes of JCOMM-5, including the improvements in regard to gender balance. Member States expressed strong support for the work of JCOMM and highlighted how it enabled the integration of knowledge, methods and methodologies, transverse data collection and the dissemination of knowledge among members.

59 IODE expressed its desire to maintain close and effective cooperation with JCOMM.

60 WMO extended its thanks to Indonesia for hosting the JCOMM-5 meeting, while acknowledging the need to move the meeting to Geneva at short notice.

61 WMO further stated that the Joint IOC/WMO/Permanent Commission for the South Pacific (CPPS) Working Group on the Investigations of El Niño had been inactive for many years. Consequently, at its Seventieth Session, held in Geneva from 20 to 29 June 2018, the WMO Executive Council decided to close the working group and recommended that its terms of reference be incorporated within JCOMM activities. WMO encouraged CPPS to continue to collaborate with WMO and IOC through JCOMM so as to provide relevant contributions to the investigations of El Niño. WMO suggested that IOC, as the principal secretariat in the IOC/WMO/CPPS partnership, initiate a process to close the Joint Working Group.

62 The following Member State and organization chose to provide records of their plenary intervention on this agenda item for the Informational Annex to the meeting report: [Australia](#) and [WMO](#).

63 The Executive Council adopted [Decision EC-LI/3.4.1](#) below.

*Decision EC-LI/3.4.1*

The Executive Council,

Having examined the report produced following the recent session of the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM-5),

Accepts document WMO-IOC/JCOMM-5/3 and the recommendations contained therein.

#### **4. IOC AND THE FUTURE OF THE OCEAN: STRATEGIC DEVELOPMENTS**

##### **4.1 DRAFT IMPLEMENTATION PLAN FOR THE UNITED NATIONS DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT**

64 The Chairperson of IOC introduced the item recalling that, in December 2017, the United Nations General Assembly had proclaimed the United Nations Decade of Ocean Science for Sustainable Development from 2021 to 2030, building on the efforts of IOC Member States and the IOC Secretariat. The period from 2018 to 2020 would focus on the preparation of the Decade Implementation Plan, which would encompass both a Science Plan and an Engagement Plan. At its Seventy-second Session, the United Nations General Assembly had tasked IOC with the preparation of the implementation plan in “*consultation with Member States, specialized agencies, funds, programmes and bodies of the United Nations, as well as other intergovernmental organizations, non-governmental organizations and relevant stakeholders.*”

65 The strategic approach to the Decade would be transformative. The ocean science community should be willing to think beyond “business as usual” and aspire to real change, whether in relation to the depth of knowledge related to the ocean or in the way cooperation and partnerships were leveraged in support of sustainable development and healthy oceans.

66 The IOC Secretariat, supported by the IOC Officers, had developed the first draft ‘Roadmap’ document ([IOC/INF-1353 prov.](#)), which provided an initial guide to the steps and processes needed to develop a Decade Implementation Plan. It also proposed governance and



structural arrangements in the form of a Planning Group to be established by the IOC Executive Council at its Fifty-first Session. In February 2018, the roadmap was circulated to IOC Member States through [Circular Letter 2712](#), and widely disseminated to the institutional partners of the Commission. In that context, IOC also invited relevant United Nations bodies with a focus on the ocean to contribute to the development of the implementation plan. From 26 to 28 March 2018, IOC had hosted the seventeenth meeting of UN-Oceans, the United Nations inter-agency mechanism on ocean affairs, at UNESCO Headquarters to discuss the contributions of the United Nations system to the Decade. The Chairperson reported that a small interim group had been established between February and June 2018 to advance the preparation of initial core documents (revised roadmap, stakeholder engagement strategy, terms of reference of the Planning Group) and advise him on those issues. Once the Planning Group envisaged in the Roadmap had been formally established by IOC, it would assume the overall responsibility for preparing the implementation plan.

67 Building on comments received from Member States, United Nations partners (through UN-Oceans) and other institutional partners in response to Circular Letter 2712, a revised version of the Roadmap document was submitted to the Council as document [IOC/EC-LI/2 Annex 3](#).

68 The Chairperson highlighted that IOC needed to focus on how to adequately resource its coordinating role in relation to the preparatory phase of the Decade. The Commission also needed to initiate strategic thinking on how to sustain delivery on all its programmes, whilst making use of the Decade to upgrade and augment the impact of its core programmes.

69 H. E. Mr Peter Thomson, United Nations Secretary-General Special Envoy for the Ocean, took the floor and congratulated the Chairperson, Secretariat and Member States of IOC for their efforts leading to the proclamation of the Decade by the United Nations General Assembly, as well as for the work undertaken to initiate its development. Mr Thomson highlighted that the ocean had become a global concern generating protective actions worldwide, as well as the improvement of conditions for its sustainable development. He recalled that that interest had led the United Nations Secretary-General to establish the position of Special Envoy for the Ocean, to galvanize concerted efforts to follow up on the outcomes of the United Nations Ocean Conference in support of the 2030 Agenda for Sustainable Development. In that respect, he acknowledged the work undertaken by the nine SDG-14 Communities of Ocean Action, under the leadership of IOC, and the Global Environment Facility (GEF) to mobilize the community dedicated to science and research capacities. Mr Thomson stressed that concrete actions were required. He further highlighted the essential role of science in developing the knowledge required to inform the design and implementation of such actions. He welcomed the approach adopted in designing the Decade and called for relevant United Nations bodies to contribute to its design and engage through UN-Oceans. Mr Thomson also stressed the importance of including the private sector in the planning phase. Accordingly, he welcomed the approach taken in the Roadmap to establish a Stakeholder Forum, which would engage with a wide range of stakeholders. Mr Thomson concluded by recalling that urgent action was needed, considering that four of the ten targets of SDG 14 would mature by 2020 and that the Decade currently constituted a core pillar for mobilizing support for such achievement.

70 The Executive Secretary of IOC presented an overview of IOC's contribution to the Decade, from a programmatic standpoint, in information document [IOC/INF-1357](#). The Commission's contribution would be further expanded during the intersessional period through in-depth discussions held in the meetings of IOC subsidiary bodies. A logo for the Decade was presented to the IOC Executive Council. It would be used in all subsequent communication materials. The IOC Executive Council took note of guidelines for its use ([IOC/Decade-Inf.2](#)).

71 Heads of agencies and institutions were invited to provide a statement under the item. Representatives of [WMO](#), the [United Nations Environment Programme](#) (UN Environment – by video), the International Maritime Organization ([IMO](#)), the Division for Ocean Affairs and the Law of the Sea ([DOALOS](#)), the Global Environment Facility ([GEF](#)), the United Nations Framework

Convention on Climate Change ([UNFCCC](#)) and the International Seabed Authority ([ISA](#) – by video) took the floor to express their interest and identify possible contributions to the preparatory phase of the Decade. Those were followed by statements from representatives of the International Commission for the Scientific Exploration of the Mediterranean Sea ([CIESM](#)), the International Hydrographic Organization ([IHO](#)), the Joint Programming Initiative Healthy and Productive Seas and Oceans ([JPI Oceans](#)), the Ocean Frontier Institute ([OFI](#)), the Pacific Community ([SPC](#)), the Regional Organization for the Conservation of the Environment and the Red Sea and Gulf of Aden ([PERSGA](#)), the Scientific Community on Oceanic Research ([SCOR](#)), the North Pacific Marine Science Organization ([PICES](#)) and the Permanent Commission for the South Pacific ([CPPS](#)). Their statements are provided in [Annex II-D](#) of this report.

72 The representatives of 31 Member States took the floor, as well as those from the IOC Sub-Commission for the Western Pacific (WESTPAC), the European Marine Board (EMB) and the World Meteorological Organization (WMO). The Executive Council welcomed the revised Roadmap and the steps taken by the Secretariat to proceed with the initial planning of the Decade, as well as the efforts devoted to engaging institutional partners, as demonstrated by the large number of institutional statements delivered in support of the Decade during the session.

73 The Executive Council highlighted the importance of achieving balanced geographical representation across the suite of activities envisaged, particularly through the membership of the Executive Planning Group.

74 Several Member States identified a number of cross-cutting issues that could be further enhanced in the work of the Executive Planning Group and, more generally, in the development of the implementation plan. Those issues included gender, the integration of natural and social sciences, the consideration of indigenous knowledge, the engagement of civil society organizations, the private sector and academia, and the involvement of youth, early-career scientists and experts from small island developing States (SIDS) in planning activities.

75 The Executive Council emphasized that the Decade should be inclusive by nature and allow for the participation of all relevant stakeholders. The Executive Council also stressed the importance of ensuring that Member States provided the basis for decisions through regular consultations, as well as the consideration of the implementation of the Decade by the IOC governing bodies. The role of IOC regional subsidiary bodies as a mechanism for Member States to contribute to the planning process was also highlighted.

76 The Executive Council urged IOC Member States to state their intent to contribute resources to the work of the Secretariat to improve the predictability of resources and subsequent planning for the preparatory phase.

77 The Executive Council encouraged United Nations and non-United Nations institutions that had expressed an interest in further tailoring the Decade's objectives to their own needs and contributing through their participation in the Stakeholder Forum, global and regional workshops, active discussions within UN-Oceans and direct interaction with the IOC Secretariat to do so.

78 The representative of Indonesia stated that his country would be willing to host the first global planning workshop in 2019.

79 The representative of Portugal stated that his country would be willing to host the second global planning workshop, in the context of the preparation of the second United Nations Ocean Conference, expected to take place in May 2020.

80 The representative of Germany stated that his country would be willing to host a kick-off conference coinciding with the launch of the Decade in 2021, to be held in Berlin. He also offered to host a global planning workshop or regional consultation workshop in the course of 2019.

81 The representative of the Russian Federation stated that his country would also be willing to host the second global planning workshop.

82 The representative of CPPS, supported by Ecuador, offered to host a regional consultation workshop in 2019.

83 The representative of Egypt stated that his country would be willing to host a Pan-African Conference in marine science, to be held in Sharm El Sheikh in 2020.

84 The representative of Italy stated that her country would be willing to host a regional workshop for the Mediterranean region, focusing on how the Decade could contribute to the Blue economy, possibly in Venice.

85 The representative of Japan informed the Executive Council that his country would be contributing to global and regional Decade preparation activities, including through the organization of a one-day conference on ocean data, back to back with the Twenty-fifth Session of IODE, to be held in Tokyo in February 2019.

86 The representative of Kenya informed participants of the organization of a high-level conference on the Blue Economy, to be held in November 2018, which could serve as a platform to highlight the Decade and engage a variety of stakeholders.

87 The Executive Council further encouraged Member States to establish national coordination activities to promote national engagement and contributions.

88 The Executive Secretary welcomed the enthusiasm expressed by Member States and recalled that tangible support would be required to plan the Decade. Responding to Member States' requests to be involved in the planning process, Mr Ryabinin explained that the IOC Secretariat would maximize Member States' participation in the process while also ensuring openness to all relevant stakeholders. Mr Barbière, Head of the Marine Policy and Regional Coordination Section, highlighted the efforts made to engage possible partners, recalling that their contribution and interaction through the Stakeholder Forum would be a key component to ensuring the inclusiveness of the Decade. Mr Barbière welcomed the numerous proposals to host one of the planning meetings. He reminded Member States that the deadline by which other Member States could express their interest in contributing to the Decade was 1 September. Once the IOC Secretariat had received those contributions, an active planning phase would be initiated and a consultation undertaken with Member States and partners to craft an initial meeting schedule. Mr Barbière clarified that Member States would also have the opportunity to participate in designing the Decade through the regional and global workshops that would take place in 2019 and 2020, and that the list of regional workshops was not exhaustive, as other regional or thematic workshops could be organized based on the interest of Member States and partners. The Chairperson of IOC welcomed Member States' engagement in the Decade and encouraged collaboration between Member States. He stressed that the revised Roadmap document should be considered as a guiding and evolving document that could receive additional contributions from the Planning Group or from Member States themselves.

89 The following Member States, three observers, two organizations, and one IOC Sub-Commission chose to provide records of their plenary intervention on this agenda item for the Informational Annex to the meeting report: [Argentina](#), [Australia](#), [Belgium](#), [Canada](#), [Chile](#), [China](#), [Côte d'Ivoire](#), [Germany](#), [Indonesia](#), [Italy](#), [Japan](#), [Kenya](#), [Mexico](#), [Norway](#), [Portugal](#), [Republic of Korea](#), [Spain](#), [Thailand](#), [Ireland](#), [United Kingdom](#), [United States of America](#), European Marine Board ([EMB](#)), World Meteorological Organization ([WMO](#)) and IOC Sub-Commission for the Western Pacific ([WESTPAC](#)).

90 The Executive Council adopted [Resolution EC-LI.1](#).



## United Nations Decade of Ocean Science for Sustainable Development

The Executive Council,

**Recalling** the proclamation by the United Nations General Assembly (UNGA) at its 72nd Session regarding the United Nations Decade of Ocean Science for Sustainable Development (2021–2030), through Resolution A/RES/72/73, therein the Decade,

**Noting** that Resolution A/RES/72/73 proclaimed the Decade within the existing structures and available resources, **recognizing** that the implementation of the Decade could benefit from enhanced cooperation and sharing research infrastructure and observing systems and by making scientific data and information freely and openly available in accordance with the applicable legal framework, and **also recognizing** the requirement of exercising vigilance in the process of allocating resources of Member States,

**Further recalling** the invitation made by the UNGA to the IOC to:

- (i) prepare an implementation plan for the Decade in consultation with Member States, specialized agencies, funds, programmes and bodies of the United Nations, as well as other intergovernmental organizations, non-governmental organizations and relevant stakeholders,
- (ii) provide information on the implementation of the Decade to the Secretary-General for his report on oceans and the law of the sea,

**Noting** the invitation made by the UNGA to UN-Oceans and its participants to collaborate with the IOC,

**Considering** IOC Resolution [XXIX-1](#) and IOC Executive Council Decision EC-XLIX.5 endorsing the proposal for such a Decade and defining a course of action for its development,

**Also considering** the current and evolving Roadmap for the United Nations Decade of Ocean Science for Sustainable Development, being developed under the guidance of the IOC Officers and with the participation of Member States and relevant United Nations bodies submitted in its revised and current version as document [IOC/EC-LI/2 Annex 3](#),

**Further considering** the proposal to establish, as an expert advisory body to the IOC governing bodies, referred to as an Executive Planning Group (EPG) to support the preparation of the implementation plan, with the terms of reference presented in document [IOC/EC-LI/2 Annex 4](#) (Appendix 1),

**Bearing in mind** that in addition to the IOC's United Nations-wide coordination role, the programmatic contribution to the implementation plan needs to be identified during the preparatory phase so that through the Decade, the Commission can upgrade and enhance the impact of its core programmes, as well as identify new initiatives in response to Member States' and stakeholders' needs,

**Having considered** document [IOC/INF-1357](#), which provides an initial framework for developing the IOC's programmatic contribution to the Decade,

**Takes note** of the revised and current version of the Roadmap document (IOC/EC-LI/2 Annex 3) that includes proposals for governance and structural arrangements for the preparation phase, as well as a guiding framework to further develop the concept, objectives, outcomes and modalities for the Decade's implementation and engagement strategy;

**Approves** the terms of reference for the Decade Executive Planning Group, including the selection process envisaged for the balanced constitution of such a group, to be established under the coordination of the IOC Executive Secretary;

**Requests** the IOC Executive Secretary to:

- (i) proceed with the establishment of the EPG, consisting of at least 16 up to 20 members, and the organization of the first meeting foreseen in autumn 2018;
- (ii) report on implementation of the current version of the roadmap and propose possible modifications for consideration by the IOC Assembly, at its 30th Session;
- (iii) provide information to the UNGA on the development of the implementation plan and regularly consult with, and report to, Member States;
- (iv) lead the reflection across the IOC on how the core IOC programmes and initiatives can contribute to the objectives of the Decade; and submit to the IOC Assembly, at its 30th Session, an overview of such an IOC programmatic contribution, building on document IOC/INF-1357 and consistent

- with the steps for the preparation of the next IOC Medium-Term Strategy for 2022–2029;
- (v) collaborate with UN-Oceans and its participants in preparing the Decade;
  - (vi) seek to advance gender issues in the context of activities undertaken as part of the Decade and in the work of the EPG;

**Further requests** that IOC subsidiary bodies engage in the work of the Decade and identify potential contributions during the next intersessional period;

**Invites** United Nations agencies and programmes, international scientific and academic organizations, governments, non-governmental organizations and other stakeholders to support the Decade and contribute to its preparation;

**Urges** Member States and partners to:

- (i) provide voluntary contributions for the preparation of the Decade, preferably to the IOC Special Account, as well as in-kind support such as staff secondments to the Secretariat;
- (ii) offer to host and/or fund regional and global consultation workshops, as envisaged in the current version of the Roadmap document, as well as organize thematic meetings aimed at engaging the ocean community in the Decade and communication activities;

**Thanks** the Governments of the Republic of Korea and the Kingdom of Belgium (Government of Flanders) for their financial contribution to the preparatory phase of the Decade.

#### 4.2 ENHANCED COHERENCE, IMPACT AND FUTURE ORIENTATIONS OF THE IOC OCEAN SCIENCE PORTFOLIO IN SUPPORT OF THE UN DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT AND 2030 AGENDA

91 Mr Salvatore Aricò, Head of the Ocean Science Section (OSS), introduced the item. He presented an analysis of the IOC ocean science portfolio, as well as activities aimed at further realigning the portfolio with the requirements of the 2030 Agenda for Sustainable Development and the United Nations Decade of Ocean Science for Sustainable Development. He recalled that the analysis was part of the strategic reflection on IOC, the future of the ocean and the contribution of ocean science thereto.

92 In the above-mentioned context, Mr Aricò also drew Member States' attention to the opportunity for IOC to take on a coordinating role in the field of ocean carbon research through the establishment of a working group in partnership with the International Ocean Carbon Coordination Project (IOCCP), the Surface-Ocean Lower Atmosphere Study (SOLAS), the Integrated Marine Biogeochemistry and Ecosystem Research Project (IMBeR) and the Global Carbon Project (GCP). The establishment of an IOC working group on multiple ocean stressors that would build on existing IOC activities represented another opportunity that would add value to IOC.

93 The following Member States chose to provide records of their plenary intervention on this agenda item for the Informational Annex to the meeting report: [Australia](#) and [Norway](#).

94 The Executive Council adopted [Decision EC-LI/4.2](#) below.

##### *Decision EC-LI/4.2*

The Executive Council,

Having considered document [IOC/EC-LI/2 Annex 5](#) and [Corr.](#),

Recognizing that in light of the highly dynamic nature of ocean science, there is a need to ensure the continuous coherence and impact of the IOC ocean science portfolio by reflecting relevant scientific developments in ocean science,

Recalling the importance of the world ocean in the climate system and the continuous need for coordinated ocean carbon research to support scientific advances and respond to relevant

requests for knowledge by the policy community,

Endorses the development of a new initiative on integrated ocean carbon research, in close cooperation with the International Ocean Carbon Coordination Project (IOCCP), the Surface-Ocean Lower Atmosphere Study (SOLAS), the Integrated Marine Biosphere Research (IMBeR) project, the Global Carbon Project (GCP), the core project on Climate and Ocean Variability, Predictability and Change (CLIVAR) of the World Climate Research Programme (WCRP/CLIVAR) and other relevant partners active in carbon research, in the form of a dedicated IOC working group with terms of reference provided in Annex 1;

Decides to capitalize on the efforts of IOC working groups focusing on individual ocean stressors by establishing a new IOC working group on multiple ocean stressors to support ecosystem-based management, with terms of reference provided in Annex 2;

Invites Member States to contribute financial resources and other in-kind contributions in support of the two newly created working groups;

Expresses its appreciation for the strategic alignment of the ocean science portfolio with the planning process of the United Nations Decade of Ocean Science for Sustainable Development, the UNFCCC and its Paris Agreement, and the unfolding work related to the implementation of the relevant goals and targets of the 2030 Agenda for Sustainable Development, so as to enhance the contribution of IOC ocean science activities to the sustainable development agenda.

#### 4.3 PROPOSED IMPLEMENTATION PLAN FOR CONDUCTING THE SECOND EDITION OF THE GLOBAL OCEAN SCIENCE REPORT (GOSR)

95 Mr Salvatore Aricò, Head of the Ocean Science Section (OSS), introduced the item. He briefly introduced the scope and content of the first edition of the Global Ocean Science Report (GOSR), launched at the United Nations Ocean Conference held at United Nations Headquarters in June 2017. He further presented plans related to, and progress in the production of, the second edition of the GOSR (GOSR-II), including the GOSR Data Portal. He informed the Council that a new Editorial Board had been constituted. He also reflected on lessons learned from the production of the first edition and new items to be included. He further highlighted that part of the information analysed in the GOSR was being used for the SDG indicator 14.a.1, which had been upgraded from tier-III to tier-II by the Inter-Agency and Expert Group on Sustainable Development Goal Indicators (IAEG-SDG). In addition, he presented the timeline for GOSR-II and its Data Portal, as well as the questionnaire that Member States would be invited to complete, in view of the launch of the report at the second United Nations Ocean Conference in 2020.

96 The representatives of eleven Member States took the floor. All Member States highlighted the great value of the first edition of the GOSR and the possibilities it offered for science and policymakers at national and regional levels. The Executive Council encouraged the IOC Secretariat to invite Member States to contribute to the identification of relevant experts to develop the content of GOSR-II and comment on its outline. Furthermore, the Council requested the IOC Secretariat to work with the regional subsidiary bodies in the identification and compilation of data and information. The Executive Council also welcomed the development of a GOSR Data Portal. The Council finally encouraged the GOSR-II Editorial Board to explore the inclusion of citizen and indigenous ocean knowledge in the GOSR-II and to develop an evaluation process to assess the impact of the publication of GOSR-II.

97 The following Member States chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report: [Canada](#), [Indonesia](#), [Italy](#), [Kenya](#), [Norway](#), [Philippines](#) and [Republic of Korea](#).

98 The Executive Council adopted [Decision EC-LI/4.3](#) below.

*Decision EC-LI/Dec.4.3*

The Executive Council,

Recalling [IOC decision XXIX/5.1](#) on the Global Ocean Science Report: Perspectives and Development,

Noting the importance of the Global Ocean Science Report (GOSR) as the main mechanism to measure progress towards the achievement of Sustainable Development Goal (SDG) 14, Target 14.A,

Recognizing that investments in ocean science are key to developing sustainable ocean economies,

Endorses the approach proposed by the IOC Secretariat with regard to the composition of the Editorial Board for the second edition of the report (GOSR-II), its terms of reference, the GOSR Data Portal and the timeline related to the preparation of GOSR-II;

Encourages each Member State to contribute actively to the second edition of the report by providing relevant data and information through the GOSR Data Portal and, in particular, by contributing actively to the GOSR-II questionnaire and survey;

Acknowledges the contribution already received from the Republic of Korea in support of the second edition of the report and invites IOC Member States to provide additional resources in support of GOSR-II.

#### 4.4 FOLLOW-UP TO IOC CUSTODIANSHIP ROLE IN RELATION TO SDG 14 INDICATORS

99 Mr Julian Barbière introduced the item by recalling that the 2030 Agenda for Sustainable Development adopted by United Nations Member States in 2015, and in particular SDG 14, constituted an essential point of reference for IOC's engagement with its Member States, as well as for its programmatic presence at global, regional and country levels. Several targets of SDG 14 were directly relevant to IOC's work, particularly in the areas of marine pollution (14.1), ocean acidification (14.3) and ecosystem-based management (14.2), as well as marine research capacity and the transfer of marine technology (14.A), as a cross-cutting element to all SDG 14 targets.

100 He recalled that the Commission was supporting the development of a global SDG indicator framework for specific targets, primarily 14.3 (ocean acidification) and 14.A (scientific knowledge and ocean research capacity), for which IOC had been identified as the United Nations custodian agency by the Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs). The SDG indicator framework developed by IAEG-SDGs was the mechanism by which Member States would report the national implementation of all SDG targets to the United Nations. The technical support provided by IOC included the development of agreed methodology to populate respective SDG indicators and underpin data standards to collect data from Member States and report those data globally to the United Nations Statistics Division. The previous year, on the basis of the methodology tested through the Global Ocean Science Report (GOSR) and following the decision of the IOC Assembly to welcome the proposed methodology for indicator 14.A.1, the IAEG-SDGs had decided to upgrade the indicator to tier-II level (*i.e.*, with an established methodology, but irregularly collected data), tier-I being used for fully operational indicators reported upon regularly. Future data collection for the indicator would be promoted through the second edition of the GOSR (GOSR-II), planned for 2020, and its associated data portal, developed with the support of the International Oceanographic Data and Information Exchange (IODE). He also reported that IOC directly supported the work to develop the Index of Coastal Eutrophication Potential (ICEP) as the indicator for United Nations SDG 14.1.1 on the nutrient pollution of coastal marine ecosystems. The development of the ICEP was being carried out for the United Nations Environment Programme (UN Environment), the custodian agency for SDG indicator 14.1.1, under the coordination of IOC. Without that work, it would not be possible to develop the ICEP for a global application of national SDG reporting. A workshop had been held in December 2017 to define the work required to fully develop the ICEP during the period from 2018 to 2019, pending available funding.

101 Ms Kirsten Isensee introduced the latest developments with regard to the progression of SDG indicator 14.3.1. The Global Ocean Acidification Observing Network (GOA-ON) and other ocean acidification experts were providing technical advice on the development of indicator methodology. A dedicated expert meeting had been held at IOC in January 2018 to advance that work, and was followed by several online consultations. The result was the proposed methodology presented in document [IOC/EC-LI/2 Annex 6](#), providing guidance to scientists and countries in terms of where and how to conduct ocean acidification measurements and related parameters. In addition, the proposed methodology provided guidance on how to report the collected information in a transparent and traceable manner, including new opportunities. The methodology and future capacity-development activities, to be developed in collaboration with IODE, would allow IOC to share ocean acidification data particularly beneficial for the least developed countries (LDCs) and SIDS with currently limited capacities in that area.

102 The representatives of four Member States took the floor.

103 The Executive Council expressed its appreciation for the work conducted by the IOC Secretariat in advancing methodologies for SDG indicators. Some Member States stressed the importance of considering regional efforts, such as Europe's Copernicus programme and the Latin American Ocean Acidification Network (LAOCA), in the development and implementation of the methodology of SDG indicator 14.3.1.

104 The following Member States chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report: [Australia](#) and [the Republic of Korea](#).

105 The Executive Council adopted [Decision EC-LI/4.4](#) below.

*Decision EC-LI/4.4*

The Executive Council,

Having examined document [IOC/EC-LI/2 Annex 6](#),

Recalling IOC decisions EC-XLIX/4.1 defining the strategic contributions of IOC to the implementation of the 2030 Agenda and SDG process and XXIX/9.1 acknowledging the role of IOC as custodian agency for SDG indicators,

Welcomes the proposed methodology for indicator 14.3.1 as presented in document [IOC/EC-LI/2 Annex 6](#) and recommends its presentation to the Inter-agency and Expert Group on SDG indicators (IAEG-SDGs) at its next meeting.

4.5 REPORT OF IOC REGULAR WORKING GROUP  
ON USER REQUIREMENTS AND CONTRIBUTIONS  
TO GEBCO PRODUCTS

106 Vice-Chairperson Mr Alexander Postnov, in his capacity as Chairperson of the IOC Working Group on User Requirements and Contributions to General Bathymetric Chart of the Ocean (GEBCO) Products, introduced the item.

107 He recalled that, at its Forty-ninth Session (Paris, 7–10 June 2016), the IOC Executive Council had decided to establish such a group with a view to: (i) collecting, integrating and assessing user requirements to inform the development of present and future GEBCO products; and (ii) addressing ways to strengthen the contributions of IOC programmes and Member States' activities to GEBCO data and products. The group was established by IOC [Circular Letter 2672](#) of July 2017 and included representatives from GEBCO, the Joint Technical Commission for Oceanography and Marine Meteorology (JCOMM), the Global Sea-Level Observing System (GLOSS), the International Oceanographic Data and Information Exchange (IODE), the Working Group on Tsunamis and Other Hazards related to Sea-Level Warning and Mitigation Systems



(TOWS-WG), IOCAFRICA and IOCARIBE, as well as the representatives of 14 Member States. A report building on a questionnaire sent to the group was prepared by the Secretariat and finalized following an extensive review by the Working Group.

108 The representatives of eight Member States and two observers (GEBCO and the International Hydrographic Organization – IHO) took the floor. The Executive Council recalled how valuable GEBCO products and services were to the work of IOC, and more broadly, to the marine science community. Several Member States welcomed IOC's reinforced participation in GEBCO at all levels and highlighted the potential contribution of the Nippon Foundation-GEBCO Seabed 2030 project. They also identified the need to engage IOC regional subsidiary bodies in GEBCO's work.

109 The representative of China pledged \$10,000 to IOC's work on GEBCO. Several Member States explained their efforts to conduct national bathymetric surveys and expressed willingness to contribute data to GEBCO.

110 The Executive Council welcomed the conclusions of the Working Group and decided to continue to conduct the GEBCO Review on a biennial basis, with the same terms of reference.

111 The Executive Council also encouraged the active participation of Member States and relevant IOC programmes in the next review to be conducted by the Working Group, given that the questionnaire had garnered a relatively low number of answers.

112 The representative of GEBCO welcomed the report and stated that it would be considered at the next meeting of the GEBCO Guiding Committee in Canberra, Australia, in November 2018.

113 The representative of IHO highlighted the importance of establishing direct cooperation between the national hydrographic services and oceanographic centres in Member States.

114 The following Member States, one observer, and one group of experts chose to provide records of their plenary intervention on this agenda item for the Informational Annex to the meeting report: [Chile](#), [China](#), [Indonesia](#), [Japan](#), [Portugal](#), the [United Kingdom](#) and [GEBCO](#).

115 The Executive Council adopted [Decision EC-LI/4.5](#) below.

*Decision EC-LI/4.5*

The Executive Council,

Recalling decision EC-XLIX/4.4 establishing a regular working group tasked with collecting, integrating and assessing the user requirements for General Bathymetric Chart of the Oceans (GEBCO) products and addressing potential ways to contribute to GEBCO data and products,

Having examined the report of the working group submitted in document [IOC/EC-LI/2 Annex 7](#),

Recognizing the continued need of the IOC scientific community for bathymetric products and the fact that access to high quality bathymetry is important not only for navigation, but also for other purposes including ocean science, tsunami warning and preparedness and climate modelling,

Also noting that significant amounts of bathymetric data are collected by the scientific and commercial sector for purposes other than chart improvement, but are not easily made discoverable or available for secondary purposes,

Takes note of the conclusion of the review group;

Requests the Executive Secretary to:

- (i) convey the conclusion of this review to the International Hydrographic Organization (IHO) and the GEBCO Guiding Committee;
- (ii) identify ways and means to increase the participation of respondents, particularly representing the interest of IOC programmes, as well as regional subsidiary organs, in

future assessments carried out by the working group;

- (iii) share the findings of the review with relevant IOC communities;

Decides to conduct the Review of User Requirements and Potential Contributions to GEBCO on a biennial basis, with the next assessment to be presented to the IOC governing body in 2020;

Encourages Member States to:

- (i) cooperate to advance basin-scale campaign mapping and accelerate the delivery of GEBCO objectives and general knowledge of the ocean in particular by supporting and contributing to the Nippon Foundation – GEBCO Seabed 2030 Project,
- (ii) facilitate GEBCO capacity development, including training opportunities, and
- (iii) actively participate in the next assessment, to be conducted by the Working Group.

#### 4.6 IOC RELEVANT ISSUES RELATED TO THE INTERGOVERNMENTAL CONFERENCE ON AN INTERNATIONAL LEGALLY BINDING INSTRUMENT UNDER THE UN CONVENTION ON THE LAW OF THE SEA ON THE CONSERVATION AND SUSTAINABLE USE OF BIOLOGICAL DIVERSITY OF AREAS BEYOND NATIONAL JURISDICTION

116 Mr Ariel Troisi (Argentina), Vice-Chairperson of IOC, introduced the item. He reported on the recent developments related to the negotiation of a new legally-binding instrument to conserve and sustainably use marine biodiversity in areas beyond national jurisdiction (the High Seas and the Area) under the United Nations Convention on the Law of the Sea (UNCLOS). He recalled that in December 2017, the United Nations General Assembly had decided, through Resolution 72/249, to organize an intergovernmental conference, scheduled over four meetings to be held over a three-year period (2018–2020), with the aim of finalizing the BBNJ legal instrument. Negotiations would address topics identified in the package agreed upon in 2011, namely environmental impact assessments and area-based management tools, including the establishment of marine protected areas in areas beyond national jurisdiction. They would also provide a governance mechanism that regulated access to and benefited sharing derived from marine genetic resources. Capacity development and the transfer of marine technology were also being considered to serve all future Parties, including developing countries.

117 Mr Troisi recalled that in 2017, IOC had been invited by the Assembly to submit a report to the BBNJ Preparatory Committee (PrepCom), at its fourth meeting, on existing IOC activities in relation to capacity development and the transfer of marine technology (TMT) and future plans in those areas, particularly in relation to the establishment of a clearing-house mechanism for TMT. The report was well received by Member States.

118 He also reported on the participation of the Chairperson of IOC in the preparatory meeting of the intergovernmental conference held at United Nations Headquarters from 16 to 18 April 2018, where IOC had co-organized two side events. He stressed that many items to be negotiated under the intergovernmental conference touched on areas of IOC's competency, particularly the use of the best available scientific information as the basis for management decisions and conservation policies, the application of *IOC Criteria and Guidelines on the Transfer of Marine Technology* ([IOC/INF-1203](#)) as a guiding principle and the potential contribution of the Ocean Biogeographic Information System (OBIS) as an effective global platform for the sharing of research data and information. It would therefore be important for IOC, in the following months and years, to closely monitor the process and provide information on its mandate, programmes and expertise, as requested by Member States.

119 The representatives of six Member States took the floor. The Executive Council highlighted the importance of the BBNJ process and mentioned that, throughout the BBNJ PrepCom process, IOC had increased its visibility and demonstrated its relevance in providing scientific and technical expertise. The Executive Council referred to areas of IOC's competency

in which it could support the non-monetary-benefit sharing of marine genetic resources, for instance, by providing fair and equitable access to data, promoting international cooperation and establishing an effective clearing-house mechanism for marine technology transfer and capacity development.

120 The following Member States chose to provide records of their plenary intervention on this agenda item for the Informational Annex to the meeting report: [Argentina](#), [China](#) and [Japan](#).

121 The Executive Council adopted [Decision EC-LI/4.6](#) below.

*Decision EC-LI/4.6*

The Executive Council,

Recalling [United Nations General Assembly resolution 72/249](#), which decided to convene, commencing in 2018, the Intergovernmental Conference on an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction,

Recalling also that IOC is a competent international organization under UNCLOS and has a long history in promoting international cooperation in ocean science within and beyond national jurisdiction,

Further recalling [United Nations General Assembly resolution 69/292](#), which recognizes that the BBNJ process should not undermine existing, relevant, legal instruments and frameworks and relevant global, regional and sectoral bodies,

Takes note of and welcomes the active role of the Commission at the organisational meeting of the Intergovernmental Conference, in accordance with its mandate in areas related to marine scientific research, capacity development and the transfer of marine technology, as well as data and information management;

Requests the Executive Secretary, Chairperson or a designated Officer of IOC to represent the Commission in the forthcoming meetings of the Intergovernmental Conference;

Invites IOC Member States to continue supporting the role of the Commission through their preparation and statements at forthcoming meetings of the intergovernmental conference;

Requests the Executive Secretary and Officers of IOC to report on developments in this area to the IOC Assembly at its Thirtieth Session in 2019.

4.7 A TEN-YEAR STRATEGY FOR THE GLOBAL OCEAN OBSERVING SYSTEM (GOOS)

122 Mr John Gunn, co-Chairperson of the Steering Committee (SC) of the Global Ocean Observing System (GOOS), introduced the item.

123 In 2011, IOC resolution XXVI-8 tasked the GOOS SC with developing and updating as necessary the scientific, technical and implementation plans and targets for GOOS, as well as a biennial work plan, for consideration and approval by IOC governing bodies and partners. *The GOOS work plan adopted by the Assembly at its Twenty-seventh Session (Paris, 26 June–5 July 2013) identified the articulation of GOOS' ten-year goals and the development of a GOOS Implementation Plan with goals and milestones as its first objective.* Since 2012, GOOS had actively worked at implementing the *Framework for Ocean Observing* ([IOC/INF-1284 rev.](#)). It had identified a range of essential ocean variables (EOVs), developed a streamlined governance structure and established three active GOOS Panels covering physical, biogeochemical and biological variables, each leading an engaged community and actively developing new EOVs to meet evolving scientific and social needs.

124 The draft GOOS 2030 Strategy identified an ambitious vision for the future, for a truly global ocean observing system that delivered the essential information needed for sustainable development, safety, wellbeing and prosperity. GOOS' mission was to lead the ocean-observing



community in developing an integrated, responsive and sustained global observing system. An ocean observing system with greatly extended coverage was envisaged for 2030, delivering a wider variety of essential information to a broader range of end-users, across climate and operational services and for marine ecosystem health. GOOS would continue to focus on delivering information, strengthening partnerships and engagement from observations through to services and enhancing the visibility of the global ocean observing system and its contributors. The Decade of Ocean Science for Sustainable Development would play an important role in raising the profile of ocean science and the observations needed to underpin sustainable development. GOOS would work to ensure the impact of sustained ocean observations and the enhancement of the system, including through developing capacities and creating a responsive governance for a global system.

125 The draft strategy provided GOOS, and IOC as its main sponsor, with clear objectives. It also identified a strong need to build engagement and partnerships to ensure the system was delivering to end-users and responding to a new context and needs, including the Sustainable Development Goals (SDGs), the Sendai Framework for Disaster Risk Reduction and the Paris Agreement. An accompanying implementation plan was being developed by the GOOS SC and would be submitted to the IOC Assembly at its Thirtieth Session in 2019.

126 GOOS would contribute to the planning stage of the Decade of Ocean Science for Sustainable Development, identifying innovative actions that could leave a legacy for the sustained ocean observing system. OceanObs'19 (16–20 September 2019, Honolulu, Hawaii, United States; [www.oceanobs19.net](http://www.oceanobs19.net)) would serve that process by identifying key future initiatives.

127 The representatives of fourteen Member States and three observers took the floor.

128 Member States welcomed the development of the draft GOOS 2030 Strategy, which they supported. Several Member States highlighted their contributions to GOOS.

129 Many Member States welcomed the focus on developing partnerships in order to deliver a global system. Some Member States noted that some existing collaboration programmes and partners appeared not to have been recognized in the strategy and encouraged them to be considered in its final version. Member States emphasized the importance of developing a complementary implementation plan that should provide greater details on how to address gaps and capacity-development needs.

130 Member States stressed the need to make ocean observing more visible, particularly at the level of government and policymakers, and it was suggested that the link between observations and the role they played in forecasts and other services was made more visible.

131 Many Member States stressed the need to establish longer-term funding mechanisms for ocean observing and to reinforce coordination at regional levels to coordinate with organizations sharing the same ocean.

132 WMO noted its long-standing relationship with IOC in fostering the importance of GOOS. It observed that the strategy was well aligned with WMO's new focus on earth-system modelling and prediction and invited GOOS to look into clear links with the WMO Strategic Plan. They also needed to enhance their partnership. The Global Climate Observing System (GCOS) supported the draft GOOS Strategy. It also noted that it shared a panel with GOOS, the Ocean Observations Panel for Climate (OOPC). The joint panel had helped drive effective collaboration over many years and provided both organizations with a consistent message.

133 The following Member States, one observer, one group of experts and one organization chose to provide records of their plenary intervention on this agenda item for the Informational

Annex to the meeting report: [Australia](#), [Brazil](#), [Canada](#), [Côte d'Ivoire](#), [Indonesia](#), [Italy](#), [Japan](#), [Republic of Korea](#), [Spain](#), [United States of America](#), [GEBCO](#) and [WMO](#).

134

The Executive Council adopted [Decision EC-LI/4.7](#) below.

*Decision EC-LI/4.7*

The Executive Council,

**I. A Ten-Year Strategy for GOOS**

Having examined [IOC/EC-LI/2 Annex 8](#),

Acknowledging the ongoing broad community review process,

Takes note of the draft *GOOS 2030 Strategy*, and of the opportunity to provide further comment by a deadline to be agreed with the help of the IOC Secretariat;

Requests the Executive Secretary to work with the GOOS Steering Committee, Secretariat and the other co-sponsors of GOOS to finalize the *GOOS 2030 Strategy*, based on feedback from Member States and other stakeholders;

Further notes that the final version of the *GOOS 2030 Strategy* will be submitted to the IOC Assembly at its 30th Session in 2019 for consideration and endorsement;

Welcomes development of an accompanying implementation plan covering more specific outputs and milestones on a one to five-year timescale;

Calls on the other sponsors of GOOS—the World Meteorological Organization, the United Nations Environment Programme, and the International Science Council—to consider how they will contribute to implementing the Strategy;

**II. OceanObs'19**

Recognizing that OceanObs'19 is an instrumental opportunity to build community-driven enhancement of the requirements of ocean observing system development, and to contribute to the planning stage of United Nations Decade of Ocean Science for Sustainable Development, particularly regarding its priority areas of ocean observations,

Encourages Member States to disseminate opportunities to engage in the OceanObs'19 Conference to appropriate national audiences, and further encourages Member States to support the conference itself.

4.8 EVOLVING CAPABILITIES OF THE ARGO PROFILING FLOAT NETWORK

135

Mr W. Brechner Owens, Director of the Argo Profiling Float Programme, introduced the item.

136

He recalled that, at its Twenty-ninth Session in June 2017, the IOC Assembly had taken note of the evolving capabilities of the Argo profiling float network. In decision [IOC-XXIX/6.1.1\(III\)](#), the Assembly had decided, among other matters, to consider the evolving capabilities of the Argo profiling float network as an agenda item at the Fifty-first Session of the IOC Executive Council in 2018, with a view to deciding how to treat the new variables within IOC's cooperative framework.

137

Mr Owens summarized the background and developments including: (i) how the Argo observing array contributed to the Global Ocean Observing System (GOOS); (ii) the institutional context; (iii) IOC's guidance, monitoring and notification of Argo Member States and the need for a transparent process; (iv) the increasingly urgent need to track the ocean's biogeochemistry; (v) the inadequacy of present observation rates of ocean biogeochemistry; (vi) the proposed global extension of Argo to monitor the large-scale evolution of the ocean's biogeochemistry and associated impacts on marine ecosystems; and (vii) the proposed framework for additional new parameters for Argo.

138 Mr Owens further recalled that a consultation process had been launched through IOC [Circular Letter 2714](#) (15 March 2018), which had invited Member States to provide feedback on the contents of the working document ([IOC/EC-LI/2 Annex 9](#)) and a draft of the decision. The comments received had been incorporated into the final versions of the working document and proposed decision.

139 The representatives of 17 Member States and representatives from WMO and the General Bathymetric Chart of the Oceans (GEBCO) took the floor. Member States expressed strong support for the Argo observation system, its evolution with the inclusion of six new biogeochemical parameters, the proposed framework for pilot testing and the potential inclusion of new parameters. Several Member States stressed the important contributions Argo was making to ocean and weather prediction and the information products generated by Argo. Several Member States highlighted their contributions to the Argo project (e.g., via deployments, the development of new sensors, archiving and analysis, Argo floats that could go below 2,000 m, and capacity development). One Member State highlighted Argo's importance for countries without any research vessels and appealed for the strengthening of deployments in regions where deployment density was below average (e.g., Western Indian Ocean). WMO and GEBCO expressed their strong support for Argo and the proposed decision.

140 The following Member States, two observers, one group of experts and one organization chose to provide records of their plenary intervention on this agenda item for the Informational Annex to the meeting report: [Australia](#), [Canada](#), [China](#), [Italy](#), [Japan](#), [Norway](#), [Philippines](#), [Russian Federation](#), [Spain](#), [Ireland](#), [United Kingdom](#), [GEBCO](#) and [WMO](#).

141 The Executive Council adopted [Decision EC-LI/4.8](#) below.

*Decision EC-LI/4.8*

The Executive Council,

**I. Global implementation  
of six new biogeochemical parameters for Argo floats**

Having examined the evolving capabilities of the Argo global array of profiling floats and the planned global implementation of sensors to measure six new biogeochemical parameters described in [IOC/EC-LI/2 Annex 9](#) Section II,

Recognizing Argo's contribution to the measurement of GOOS essential ocean variables (EOVs) and the potential scientific and societal benefits of the global measurement of the six new biogeochemical parameters,

Appreciating Argo's pioneering free and open data policy, in compliance with the later IOC Oceanographic Data Exchange Policy ([IOC Resolution XXII-6](#)),

Approves the global implementation of Argo floats measuring these six parameters—oxygen, pH, nitrate, chlorophyll, backscatter and irradiance; and

Agrees to the continued use of IOC's *Guidelines for the Implementation of Resolution XX-6 of the IOC Assembly Regarding the Deployment of Profiling Floats in the High Seas within the Framework of the Argo Programme* ([IOC resolution EC-XLI.4](#)) to notify coastal Member States of all Argo profiling floats likely to enter their Exclusive Economic Zone (EEZ), including those measuring these new variables;

Recognizing Argo's value in responding to global challenges on climate variability and change and its role in underpinning ocean and marine services, encourages all IOC Member States to further support and participate in the implementation of the Argo programme;

**II. The approval framework for additional  
new parameters for Argo**

Having examined the proposed approval framework for additional new parameters for Argo described in [IOC/EC-LI/2 Annex 9](#) Section III,

Notes that experimental new parameters on Argo floats will be tested through individual national

research programmes, in a manner consistent with the United Nations Convention on the Law of the Sea (UNCLOS);

Agrees that the Argo Steering Team can designate *Argo-approved pilot* parameters based on requirements of technological readiness, a compelling global design and implementation plan, and the potential to deliver major benefits to research and societal services, for deployment under Argo's notification regime (IOC resolution EC-XLI.4) and under its free and open data policy, for a limited period allowing for the scientific evaluation of the results; and

Requests the Argo Steering Team and the GOOS Steering Committee to bring the results of Argo-approved pilots to an IOC governing body for approval before moving to a stage of global implementation.

#### 4.9 IOC CONTRIBUTION TO OCEAN LITERACY IN 2018–2021

142 Ms Francesca Santoro, IOC Programme Specialist responsible for ocean literacy, introduced the item. She described IOC's increasing role in ocean literacy following the Commission's voluntary commitment in the context of the United Nations Ocean Conference (New York, June 2017). Moreover, she expanded on the potential role of ocean literacy in the framework of the United Nations Decade of Ocean Science for Sustainable Development. Increased visibility and awareness were other expected outputs of the *IOC Capacity Development Strategy (2015–2021)*, to be achieved through the development of an IOC ocean literacy programme as a community of practice that would share experience within and across regions, among other actions. Ocean literacy adopted transformative tools and approaches to promote individual and collective understanding of the importance of the ocean for humankind. While IOC ocean literacy activities had focused on bolstering ocean literacy at national, regional and local levels, clearly defining IOC's role in the expanding field, an evaluation of needs and actions was required to efficiently address them through consultations with Member States and leading ocean literacy scientists.

143 Ms Santoro also presented a progress report on IOC ocean literacy activities implemented at global and regional levels alike, as well as in collaboration with other UNESCO sectors. She informed participants that, through the support of the Government of Sweden, it would be possible to implement the activities included in the "Ocean Literacy for All" initiative put forward at the 2017 United Nations Ocean Conference as a voluntary commitment. In addition, the Sea Change project, funded by the European Commission's Horizon2020 programme, had been successfully completed.

144 The Executive Council expressed appreciation for the activities undertaken by IOC in the context of ocean literacy, emphasizing the essential role of ocean literacy in raising social awareness on ocean matters. Some Member States emphasized the role of ocean literacy in the context of the United Nations Decade of Ocean Science for Sustainable Development and highlighted the need to develop ocean literacy tools and materials on the basis of rigorous scientific knowledge. IOC, as the competent United Nations body for ocean science, was, therefore, best placed to coordinate ocean literacy initiatives. The need to include the perspectives of gender equality and indigenous knowledge was also expressed. Some Member States expressed their interest in increasing their involvement in ocean literacy activities, and provided some examples of ocean literacy projects and programmes developed in their countries or regions. Moreover, some Member States expressed their appreciation for IOC's collaboration with UNESCO sectors, in particular the Education Sector, but also the Social and Human Sciences and Communication and Information Sectors, to develop ocean literacy initiatives. Finally, two observers took the floor to invite IOC to connect with other United Nations agencies and scientific institutions to build ocean literacy.

145 The representatives of nine Member States and two observers took the floor. The following Member States and organizations chose to provide records of their plenary intervention on this agenda item for the Informational Annex to the meeting report: [Argentina](#), [Canada](#), [Indonesia](#), [Italy](#), [Portugal](#), the Ocean Frontier Institute ([OFI](#)) and [WMO](#).

The Executive Council adopted [Decision EC-LI/4.9](#) below.

*Decision EC-LI/4.9*

The Executive Council,

Having considered document [EC-LI/2 Annex 10](#),

Recalling:

- (i) the *IOC Capacity Development Strategy, 2015–2021*, in which ocean literacy is identified as a main strategic activity under output 5: “Visibility and awareness increased”;
- (ii) the IOC Programme and Budget, 2018–2019, which states that IOC must further reaffirm its mediating role between the scientific and policy communities, and
- (iii) the UNESCO/IOC’s voluntary commitment [#OceanAction15187](#), “Ocean literacy for all: a global strategy to raise the awareness for the conservation, restoration, and sustainable use of our ocean”,

Taking into account IOC’s achievements in ocean literacy and the role it can play in communicating IOC’s activities to the general public, including in the context of the United Nations Decade of Ocean Science for Sustainable Development,

Decides to pursue IOC’s involvement in ocean literacy activities;

Invites the Secretariat to develop a plan of action for review by the IOC Assembly at its Thirtieth Session in 2019;

Encourages Member States to contribute to ocean literacy activities by identifying good practices, tools and approaches to be shared within and across regions;

Expresses its appreciation to the Government of Sweden for the financial support provided for IOC’s ocean literacy activities and encourages other Member States to follow this example.

## 5. REVIEW OF IOC PROGRAMMES CO-SPONSORED WITH WMO

### 5.1 RECOMMENDATIONS OF THE WMO GOVERNANCE REVIEW REGARDING JCOMM, GCOS, GOOS AND WCRP

147 Mr David Grimes, President of WMO, introduced the reform of WMO structures, as decided at the Seventieth Session of the WMO Executive Council (20–29 June 2018) for ratification by the eighteenth World Meteorological Congress in 2019. The reform followed a call issued by the seventeenth World Meteorological Congress (2015) to revise all WMO constituent bodies, as well as their structure and working practices, to improve the effectiveness and efficiency of the use of the resources of WMO Members with a minimal level of bureaucracy and without disrupting partnerships.

148 Mr Grimes emphasized the need for WMO to become a more flexible and integrated organization, with stronger partnerships, to respond to the societal challenges of climate, water and weather. He emphasized the importance of IOC as a partner. A stronger and broader relationship with IOC could offer a response to issues affecting both the meteorological and oceanographic realms, and encompass more than the existing technical collaboration embodied by JCOMM.

149 The WMO reform implied changes for the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM). As JCOMM was a joint technical commission of WMO and IOC, established in 1999 by parallel resolutions taken by the World Meteorological Congress (resolution 14 (Cg-XIII)) and the IOC Assembly ([resolution XX-12](#)), changes to JCOMM required examination and approval by the WMO and IOC governing bodies.



150 In decision XXIX/6.1.3, the IOC Assembly, at its [Twenty-ninth Session](#) (2017), requested *"the Executive Secretary and IOC Officers to represent the interests of IOC Member States in the WMO Governance Review for matters that touch on JCOMM."*

151 Ms Monika Breuch-Moritz, Vice-Chairperson of IOC, had been invited to the First Session of the WMO Executive Council Working Group on Strategic and Operational Planning (11–13 April 2018, Geneva, Switzerland) as an expert. The working group had underlined the importance of strengthening and expanding WMO's collaboration with IOC, given the critical role of the ocean for weather and climate applications and services supported by ocean observations. It had also emphasized the need to preserve and enhance the collaborative work accomplished through JCOMM. It had thus proposed that the programme areas of the current JCOMM be jointly transferred to the technical commissions of WMO and the relevant structures of IOC, and that a Joint WMO-IOC Committee for Oceanography and Meteorology (JCOM) be created as a high-level coordination mechanism providing the key relevant bodies of WMO and IOC with more opportunities for engagement.

152 The Chairperson of IOC thanked the President of WMO and emphasized that IOC's proposed decision was to form a joint consultation group to study and develop the plan for JCOMM's reform.

153 The representatives of fifteen Member States took the floor.

154 Member States thanked Mr Grimes for his presentation summarizing the objectives of the WMO reform. Many Member States expressed their strong support for JCOMM's work, emphasizing its value and the excellent results achieved during the 20-year partnership through examples of observations and data.

155 One Member State asked why reform was needed if JCOMM was already performing so well.

156 Member States expressed their support for closer cooperation between IOC and WMO. Specific examples were given in which the integration of meteorology and oceanography had already been achieved, to provide multi-hazard warning services, for example, and safety at sea for regional fishermen. It was generally agreed that the challenges faced required an interdisciplinary approach and that both WMO and IOC would benefit from enhanced collaboration.

157 Some Member States considered that the proposed JCOM structure was a suitable approach.

158 Other Member States stressed that the proposed committee should ensure that the technical cooperation that already existed within JCOMM was not lost.

159 Regarding the proposed decision, some Member States raised questions about the proposed scope and terms of reference of the committee, the selection process of committee members and the importance of keeping functioning technical connections intact.

160 A sessional drafting group chaired by Ms Monika Breuch-Moritz had been established to revise the proposed decision. Following two meetings of the drafting group, Ms Monika Breuch-Moritz introduced the amendments and rationale to the revised decision, as follows:

- the title of the decision should reflect the content of the decision;
- paragraphs 1–4 (preamble) were added to explain the general context and positive objectives of the reform process;
- some formulations were not sufficiently clear, so changes were made to clarify the work, tasks and process of the proposed joint committee and new wording was found.

161 An important objective was to ensure that both the strategic and operational matters tackled by JCOMM and its expert teams were addressed, and their functioning secured under the umbrella of a new JCOM. Therefore, the terms of reference were completed to address technical coordination.

162 Another objective was to ensure that the planned consultation group met on equal terms. The group added details on how IOC members were to be selected to ensure that, on the one hand, all the necessary expertise was available, and, on the other, Member States made sufficient contributions, while respecting regional balance and the balance between IOC and WMO.

163 The following Member States and one observer chose to provide records of their plenary intervention on this agenda item for the Informational Annex to the meeting report: [Argentina](#), [Australia](#), [Côte d'Ivoire](#), [Indonesia](#), [Portugal](#) and the [United States of America](#).

164 The Executive Council adopted [Decision EC/5.1](#) below.

*Decision EC/5.1*

The Executive Council,

Recognizing the success of the cooperation between IOC and WMO in JCOMM and the achievements in terms of bridging oceanographic and marine meteorological observations, data management and service systems,

Recognizing further the need to develop and implement state-of-the-art technologies and competencies in response to the expanding and evolving needs of users of marine data and products,

Noting the importance of research and capacity development to support observations, data management and services, including information services aimed at setting global and national policies,

Noting the need for a restructuring of JCOMM that will increase the connection between IOC-specific groups and WMO reformed structures,

Noting the WMO Executive Council decision EC-70/16.3(5)/1 titled WMO-IOC Consultation on the Reform of JCOMM,

Noting [IOC/EC-LI/2 Annex 11 Rev.](#) and [IOC/INF-1359](#),

Noting with appreciation the intent behind the proposed reform of WMO structures, to improve efficiency and delivery,

Noting the involvement of the Officers and Executive Secretary of IOC in WMO discussions regarding reforms that touch on the co-sponsored bodies JCOMM, GCOS, GOOS and WCRP,

Emphasizing the importance of continued and enhanced cooperation between oceanography and meteorology, and between IOC and WMO, to ensure a coherent and compatible earth-systems approach to observations, data management, forecast systems and the development of appropriate services,

Decides to establish a joint IOC-WMO consultation group with the terms of reference provided in the annex to the present decision.

## 5.2 REVIEW OF THE WORLD CLIMATE RESEARCH PROGRAMME (WCRP)

165 Mr Salvatore Aricò, Head of the Ocean Science Section (OSS), introduced the item. He presented the results of the independent review of the World Climate Research Programme (WCRP). Mr Michael Sparrow, Senior Scientific Officer of WCRP, presented the new WCRP Strategic Plan for 2019–2029. The review of IOC's role and the cooperation between IOC and WCRP demonstrated that a strong WCRP with relevant and timely activities was crucial to

providing the Intergovernmental Panel on Climate Change (IPCC) with the basis for systematic assessments of scientific knowledge on climate change and the United Nations Framework Convention on Climate Change (UNFCCC) with the basis for policy decisions. In turn, IOC's participation in WCRP assisted in informing the proper design of research and systematic observations on climate, its variability and change. IOC's participation also brought the findings of WCRP to the attention of policymakers.

166 The representatives of four Member States took the floor and reiterated the importance of IOC's work in ocean and climate to support Member States, improve resilience and develop the necessary capacities to adapt to climate change. In this regard, the new WCRP Strategic Plan should also encompass the social science dimension of climate research.

167 The following Member States chose to provide records of their plenary intervention on this agenda item for the Informational Annex to the meeting report: [China](#) and [Indonesia](#).

168 The Executive Council adopted [Decision EC-LI/5.2](#) below.

*Decision EC-LI/5.2*

The Executive Council,

Recalling IOC decision XXIX/5.3 on the World Climate Research Programme (WCRP),

Takes note of the results of the independent review of WCRP and the WCRP Strategic Plan for 2019–2029;

Reiterates the important role of the ocean in climate regulation and climate-change mitigation, and hence the need to maintain a strong ocean focus in climate research conducted in the context of WCRP;

Endorses the approach pursued by the IOC Secretariat in relation to the need for IOC to partner with WCRP in the implementation of relevant IOC programmes and activities, while reiterating IOC's commitment to continuing to co-sponsor WCRP;

Encourages WCRP to play an active role in the design and execution of relevant elements of the Implementation Plan of the United Nations Decade of Ocean Science for Sustainable Development.

### 5.3 A 10-YEAR STRATEGY FOR THE GLOBAL CLIMATE OBSERVING SYSTEM

169 Mr Stephen Briggs, Chairperson of the Steering Committee of the Global Climate Observing System (GCOS), introduced the item. The draft GCOS strategy was aimed at ensuring the availability and quality of observations necessary for monitoring, understanding and predicting the global climate system so that communities and nations could live successfully with climate variability and change.

170 The goals of the strategy were to pursue and enhance climate observations, support integrated observations addressing broad climate cycles, plan climate observations building on the climate-related components of existing systems (such as the Global Ocean Observing System – GOOS), focus on meeting user needs, respond to requirements for climate change adaptation and mitigation and the support of sustainable development, and advocate for equitable and open access to relevant data.

171 The representatives of two Member States took the floor.

172 Member States stressed that GCOS was very important for improving safety, as well as supporting the socio-economic development of coastal nations experiencing climatic change. GCOS played a major role in data integration across different systems from land and ocean, and the GCOS plan could influence support for the development and contributions of national



observing systems for climate monitoring in the marine environment. While the draft GCOS plan had a global focus, Member States stressed the importance of facilitating the inclusion of and interoperability between regional systems and aspects (for example with sea-level data).

173 The following Member State chose to provide records of their plenary intervention on this agenda item for the Informational Annex to the meeting report: [Indonesia](#).

174 The Executive Council adopted [Decision EC-LI/5.3](#) below.

*Decision EC-LI/5.3*

The Executive Council,

Having examined [IOC/INF-1360](#),

Notes the development of the *GCOS Strategy*;

Requests the Executive Secretary to work with the GCOS Secretariat and other co-sponsors of GCOS to finalize and approve the *GCOS Strategy*.

## 6. ADMINISTRATION, FINANCE AND MANAGEMENT

### 6.1 FOLLOW-UP TO RESOLUTION XXIX-2: FINANCE AND REGULATIONS, GOVERNANCE, WORKING METHODS AND PROCEDURES

175 Mr Ariel H. Troisi, Chairperson of the Intersessional Financial Advisory Group and Vice-Chairperson of IOC, introduced the item early in the session for an initial debate in the plenary meeting before further discussion in the sessional Financial Committee.

176 He updated the Executive Council on the results of the intersessional examination of numerous items. Some of them were of strategic nature, *i.e.*, the proposal to update the introduction to the Medium-Term Strategy following the proclamation by the United Nations General Assembly of the United Nations Decade of Ocean Science for Sustainable Development, the Assembly's request, through resolution [XXIX-2](#), to '*consider the possibilities of ensuring a more stable funding base for the Commission*' and the need to respond to the recommendations of the UNESCO open-ended working group on governance. Other items were of a more administrative nature, such as the need to revise the Financial Regulations for the IOC Special Account to align them with the guidelines and best practices of UNESCO's governing bodies and review the adjustments to the 39 C/5 following the thirty-ninth session of UNESCO's General Conference.

177 Vice-Chairperson Troisi thanked all Member States that had participated in the work of the Intersessional Financial Advisory Group and invited all Member States of the Executive Council to contribute to the work of the sessional Financial Committee.

178 The representatives of three Member States took the floor. The Executive Council thanked Vice-Chairperson Troisi, the members of the Intersessional Financial Advisory Group and the Secretariat for the very comprehensive documentation they had provided, and in particular the draft implementation plan of the recommendations made by the UNESCO open-ended working group on governance. While a more in-depth discussion would be required during the sessional Financial Committee, the proposed document represented an excellent support to facilitate Member States' decision-making.

179 In his concluding remarks, Vice-Chairperson Troisi thanked those Member States that had already contributed extrabudgetary funds towards the Commission's programme implementation and encouraged all Member States and partners to follow their example, using the numerous and flexible modalities at IOC's disposal. The following Member States chose to

provide records of their plenary intervention on the agenda item for the Informational Annex to the meeting report: [China](#) and [Philippines](#).

180 The Executive Council adopted [Decision EC-LI/6.1](#) below.

*Decision EC-LI/6.1*

The Executive Council,

Thanks Vice-Chairperson Troisi and all Member States having contributed to the work of the Intersessional Financial Advisory Group (IFAG);

Takes note of documents [IOC/EC-LI/2 Annex 2](#), [Corr.](#) and [Add.](#), [IOC/EC-LI/2 Annex 12](#), [IOC/EC-LI/2 Annex 13](#) and [IOC/EC-LI/2 Annex 14 Rev.](#) subject to further examination by the Financial Committee with a view to formulating draft resolution [EC-LI/DR.\(6.2\)](#) for discussion and adoption in plenary.

## 6.2 REPORT BY THE CHAIRPERSON OF THE FINANCIAL COMMITTEE

181 Mr Ariel H. Troisi, Chairperson of the Financial Committee and Vice-Chairperson of IOC, reported to the Executive Council on the Committee's examination of the items entrusted to it by the plenary, as well as the statutory items provided for in Rule of Procedure 8.1(c). He informed the Council that the Financial Committee's discussions had been extremely constructive and thanked all the Member States that had participated in the work of the Committee for their commitment and collaboration. He then proceeded with a detailed presentation of the draft resolution prepared by the Financial Committee for consideration by the Executive Council ([Annex II-C](#)).

182 The Executive Council expressed its high appreciation to Vice-Chairperson Ariel H. Troisi for the effective and efficient way in which he had led the work of the Financial Committee, fostering a truly inclusive and collegial spirit. For the second time, as during the Twenty-ninth Session of the Assembly in 2017, the Committee could thus complete its expanded and challenging mandate in a very limited period of time.

183 The Executive Council adopted [Resolution EC-LI.2](#).

### Financial Matters of the Commission

The Executive Council,

**Having examined** documents:

- (i) IOC/EC-LI/2 Annex 2 and Corr. (Report on Budget Execution 2016–2017 and outline of 2018–2019 budget),
- (ii) IOC/EC-LI/2 Annex 2 Add. (Extrabudgetary resource mobilization targets: proposals for 2018–2019),
- (iii) IOC/EC-LI/2 Annex 12 (Second Updated Introduction to the IOC Medium-Term Strategy, 2014–2021),
- (iv) IOC/EC-LI/2 Annex 13 (IOC Governance: Draft Implementation Plan of the Recommendations of the UNESCO Open-ended Working Group on Governance),
- (v) IOC/EC-LI/2 Annex 14 Rev. (Revised Financial Regulations for the IOC Special Account),

#### I. Budget Execution 2016–2017 and Outline of 2018–2019 Budget

**Confirms** that the IOC budget for 2016–2017, as reported on in Part I of [IOC/EC-LI/2 Annex 2](#) and [Corr.](#), has been executed in accordance with the approved Programme and Budget for 2016–2017 (38 C/5, US \$518 M Expenditure Plan) and the work plans endorsed by the IOC Executive Council at its 49th Session (IOC/EC-XLIX/2 Annex 2) through Resolution EC-XLIX.2;

**Recognizes** the efforts of the IOC Executive Secretary to maintain programme continuity under the challenging circumstances related to the cash flow difficulties experienced by UNESCO which led to the

reduction of the IOC 2016–2017 regular budget by US \$451K as a contribution to UNESCO-wide contingency plan;

**Welcomes** the information provided by the IOC Executive Secretary that the IOC, along with UNESCO programme sectors, is invited to contribute to the proposal that the Director-General of UNESCO will be presenting to the 205<sup>th</sup> Session of the UNESCO Executive Board with regard to the utilization of the funds unspent due to contingency plan for programme reinforcement in 2018–2019 biennium;

**Takes note** of the information on the financial situation of the Commission provided in Part II of IOC/EC-LI/2 Annex 2 and Corr.), including the expenditure forecast 2018–2019 for the IOC Special Account;

**Expresses its appreciation** to the IOC Executive Secretary for the development of the extrabudgetary resource mobilization targets: proposals for 2018–2019 contained in document [IOC/EC-LI/2 Annex 2 Add.](#), as part of the Integrated Budget of the Commission for 2018–2019 and taking into account the guidance provided by the IOC Assembly through Resolution XXIX-2;

**Thanks** Member States who have already contributed extrabudgetary funds for the 2018–2019 programme implementation;

**Urges** all Member States to provide voluntary contributions to ensure full achievement of the collectively agreed extrabudgetary targets, preferably to the IOC Special Account;

**Requests** the IOC Executive Secretary to take necessary steps in order to obtain further voluntary contributions, including from private sector donors and other partners;

## **II. Second Update to the Introduction to the IOC Medium-Term Strategy, 2014–2021**

**Welcomes** the initiative of the IOC Officers and the Secretariat to update the introduction to the IOC Medium-Term Strategy, 2014–2021 with the information related to the proclamation in December 2017 by the United Nations General Assembly of the UN Decade of Ocean Science for Sustainable Development, with the IOC assuming the coordination role for the preparation of its Implementation Plan;

**Endorses** the proposed update to the introduction to the IOC Medium-Term Strategy, 2014–2021 as presented in document [IOC/EC-LI/2 Annex 12](#);

## **III. Recommendations on Governance, Working Methods and Procedures of the Commission**

**Expresses its appreciation** to:

- (i) Member States that participated in the work of the Intersessional Financial Advisory Group (IFAG) on this important matter;
- (ii) Vice-Chairperson, Ariel H. Troisi for his leadership and contribution, which resulted in a high quality document allowing a constructive way forward;
- (iii) IFAG's technical secretary, Ksenia Yvinec, for the support provided to the work of the Group;

**Endorses** the Implementation Plan of the Recommendations of the UNESCO Open-ended Working Group on Governance as presented in [Annex 1](#) to this resolution;

**Invites** the IFAG to continue the reflection on the best practices to further enhance the efficiency of the IOC governing bodies' meetings;

**Requests** the IOC Executive Secretary to report on the progress achieved in the implementation of the Recommendations to the IOC Assembly at its 30th Session in 2019;

## **IV. Revised Financial Regulations for the IOC Special Account**

**Expresses its appreciation** to the IOC Executive Secretary for the preparation of the Revised Financial Regulations for the IOC Special Account aimed at addressing 38 C/Resolution 86 and at aligning, to the extent possible, the existing financial regulations with the new standard Financial Regulations as approved by the Executive Board of UNESCO at its 200th Session in document [200 EX/19](#) and consistent with [201 EX/Decision 24.1](#);

**Notes with satisfaction** that the Revised Financial Regulations fully reflect the specificity of the IOC's

governance and its status as a body with functional autonomy within UNESCO;

**Takes note** of the information provided by the IOC Executive Secretary that the UNESCO Executive Board at its 204th Session adopted the revised programme support costs rates, now referred to as 'management rates', effective from the date of the decision (17 April 2018) and that the disbursements under the IOC Special Account will now attract the management rate of 7% (instead of 10%);

**Recommends** that the IOC Assembly formally adopt the Revised Financial Regulations for the IOC Special Account as presented in [Annex 2](#) to this resolution at its 30th Session in 2019.

### 6.3 PREPARATION OF THE THIRTIETH SESSION OF THE ASSEMBLY AND NEXT SESSIONS OF THE EXECUTIVE COUNCIL

184 The Executive Secretary introduced the item. He reminded the Executive Council that, since the change of the working methods in 2012, the length of an Executive Council and Assembly had been set at 3.5 and 6 working days respectively, plus one day for an Ocean Science Day. He reminded participants that, at their meeting from 16 to 18 January 2018, the Officers of IOC had discussed the added value of the Ocean Science Day and the desirability of replicating it at the Thirtieth Session of the IOC Assembly in 2019. It was recognized that, while the Twenty-ninth Session of the IOC Assembly had focused primarily on the proposal for a United Nations Decade of Ocean Science for Sustainable Development, the Thirtieth Session could benefit from an Ocean Science Day in support of the Decade. It could discuss contributions to the Decade from sectors other than oceanography (e.g., social sciences) and identify potential solutions that should emerge through the Decade, for example, in terms of developments related to marine policy. He acknowledged that the format and added value of an Ocean Science Day could require further consideration so as to fully satisfy the expectations of both Member States and the Secretariat.

185 The Executive Council adopted [Decision EC-LI/6.3](#) below.

#### *Decision EC-LI/6.3*

The Executive Council,

Recalling IOC Assembly [decision XXIX/11.4](#) on the length and organization of its Thirtieth Session,

Having considered potential conflicting dates with important meetings to take place in June 2019,

Expressing thanks to the Member States and partners for their sponsoring of side events and services and notably their support of recent sessions of IOC governing bodies and the organization of special events such as Ocean Science Day,

Decides to hold:

- (i) the Thirtieth Session of the Assembly for a duration of 6.5 working days plus an Ocean Science day at UNESCO Headquarters over the period from 26 June to 4 July 2019, preceded by a one-day session of the Executive Council (EC-LII);
- (ii) the Fifty-third Session of the Executive Council for a duration of 3.5 days in June 2020.

## 7. REPORT

186 The Chairperson of the Resolutions Committee reported to the Council on the work of the Committee during the session ([Annex II-B](#)) to the present report.

187 The Chairperson of IOC then invited the Executive Council to adopt, in the plenary, two draft resolutions prepared during the session under agenda items [4.1](#) and [6.2](#).

188 The draft summary report of the discussions had been prepared in three parts by the Secretariat. Only part I was available in the working languages of the Commission and submitted

to the Council. The late schedule of the plenary discussions did not allow for the adoption of the other two parts of the draft summary report. The whole of parts II and III would be approved by correspondence.

189 The Executive Council adopted [Decision EC-LI/7](#) below.

*Decision EC-LI/7*

The Executive Council,

Adopts [Part I](#) of the summary report for the present session;

Requests the Executive Secretary to circulate Parts II and III of the draft summary report to Member States within one week after the closure;

Decides to defer the adoption of Parts II and III of the draft summary report, to be completed by correspondence within one month from its receipt.

## 8. CLOSURE

190 The Executive Council met in plenary session during 3.5 days from 3 to 6 July 2018, considered twenty-eight items on its agenda and approved nineteen decisions and two resolutions. The plenary meeting was supported by some ten preparatory or sessional committee meetings, four meetings of electoral or regional groups and two information meetings during the session. The gender ratio of Executive Council Member State representatives and all participants, including speakers, was 1:3 (female:male). The Chairperson of the Commission closed the Fifty-first Session of the Executive Council at 12.55 p.m. on Friday 6 July 2018.

PART II

RESOLUTIONS AND DECISIONS

Resolution EC-LI.1

**United Nations Decade of Ocean Science for Sustainable Development**

The Executive Council,

**Recalling** the proclamation by the United Nations General Assembly (UNGA) at its 72nd session regarding the United Nations Decade of Ocean Science for Sustainable Development (2021–2030), through Resolution [A/RES/72/73](#), therein the Decade,

**Noting** that Resolution A/RES/72/73 proclaimed the Decade within the existing structures and available resources, **recognizing** that the implementation of the Decade could benefit from enhanced cooperation and sharing research infrastructure and observing systems and by making scientific data and information freely and openly available in accordance with the applicable legal framework, and **also recognizing** the requirement of exercising vigilance in the process of allocating resources of Member States,

**Further recalling** the invitation made by the UNGA to the IOC to:

- (i) prepare an implementation plan for the Decade in consultation with Member States, specialized agencies, funds, programmes and bodies of the United Nations, as well as other intergovernmental organizations, non-governmental organizations and relevant stakeholders,
- (ii) provide information on the implementation of the Decade to the Secretary-General for his report on oceans and the law of the sea,

**Noting** the invitation made by the UNGA to UN-Oceans and its participants to collaborate with the IOC,

**Considering** [IOC Resolution XXIX-1](#) and IOC Executive Council Decision [EC-XLIX.5](#) endorsing the proposal for such a Decade and defining a course of action for its development,

**Also considering** the current and evolving Roadmap for the United Nations Decade of Ocean Science for Sustainable Development, being developed under the guidance of the IOC Officers and with the participation of Member States and relevant United Nations bodies submitted in its revised and current version as document [IOC/EC-LI/2 Annex 3](#),

**Further considering** the proposal to establish, as an expert advisory body to the IOC governing bodies, referred to as an Executive Planning Group (EPG) to support the preparation of the implementation plan, with the terms of reference presented in document [IOC/EC-LI/2 Annex 4](#) (Appendix 1),

**Bearing in mind** that in addition to the IOC's United Nations-wide coordination role, the programmatic contribution to the implementation plan needs to be identified during the preparatory phase so that through the Decade, the Commission can upgrade and enhance the impact of its core programmes, as well as identify new initiatives in response to Member States' and stakeholders' needs,

**Having considered** document [IOC/INF-1357](#), which provides an initial framework for developing the IOC's programmatic contribution to the Decade,

**Takes note** of the revised and current version of the Roadmap document ([IOC/EC-LI/2 Annex 3](#)) that includes proposals for governance and structural arrangements for the preparation phase, as well as a guiding framework to further develop the concept, objectives, outcomes and modalities for the Decade's implementation and engagement strategy;

**Approves** the terms of reference for the Decade Executive Planning Group, including the selection process envisaged for the balanced constitution of such a group, to be established under the coordination of the IOC Executive Secretary;



**Requests** the IOC Executive Secretary to:

- (i) proceed with the establishment of the EPG, consisting of at least 16 up to 20 members, and the organization of the first meeting foreseen in autumn 2018;
- (ii) report on implementation of the current version of the roadmap and propose possible modifications for consideration by the IOC Assembly, at its 30th session;
- (iii) provide information to the UNGA on the development of the implementation plan and regularly consult with, and report to, Member States;
- (iv) lead the reflection across the IOC on how the core IOC programmes and initiatives can contribute to the objectives of the Decade; and submit to the IOC Assembly, at its 30th session, an overview of such an IOC programmatic contribution, building on document IOC/INF-1357 and consistent with the steps for the preparation of the next IOC Medium-Term Strategy for 2022–2029;
- (v) collaborate with UN-Oceans and its participants in preparing the Decade;
- (vi) seek to advance gender issues in the context of activities undertaken as part of the Decade and in the work of the EPG;

**Further requests** that IOC subsidiary bodies engage in the work of the Decade and identify potential contributions during the next intersessional period;

**Invites** United Nations agencies and programmes, international scientific and academic organizations, governments, non-governmental organizations and other stakeholders to support the Decade and contribute to its preparation;

**Urges** Member States and partners to:

- (i) provide voluntary contributions for the preparation of the Decade, preferably to the IOC Special Account, as well as in-kind support such as staff secondments to the Secretariat;
- (ii) offer to host and/or fund regional and global consultation workshops, as envisaged in the current version of the Roadmap document, as well as organize thematic meetings aimed at engaging the ocean community in the Decade and communication activities;

**Thanks** the Governments of the Republic of Korea and the Kingdom of Belgium (Government of Flanders) for their financial contribution to the preparatory phase of the Decade.

## Resolution EC-LI.2

### **Financial Matters of the Commission**

The Executive Council,

**Having examined** documents:

- (i) [IOC/EC-LI/2 Annex 2](#) and [Corr.](#) (Report on Budget Execution 2016–2017 and outline of 2018–2019 budget),
- (ii) [IOC/EC-LI/2 Annex 2 Add.](#) (Extrabudgetary resource mobilization targets: proposals for 2018–2019),
- (iii) [IOC/EC-LI/2 Annex 12](#) (Second Updated Introduction to the IOC Medium-Term Strategy, 2014–2021),
- (iv) [IOC/EC-LI/2 Annex 13](#) (IOC Governance: Draft Implementation Plan of the Recommendations of the UNESCO Open-ended Working Group on Governance),
- (v) [IOC/EC-LI/2 Annex 14 Rev.](#) (Revised Financial Regulations for the IOC Special Account),

## I. Budget Execution 2016–2017 and Outline of 2018–2019 Budget

**Confirms** that the IOC budget for 2016–2017, as reported on in Part I of [IOC/EC-LI/2 Annex 2](#) and [Corr.](#), has been executed in accordance with the approved Programme and Budget for 2016–2017 (38 C/5, US \$518 M Expenditure Plan) and the work plans endorsed by the IOC Executive Council at its 49th session ([IOC/EC-XLIX/2 Annex 2](#)) through Resolution [EC-XLIX.2](#);

**Recognizes** the efforts of the IOC Executive Secretary to maintain programme continuity under the challenging circumstances related to the cash flow difficulties experienced by UNESCO which led to the reduction of the IOC 2016–2017 regular budget by US \$451K as a contribution to UNESCO-wide contingency plan;

**Welcomes** the information provided by the IOC Executive Secretary that the IOC, along with UNESCO programme sectors, is invited to contribute to the proposal that the Director-General of UNESCO will be presenting to the 205<sup>th</sup> Session of the UNESCO Executive Board with regard to the utilization of the funds unspent due to contingency plan for programme reinforcement in 2018–2019 biennium;

**Takes note** of the information on the financial situation of the Commission provided in Part II of [IOC/EC-LI/2 Annex 2](#) and [Corr.](#)), including the expenditure forecast 2018–2019 for the IOC Special Account;

**Expresses its appreciation** to the IOC Executive Secretary for the development of the extrabudgetary resource mobilization targets: proposals for 2018–2019 contained in document [IOC/EC-LI/2 Annex 2 Add.](#), as part of the Integrated Budget of the Commission for 2018–2019 and taking into account the guidance provided by the IOC Assembly through [Resolution XXIX-2](#);

**Thanks** Member States who have already contributed extrabudgetary funds for the 2018–2019 programme implementation;

**Urges** all Member States to provide voluntary contributions to ensure full achievement of the collectively agreed extrabudgetary targets, preferably to the IOC Special Account;

**Requests** the IOC Executive Secretary to take necessary steps in order to obtain further voluntary contributions, including from private sector donors and other partners;

## II. Second Update to the Introduction to the IOC Medium-Term Strategy, 2014–2021

**Welcomes** the initiative of the IOC Officers and the Secretariat to update the introduction to the IOC Medium-Term Strategy, 2014–2021 with the information related to the proclamation in December 2017 by the United Nations General Assembly of the UN Decade of Ocean Science for Sustainable Development, with the IOC assuming the coordination role for the preparation of its Implementation Plan;

**Endorses** the proposed update to the introduction to the IOC Medium-Term Strategy, 2014–2021 as presented in document [IOC/EC-LI/2 Annex 12](#);

## III. Recommendations on Governance, Working Methods and Procedures of the Commission

**Expresses its appreciation to:**

- (i) Member States that participated in the work of the Intersessional Financial Advisory Group (IFAG) on this important matter;
- (ii) Vice-Chairperson, Ariel H. Troisi for his leadership and contribution, which resulted in a high quality document allowing a constructive way forward;
- (iii) IFAG's technical secretary, Ksenia Yvinec, for the support provided to the work of the Group;

**Endorses** the Implementation Plan of the Recommendations of the UNESCO Open-ended Working Group on Governance as presented in [Annex 1](#) to this resolution;

**Invites** the IFAG to continue the reflection on the best practices to further enhance the efficiency of the IOC governing bodies' meetings;

**Requests** the IOC Executive Secretary to report on the progress achieved in the implementation of the Recommendations to the IOC Assembly at its 30th session in 2019;

#### **IV. Revised Financial Regulations for the IOC Special Account**

**Expresses its appreciation** to the IOC Executive Secretary for the preparation of the Revised Financial Regulations for the IOC Special Account aimed at addressing 38 C/Resolution 86 and at aligning, to the extent possible, the existing financial regulations with the new standard Financial Regulations as approved by the Executive Board of UNESCO at its 200th session in document [200 EX/19](#) and consistent with [201 EX/Decision 24.I](#);

**Notes with satisfaction** that the Revised Financial Regulations fully reflect the specificity of the IOC's governance and its status as a body with functional autonomy within UNESCO;

**Takes note** of the information provided by the IOC Executive Secretary that the UNESCO Executive Board at its 204th session adopted the revised programme support costs rates, now referred to as 'management rates', effective from the date of the decision (17 April 2018) and that the disbursements under the IOC Special Account will now attract the management rate of 7% (instead of 10%);

**Recommends** that the IOC Assembly formally adopt the Revised Financial Regulations for the IOC Special Account as presented in [Annex 2](#) to this resolution at its 30th Session in 2019.

Annex 1 to [Resolution EC-LI.2](#)

#### **Implementation Plan of the Recommendations of the UNESCO Open-ended Working Group on Governance**

GENERAL RECOMMENDATIONS								
Efficiency (mandate, composition, structure, rules of procedure, methods of work)								
Rec. no.	39 C/20 para	Recommendation	Implemented	Implementable immediately	Requiring further reflection	N/A	Secretariat's comment	EC Recommendation
1	56	<i>IIBs are invited to update their mandates, as appropriate, including their objectives and programs to be more coherent with approved C/5 priorities and responsive to current global developments, such as the 2030 Sustainable Development Agenda and the Paris Agreement on Climate change</i>	X				<i>The IOC programme and budget, including its results framework, has always been aligned with UNESCO C/5 priorities. As regards the responsiveness to global developments, this is institutionally ensured through Article 3.1 c of the IOC Statutes, which defines that one of the functions of the Commission shall be to “respond, as a competent international organization, to the requirements deriving from the United Nations Convention on the Law of the Sea (UNCLOS),... and other international instruments relevant to marine scientific research, related services and capacity-building”. Furthermore, as stated in the Commission's response to a similar recommendation from the External Auditor's recommendations, “the continuous ongoing review of the relevance of the IOC programmes in the light of the evolving international development agenda is ensured at every session, with a specific item and an intersessional work led by the Officers on the “IOC and the Future of the Ocean”. In the last 2 years the Commission has undertaken an extensive mapping exercise, linking key aspects of its mandate and core functions to the new international</i>	<i>The EC concurs with the Secretariat's assessment and considers this recommendation as already fully implemented</i>

GENERAL RECOMMENDATIONS								
Efficiency (mandate, composition, structure, rules of procedure, methods of work)								
Rec. no.	39 C/20 para	Recommendation	Implemented	Implementable immediately	Requiring further reflection	N/A	Secretariat's comment	EC Recommendation
							<i>strategic frameworks and the current proposal for the IOC Programme and budget for 2018-2021” (Resolution XXIX-2). The proclamation by the UNGA of the IOC-coordinated UN Decade of Ocean Science for Sustainable Development is a culmination of years of preparatory work and yet another confirmation that the Commission is on the right track and at the helm of current global development agenda.</i>	
2	57	<i>To promote diversity and inclusivity, voluntary term-limits of two consecutive mandates are recommended for IIBs which currently do not have term limitations for membership</i>	X				<i>IOC EC and Officers' membership is limited to 2 years, starting “at the end of the session of the Assembly during which they have been elected and expire at the end of the next session of the Assembly” (Art. 7.A.2 of the Statutes). This de facto allows Member States (i) to promote diversity and inclusivity within their electoral group and (ii) to exercise voluntary term-limits of two consecutive mandates, should they so wish.</i>	<i>The EC concurs with the Secretariat's assessment and considers this recommendation as already fully implemented.</i>
3	58	<i>As a general rule, term-limits of two consecutive mandates of membership in all Bureaus are</i>	X				<i>This is already the case for the IOC Officers. “The Chairperson and each Vice-Chairperson shall be eligible for re-election in their capacity as Chairperson or Vice-Chairperson, but only once for successive terms” (Rule</i>	<i>The EC concurs with the Secretariat's assessment and considers this recommendation as already fully implemented.</i>

GENERAL RECOMMENDATIONS								
Efficiency (mandate, composition, structure, rules of procedure, methods of work)								
Rec. no.	39 C/20 para	Recommendation	Implemented	Implementable immediately	Requiring further reflection	N/A	Secretariat's comment	EC Recommendation
		<i>recommended.</i>					<i>of Procedure 17.1).</i>	
4	59	<i>For cost-saving, coherence and harmonization, it is recommended that IIBs and the General Conference consider "right-sizing" the composition of IIBs</i>	X		X		<i>As regards cost-saving, the Commission has been consistently taking measures to ensure the efficiency of its Governing bodies, many of which were highlighted by the External Auditor and picked up by others as good practices. As regards the composition of the IOC Executive Council, it has been set to a maximum of "40 Member States, including those Member States represented by the Chairperson and the five Vice-Chairpersons" (Art. 7.A.1) in November 1999 (30 C/Resolution 22), when it counted 127 Member States. Since then, the membership of the Commission increased to 149, with 22 Member States having joined since November 1999. With the growing membership and the ever increasing importance/relevance of the IOC mandate to the global development agenda, which in turn requires collegial and collective decision-making, as well as a balanced and widely diversified regional representation, any downsizing of the Council certainly seems ill-advised. The "right-sizing" of the composition is something that may require further reflection by IOC</i>	<i>The EC concurs with the Secretariat's assessment and considers this recommendation as already fully implemented. The issue of "right-sizing", as well as other important governance issues that may be considered as not requiring any action in a short-term, will continue to be evaluated and discussed in the "IOC and the Future of the Ocean" self-evaluation process.</i>



GENERAL RECOMMENDATIONS								
Efficiency (mandate, composition, structure, rules of procedure, methods of work)								
Rec. no.	39 C/20 para	Recommendation	Implemented	Implementable immediately	Requiring further reflection	N/A	Secretariat's comment	EC Recommendation
							<i>Governing Bodies in a longer-term.</i>	
5	60	<i>There is a need to reduce and manage politicization of nominations and decisions.</i>	X		X		<i>In accordance with its Statutes, "the purpose of the Commission is to promote international cooperation and to coordinate programmes in research, services and capacity building, in order to learn more about the nature and resources of the ocean and coastal areas and to apply that knowledge for the improvement of management, sustainable development, the protection of the marine environment, and the decision-making process of its Member States" (Art. 2.1). In order to ensure the efficient delivery of this mandate, "in selecting representatives to the Executive Council, Member States elected to the Executive Council shall endeavour to appoint persons experienced in matters related to the Commission" (Art. 7.A.3). In addition to these statutory safeguards, every effort is made to ensure efficient programme delivery and its enabling non-prescriptive input into Member States policies and decision-making. Continuous vigilance will need to be exercised, with self-assessment through the "IOC and the Future of the Ocean".</i>	<i>The EC concurs with the Secretariat's assessment and considers this recommendation as already fully implemented, with continuing monitoring and corrective action, if needed, to be supplied through the IOC and the Future of the Ocean' self-evaluation process.</i>

GENERAL RECOMMENDATIONS								
Efficiency (mandate, composition, structure, rules of procedure, methods of work)								
Rec. no.	39 C/20 para	Recommendation	Implemented	Implementable immediately	Requiring further reflection	N/A	Secretariat's comment	EC Recommendation
6	61	<i>To enhance visibility and the effectiveness of the work of the IIBs, more effective information-dissemination is recommended through updating and enhancement of web-sites and outreach to all involved actors, including Member States and their National Commissions.</i>		X			<i>This is the work in progress, started well in advance of the adoption of this recommendation. The need for improved communication and visibility was highlighted in the IOC's Strategic Results Report (IOC/EC-XLIX/2 Annex 3) and the Executive Roadmap "Future of the IOC" (IOC/EC-XLIX/2 Annex 9 Rev.). The IOC Executive Council at its 49th session in June 2016 considered the "Draft Communications Advisory Report for the IOC of UNESCO" (IOC/EC-XLIX/Inf.2) which serves as a guidance document for the efforts by the Secretariat. Status Report on the Implementation of the IOC Communication Advisory Report since June 2017 was presented to the 51<sup>st</sup> session of the IOC Executive Council in July 2018. The proclamation by the 72nd UNGA session of the UN Decade of Ocean Science for Sustainable Development under IOC's coordination will further enhance such efforts. National Committees for the IOC are the crucial liaison mechanisms between the IOC Secretariat and Member States. They also ensure coordination with the UNESCO National Commissions, also important partners, and ensure links to UNESCO</i>	<i>The Executive Council concurs with the Secretariat's comment and encourages every effort for better information dissemination/communication.</i>

GENERAL RECOMMENDATIONS								
Efficiency (mandate, composition, structure, rules of procedure, methods of work)								
Rec. no.	39 C/20 para	Recommendation	Implemented	Implementable immediately	Requiring further reflection	N/A	Secretariat's comment	EC Recommendation
							<p><i>governance. In this context, national representatives to the IOC are encouraged to integrate their national delegations to UNESCO General Conference, in which IOC is now considered in a specific session, in recognition of its status as a body with functional autonomy within UNESCO. The effective coordination of the Decade will require the strengthening of the network of National Oceanographic Committees, in accordance with the statutory responsibilities of IOC Member States in terms of "specification of the national coordinating body for liaison with the Commission" (Art.4.B.5.c).</i></p>	
7	62	<p><i>Earlier preparation and dissemination of draft agendas and preliminary timetables, mainly by using the same template containing hyperlinks to documents to be adopted/discussed in sessions.</i></p>	X	X	X		<p><i>The draft agendas and preliminary timetables are always shared by using the same template, generally in February (minimum 3 months ahead of the session), upon their review by the annual meeting of the IOC Officers. At that stage, use of hyperlinks is not applicable. For later versions, and in particular, as regards the Action Paper, written as a pre-report containing draft decisions, every effort is made to facilitate reference through systematic use of hyperlinks. The Secretariat will continue to explore ways of further</i></p>	<p><i>The Executive Council concurs with the Secretariat's assessment and encourages it to continue its efforts to further improve the methods of work, in consultation with Member States.</i></p>

GENERAL RECOMMENDATIONS								
Efficiency (mandate, composition, structure, rules of procedure, methods of work)								
Rec. no.	39 C/20 para	Recommendation	Implemented	Implementable immediately	Requiring further reflection	N/A	Secretariat's comment	EC Recommendation
							<i>improving the transparency and user-friendliness of documentation, in close consultation with Member States.</i>	
8	63	<i>The Secretariat is invited to promote a harmonized virtual working environment for all IIBs and to revisit UNESCO's Strategy of Knowledge Management and Information &amp; Communication Technology'. Simple, more user-friendly documentation (i.e. less fragmented reporting and easier document tracking; annotated agenda with hyper-links to reports and draft decisions).</i>		X	X		<i>On the IOC side, this is work in progress. The web-site redesign is currently underway to make it more user-friendly and informative. Further improvements are being explore in terms of presenting sessional documentations and intersessional work/milestones. The more systematic use of hyper-links to facilitate document tracking is being actively pursued, in particular, but not limited to, in relation to the Action Paper. In terms of visibility and availability of the documentation, each session is organized through a dedicated webpage which is updated in real time well before and throughout the session. This environment provides the conditions for paper-smart sessions and quicker connectivity.</i>	<i>The Executive Council concurs with the Secretariat's comment and encourages every effort for better information dissemination/communication. In preparing for the 2019 Assembly, the Secretariat is invited to explore further options of making Governing Bodies documentation more user-friendly.</i>
9	64	<i>Open-ended consultations on draft decisions to promote inclusive and effective</i>	X	X			<i>All draft decisions are contained in the Action Paper to facilitate inclusive and effective consultations prior to decision making. In addition, given the underlying governance layers, many</i>	<i>The Executive Council concurs with the Secretariat's comment and reiterates the IOC Assembly's request to the IOC Executive Secretary</i>

GENERAL RECOMMENDATIONS								
Efficiency (mandate, composition, structure, rules of procedure, methods of work)								
Rec. no.	39 C/20 para	Recommendation	Implemented	Implementable immediately	Requiring further reflection	N/A	Secretariat's comment	EC Recommendation
		<i>decision-making</i>					<i>draft decisions included in the Action Paper are the result of intersessional consultations within the relevant subsidiary bodies/working groups/communities. A number of sessional working groups and committees function in an open-ended and inclusive manner. One such example is the statutory sessional Financial Committee. However, these practices can only be effective with the timely publication of the Action Paper and main working documents in all official languages. Every effort was made to achieve this for the 51st session of the IOC Executive Council, 3-6 July 2018.</i>	<i>“to ensure compliance with the statutory requirements for the preparation of documentation for Governing Body meetings, including timely publication in all working languages”. (Resolution XXIX-2)</i>
10	65	<i>It is recommended that the Rules of Procedures of the IIBs be amended, when relevant, to advance the deadline for submission of candidates to their subsidiary bodies from 48 hours to seven days before elections.</i>				X	<i>This recommendation is considered as not relevant to the IOC context.</i>	<i>The Executive Council concurs with the Secretariat's assessment.</i>

GENERAL RECOMMENDATIONS								
Efficiency (mandate, composition, structure, rules of procedure, methods of work)								
Rec. no.	39 C/20 para	Recommendation	Implemented	Implementable immediately	Requiring further reflection	N/A	Secretariat's comment	EC Recommendation
<b>Harmonization (role of Bureaus, transparency)</b>								
11	66	<i>The role, composition and procedures of Bureaus and their members should be clarified and harmonized through codification in rules of procedure/statutes or development of general guidelines for all IIBs, in close cooperation with the Secretariat.</i>	X	X	X		<i>In addition to Articles 7.A.1 and 2 that refer to the number of Officers (Chairperson and the five Vice-Chairpersons) and the duration of their mandate, Chapter V of the Rules of Procedure provides further clarification on the composition (“the five Vice-Chairpersons shall be nationals of Member States of different electoral groups (listed in Appendix II to these Rules of Procedure”; “The Chairperson shall be elected from individuals nominated for their personal qualifications...” and “shall not act as a representative of its State...”), their roles during Governing Bodies meetings and eligibility for re-election only once for successive terms. It does not, however, define any other roles for the Officers during the intersessional periods. In practice, the Assembly and the Executive Council have on many occasions entrusted specific tasks to the Officers, and it is established practice for the Officers to agree among themselves on the programmatic areas that each of them would “cover”, including the fact that one of the Officers traditionally assumes the role</i>	<i>The Executive Council concurs with the Secretariat's assessment and invites the Executive Secretary, together with the Officers, to prepare and circulate such draft guidelines, with a view of their adoption by the Assembly in 2019.</i>



GENERAL RECOMMENDATIONS								
Efficiency (mandate, composition, structure, rules of procedure, methods of work)								
Rec. no.	39 C/20 para	Recommendation	Implemented	Implementable immediately	Requiring further reflection	N/A	Secretariat's comment	EC Recommendation
							<p><i>of the Chair of the Intersessional Financial Advisory Group and others may be called upon to chair other intersessional working groups, as required. There is also an established practice of inviting the past Chair to the meetings of the IOC Officers. This was positively noted by the External Auditor in terms of "corporate memory", facilitating transition and induction of new Officers. In this context, and for the sake of increased efficiency during the intersessional periods, it may be desirable to consider better defining the role of the Officers. A quick way of addressing this could be through an Assembly resolution that could complement the existing basic texts (Statutes, Rules of Procedure and IOC Manual). The attached "Guidelines" (appendix 2 to 39 C/20) proposed by the 39th session of UNESCO General Conference could serve as a starting point for discussion. A more long-term discussion would be required as regards the desirability of aligning the composition of the IOC Officers' with the other IIBs' Bureaus.</i></p>	
12	67	<p><i>It is suggested that Bureaus' composition be set,</i></p>	X		X		<p><i>In accordance with the IOC Statutes, "during the course of every ordinary session, the Assembly shall elect a</i></p>	<p><i>The Executive Council concurs with the Secretariat's comment and suggests that</i></p>

GENERAL RECOMMENDATIONS								
Efficiency (mandate, composition, structure, rules of procedure, methods of work)								
Rec. no.	39 C/20 para	Recommendation	Implemented	Implementable immediately	Requiring further reflection	N/A	Secretariat's comment	EC Recommendation
		<i>as much as compatible with individual IIBs' mandates, at a maximum of six members (Chair, Rapporteur, and four Vice-Presidents from the six electoral groups)</i>					<i>Chairperson and, taking into account the principles of geographic distribution, shall elect five Vice-Chairpersons who shall be the officers of the Commission". (Art. 6.B.5). The composition, further reconfirmed in Rule of Procedure 13, is therefore compliant with the recommendation in terms of numbers/size. The role distribution (Chair, Rapporteur and four vice-presidents) does not correspond to the provisions of Rule of Procedure 13 which states that "the Chairperson shall be elected from individuals nominated for their personal qualifications. The nomination of those individuals shall be done by their respective States and seconded by two other Member States. The Chairperson shall not act as representative of its State at any of the sessions or other activities of governing bodies of the Commission. The five Vice-Chairpersons shall be nationals of Member States of different electoral groups". Any amendment to the role distribution, if deemed desirable by IOC Member States, would require an amendment to the Rules of Procedure and will be linked to the outcome of the discussions on the IOC-specific recommendation (further below in this document) as regards "establishing the</i>	<i>this and other issues requiring longer-term consideration be brought to the attention of the IOC Assembly at its next session in 2019, with prior intersessional consultations, facilitated by the Officers and the IFAG.</i>

GENERAL RECOMMENDATIONS								
Efficiency (mandate, composition, structure, rules of procedure, methods of work)								
Rec. no.	39 C/20 para	Recommendation	Implemented	Implementable immediately	Requiring further reflection	N/A	Secretariat's comment	EC Recommendation
							<i>same six Electoral Groups, like other IIBs in UNESCO".</i>	
13	68	<i>The intergovernmental nature of Bureaus should be reaffirmed while maintaining expert engagement. In this regard, the attached guidelines on responsibilities of Bureau members are recommended for dissemination to all governing Bodies and IIBs.</i>	X				See above.	N/A
14	69	<i>Documents related to Bureau meetings should appear online before meetings take place; outcomes, including reports of Bureau meetings, should be communicated to all members, and, as appropriate, all Permanent Delegations, in a</i>	X				<i>Draft documents specific to annual Officers' meetings (draft GB agenda and timetable, Secretariat's proposals on the logistics and draft agenda of the meeting itself) are shared electronically. The summary of decisions of the last meeting, 16-18 January 2018, was posted online. This will be the established practice going forward.</i>	<i>The Executive Council welcomes the dissemination of the summary of decisions as a good practice to be continued.</i>

GENERAL RECOMMENDATIONS								
Efficiency (mandate, composition, structure, rules of procedure, methods of work)								
Rec. no.	39 C/20 para	Recommendation	Implemented	Implementable immediately	Requiring further reflection	N/A	Secretariat's comment	EC Recommendation
		<i>timely manner.</i>						
15	70	<i>Elections of bureaus should be held, as much as possible, soon after elections for seats on the IIBs conducted at the General Conference, to avoid having Bureau members from Member States, which are no longer members of the IIBs concerned</i>				X		
16	71	<i>As much as feasible, bureau meetings should be open to observers and working methods made more transparent.</i>	X			X	<i>This issue should be put into perspective with the fact that the governance of Commission is carefully designed to clearly distribute tasks and functions between: (i) the Assembly, as the supreme governing bodies with the participation of all IOC Member States (separate from UNESCO membership), the Executive Council (composed of 40 elected Member States from all electoral groups) and elected Officers, who, with the exception of the Chair, also represent their electoral groups and facilitate intersessional</i>	<i>The Executive Council agrees with the Secretariat's assessments, welcomes the dissemination of the summary of decisions as a good practice to be continued and invites the Secretariat to continue exploring new ways of improving information sharing in intersessional periods.</i>

GENERAL RECOMMENDATIONS								
Efficiency (mandate, composition, structure, rules of procedure, methods of work)								
Rec. no.	39 C/20 para	Recommendation	Implemented	Implementable immediately	Requiring further reflection	N/A	Secretariat's comment	EC Recommendation
							<i>coordination and guidance to the Secretariat. The dissemination of the summary of decisions ensure transparency of decision-making process.</i>	
17	72	<i>Strengthen information-sharing, communication and collaboration between Bureaus, Intergovernmental Councils and Committees and Member States</i>	X				<i>Given the specificity of the IOC Statutes compared to other IIBs, with IOC-specific recommendations listed in a stand-alone separate section D, the current level of information exchange seems appropriate (strong links with Science Sector international and intergovernmental programmes, COMEST, Culture Conventions 1972 and 2001) and IOC looks forward to continuing its participation in the UNESCO governance review as actively as it did up to now. IOC Member States should continue to foster communication between IOC's National Oceanographic Committees and National Commissions for UNESCO, as well as Permanent Delegations. To further facilitate intersessional work and the preparation of draft decisions/recommendations with a wide consensus, intersessional meetings of each of the IOC electoral groups and their respective vice-chairs are encouraged.</i>	<i>The Executive Council takes note of the Secretariat's assessment and encourages continuous information-sharing, communication and collaboration with other IIBs, as appropriate.</i>

GENERAL RECOMMENDATIONS								
Efficiency (mandate, composition, structure, rules of procedure, methods of work)								
Rec. no.	39 C/20 para	Recommendation	Implemented	Implementable immediately	Requiring further reflection	N/A	Secretariat's comment	EC Recommendation
18	73	<i>Gender-neutral language be adopted throughout all UNESCO documents</i>	X					
Alignment with overarching priorities of UNESCO								
19	74	<i>All IIBs should have the opportunity to submit formal inputs to the mid-term strategy C/4 and the draft Programme and Budget C/5 documents of UNESCO</i>	X				<i>Fully implemented by IOC.</i>	<i>The Executive Council agrees with the Secretariat's assessment.</i>
20	75	<i>A feedback mechanism can be envisaged for substantive dialogue between Member States and IIBs, beyond the limited reporting to the General Conference. This could be through information meetings or</i>	X				<i>Fully implemented by IOC, in the context of its status as a body with functional autonomy within UNESCO</i>	<i>The Executive Council agrees with the Secretariat's assessment.</i>



GENERAL RECOMMENDATIONS								
Efficiency (mandate, composition, structure, rules of procedure, methods of work)								
Rec. no.	39 C/20 para	Recommendation	Implemented	Implementable immediately	Requiring further reflection	N/A	Secretariat's comment	EC Recommendation
		<i>briefings. Reporting to the General Conference should be enhanced through a new more strategic and results-oriented reporting formal to be followed by debate and General Conference resolutions to provide feedback to IIBs.</i>						
21	76	<i>Orientation sessions for new members of all IIBs, especially for Chairpersons and Bureau members, should be institutionalised and include introduction to the C/4 and C/5 frameworks. To that end, a short user-friendly guidebook including good practices and acronyms could be produced to familiarize members</i>	X		X		<i>The IOC Medium-Term Strategy is set in the context of UNESCO's C/4, as well as its programme and budget is set in the context of UNESCO's C/5 document. The institutional and programmatic positioning of the IOC within UNESCO and its strategic documentation has always been carefully examined in the context of the "Future of IOC" self-assessment mechanism, now renamed "IOC and the Future of the Ocean". Extensive discussion of the budgetary context takes place in the sessional Financial Committee and the Inter-sessional Financial Advisory Group, both open-ended and supported by document</i>	<i>The Executive Council agrees with the Secretariat's assessment and takes note of the Secretariat's discussions with the relevant UNESCO services on the development of a guidebook on the C/4 and C/5 frameworks. Also invites the IFAG to develop a proposal to enhance information dissemination and orientation for Member States, including permanent delegations to UNESCO, on IOC's work ahead of Governing Bodies sessions.</i>

GENERAL RECOMMENDATIONS								
Efficiency (mandate, composition, structure, rules of procedure, methods of work)								
Rec. no.	39 C/20 para	Recommendation	Implemented	Implementable immediately	Requiring further reflection	N/A	Secretariat's comment	EC Recommendation
		<i>with working methods and C/4 and C/5 mechanisms</i>					<i>sharing through a dedicated website. However, given the complexity of UNESCO's programmatic and budgetary frameworks, a short user-friendly guidebook may indeed be useful. The Secretariat will follow up on this with other IIBs and the relevant UNESCO services.</i>	
Coherence, coordination and synergies								
22	77	<i>Balanced resource allocation is necessary to ensure the effectiveness of all IIBs.</i>	X		X		<i>The Commission devotes considerable time to assessing and allocating its resources, including in-kind contributions by Member States, and all decisions are reflected in statutory Governing Bodies resolutions on the "Financial Matters of the Commission". Better synergies between Member States' national bodies for liaison with IOC and Member States' National Commissions for UNESCO, representatives to UNESCO Governing bodies and Permanent Delegations to UNESCO, are key to effectively advocating the importance of IOC and "the value that IOC provides to the Organization and to the sustainable development of coastal areas and islands" (Resolution XXIX-2) and securing balanced allocation of</i>	<i>The Executive Council agrees with the Secretariat's assessment.</i>

GENERAL RECOMMENDATIONS								
Efficiency (mandate, composition, structure, rules of procedure, methods of work)								
Rec. no.	39 C/20 para	Recommendation	Implemented	Implementable immediately	Requiring further reflection	N/A	Secretariat's comment	EC Recommendation
							<i>resources among UNESCO's priorities.</i>	
23	78	<i>Use of languages for inclusivity and effectiveness remains an important objective</i>		X	X		<i>As regards the matter of compliance with the statutory requirements for the preparation of documentation for governing body meetings, including timely publication in all working languages, the Secretariat has fully taken on board the IOC-specific recommendation on this matter, covered further down in this document, and the injunction of IOC Member States expressed in Resolution XXIX-2. However, a broader application of this principle, fully shared by the Secretariat, in terms of other publications, communication materials, policy briefs, websites etc. is largely conditional on the availability of extrabudgetary funding. This will require particular attention in the context of the UN Decade of Ocean Science for Sustainable Development and will be prominently addressed in the Engagement, Communication and Resource Mobilization Plans.</i>	<i>The Executive Council takes note of the Secretariat's efforts and reiterates the importance of compliance with statutory requirements as indicated in Resolution XXIX-2. It welcomes the initiative to address this important issue in the planning for the Decade and invites Member States and other partners to support the Secretariat in this endeavour.</i>

GENERAL RECOMMENDATIONS								
Efficiency (mandate, composition, structure, rules of procedure, methods of work)								
Rec. no.	39 C/20 para	Recommendation	Implemented	Implementable immediately	Requiring further reflection	N/A	Secretariat's comment	EC Recommendation
24	79	<i>IIBs and their Secretariats are requested to enhance coordination in scheduling of meetings to avoid overlap</i>	X				<i>This is already the case and the Secretariat will continue to be vigilant in this regard.</i>	<i>The Executive Council agrees with the Secretariat's assessment.</i>
Best Practices								
25	80	<i>Best practices should be shared and replicated or, if necessary, adjusted to reflect specificities with the aim to promote governance mechanisms that facilitate strategies and action plans anchored on the C/4 and C/5. Attached, in this regard, is a non-exhaustive list of best practices identified by the Working Group (appendix 3 to 39 C/20)</i>	X		X		<i>IOC already implements most, if not all, applicable best practices in this list. Further improvements will continue to be pursued, as is normal for a healthy organization with a culture of self-assessment, based on the guidance by the IOC Governing Bodies.</i>	<i>The Executive Council agrees with the Secretariat's assessment.</i>

GENERAL RECOMMENDATIONS								
Efficiency (mandate, composition, structure, rules of procedure, methods of work)								
Rec. no.	39 C/20 para	Recommendation	Implemented	Implementable immediately	Requiring further reflection	N/A	Secretariat's comment	EC Recommendation
<b>Specific Recommendations for the IOC</b>								
26	91.a	More balance in use of working languages, especially for documentation		X			As regards the matter of compliance with the statutory requirements for the preparation of documentation for governing body meetings, including timely publication in all working languages, the Secretariat has fully taken on board the IOC-specific recommendation on this matter, covered further down in this document, and the injunction of IOC Member States expressed in Resolution XXIX-2. However, a broader application of this principle, fully shared by the Secretariat, in terms of other publications, communication materials, policy briefs, websites etc. is largely conditional on the availability of extrabudgetary funding. This will require particular attention in the context of the UN Decade of Ocean Science for Sustainable Development and will be prominently addressed in the Engagement, Communication and Resource Mobilization Plans.	The Executive Council takes note of the Secretariat's efforts and reiterates the importance of compliance with statutory requirements as indicated in Resolution XXIX-2. It welcomes the initiative to address this important issue in the planning for the Decade and invites Member States and other partners to support the Secretariat in this endeavour.
27	91.b	Consider establishing the same six Electoral Groups, like other IIBs in UNESCO			X		The IOC Assembly, at its last session in June 2017, agreed that the IOC's functional autonomy should remain at the forefront of any governance review. The Assembly was of the view that the	The Executive Council concurs with this proposal as being in line with Resolution XXIX-2 Part III.

GENERAL RECOMMENDATIONS								
Efficiency (mandate, composition, structure, rules of procedure, methods of work)								
Rec. no.	39 C/20 para	Recommendation	Implemented	Implementable immediately	Requiring further reflection	N/A	Secretariat's comment	EC Recommendation
							<p><i>recommendation on the realignment of electoral group with those of other IIBs by splitting Group V in Va and Vb should be considered with extreme care to ensure that procedural changes do not affect the substance of IOC's work. The potential impact on the existing synergies and work-efficiency, including in relations to IOCAFRICA, needs to be carefully assessed. The Assembly reached consensus that, given the fragile financial situation of the Commission and the fact that it is currently at a crossroads in a number of crucial substantive issues, strategic programmatic considerations should prevail over the process. Issues like the composition of the Bureau (Officers), number and composition of electoral groups, etc., need to be considered in a holistic manner, taking a temperate approach and not the one of "one size fits all". At the Officers meeting on 16-18 January 2018, the Officers re-confirmed that the preference emerged from their intersessional consultations with Member States, including those initiated within Group V by Vice-Chair A. Johnson. In this context, and given that the Commission is now faced with the new challenge of coordinating the UN Decade of Ocean Science for</i></p>	



GENERAL RECOMMENDATIONS								
Efficiency (mandate, composition, structure, rules of procedure, methods of work)								
Rec. no.	39 C/20 para	Recommendation	Implemented	Implementable immediately	Requiring further reflection	N/A	Secretariat's comment	EC Recommendation
							<i>Sustainable Development - a huge success, but also a tremendous responsibility - the discussion on procedural changes may be put on hold, with the possibility of coming back to it at any time as Member States may consider appropriate in the context of the "IOC and the Future of the Ocean" consultative mechanism.</i>	

## APPENDIX

*Abstract from document 39 C/20 – Appendix 2*

### GUIDELINES

#### **Responsibilities of Representatives of Electoral Groups in Bureaus**

##### **Background**

Member States elected to a governing or subsidiary body of a UNESCO intergovernmental Programme or Convention, the Executive Board, as well as statutory meetings of State Parties, delegate certain tasks to a smaller representative body, namely the Bureau.

In principle, the Bureau consists of Member States or individuals from Member States elected to represent Electoral Groups. Chairpersons and Rapporteurs, on the other hand, are understood to also serve in their personal capacities. Election to a Bureau as a representative of an Electoral Group should be seen as an honor and therefore carries with it important duties. The scope and tasks of Bureaus vary depending on different Rules of Procedure, but the responsibilities of Bureau Members vis-à-vis their mandates as Electoral Group representatives have not been clearly defined.

In accordance with the recommendations of the Working Group on Governance to enhance transparency, inclusiveness and efficiency of the Governing Bodies of UNESCO, these Guidelines aim to promote good governance, common ownership, and shared responsibility of Member States in a holistic manner.

##### **Guiding principles**

- Bureau members should act in good faith and actively engage with respective Electoral Groups and their members.
- They should promote UNESCO's values and ideals, and work in a spirit of dialogue, cooperation, inclusiveness and trust-building.
- They should abide by highest standards of equity, fairness, transparency and accountability.

##### **General responsibilities**

- Bureau members should be mindful that they represent their respective Electoral Groups.
- They should communicate with the members of their respective Electoral Groups in timely, transparent and effective manner, through correspondence by electronic means or by organizing coordination meetings, to promote efficient information-sharing and dissemination.
- They are called upon to consult with their respective Electoral Group members on the items on the agenda of the Bureau, soon after they are announced.
- If possible, they shall seek to consolidate the position(s) of their respective Electoral Groups on items to be discussed at Bureau meetings.
- They shall also present positions of concerned Member States of their respective Electoral Groups on relevant agenda items, when requested, at Bureau meetings.
- They shall inform promptly about the outcomes of Bureau meetings, complementing the summary of Bureau meetings when distributed.
- They shall update their respective Electoral Groups regarding all Agenda items and emerging issues after and in-between Bureau meetings.

Annex 2 to Resolution EC-LI.2

**Financial Regulations**

**applicable to the Special Account for the Intergovernmental Oceanographic Commission (IOC) of UNESCO**

*(Established by 157 EX/Decisions – 3.3.1 – revised in accordance with 201 EX/Decision – 24.I)*

**Article 1 – Creation of a Special Account**

- 1.1 In accordance with Article 6, paragraph 5 and 6, of the Financial Regulations of UNESCO, there is hereby created a Special Account for the Intergovernmental Oceanographic Commission (IOC) of UNESCO, hereinafter referred to as the Special Account.
- 1.2 The following Financial Regulations shall govern the operations of this Special Account.

**Article 2 – Financial period**

- 2.1 The financial period for budget estimates shall be two consecutive calendar years beginning with an even-numbered year.
- 2.2 The financial period for accounting shall be an annual calendar year.

**Article 3 – Purpose**

- 3.1 The purpose of this special account is to support the implementation of the programme of activities, as adopted by the IOC Assembly, to *'promote international cooperation and to coordinate programmes in research, services and capacity-building, in order to learn more about the nature and resources of the ocean and coastal areas and to apply that knowledge for the improvement of management, sustainable development, the protection of the marine environment, and the decision-making processes of its Member States'* (IOC Statutes Article 2.1)
- 3.2 The results framework in line with the Approved Programme and Budget of UNESCO (C/5), provided as Annex to the Financial Regulations, shall be updated as and when necessary.

**Article 4 – Governance**

- 4.1 The IOC Assembly has the authority over the appropriation of the resources under the Special Account.
- 4.2 The IOC Executive Council shall exercise the responsibility delegated to it by the IOC Assembly.
- 4.3 Under the authority of the Director General of UNESCO, hereinafter referred to as the Director-General, the Executive Secretary of IOC, hereinafter referred to as the Secretary, shall manage and administer the funds of the Special Account in accordance with the IOC Statutes, the resolutions of UNESCO's General Conference and Executive Board and the present Financial Regulations.

**Article 5 – Income**

- 5.1 The income shall consist of:
  - (a) funds appropriated for this purpose by the General Conference of UNESCO;
  - (b) contributions by Member States of the Commission that are not Member States of UNESCO;
  - (c) such additional resources as may be made available by Member States of the Commission, appropriate organizations of the United Nations system and from other sources;

- (d) such subventions, endowments, gifts and bequests as are allocated to it for purposes consistent with the object of the Special Account;
- (e) miscellaneous income, including any interest earned on the investments referred to in Article 9 below.

#### **Article 6 – Budget**

- 6.1 In accordance with the IOC Statutes, the Secretary shall prepare, in a form to be determined by the IOC Assembly, a biennial programme and budget, including a budget and expenditure forecast for this Special Account, as well as any funding gap, considering the results framework described in Article 3.2 above.
- 6.2 The appropriations voted in the budget shall constitute an authorization to the Secretary to incur obligations and to make expenditures for the purposes for which the appropriations are voted and up to the amounts so voted.
- 6.3 The Secretary is authorized to transfer funds between activities under the same appropriation line. The Secretary may be authorized by the IOC Assembly to transfer funds, when necessary, between appropriation lines within the limits established by the Appropriation Resolution voted by the IOC Assembly and shall report to the IOC Assembly and Executive Council on all such transfers.

#### **Article 7 – Expenditure**

- 7.1 The Special Account shall be debited with the expenditure relating to its purpose as described in Article 3 above, including administrative expenses specifically relating to it and programme support cost applicable to Special Accounts.
- 7.2 The expenditure shall be monitored against the approved budget as described in Article 6 above.
- 7.3 The Secretary is required to maintain obligations and expenditures within the level of the actual resources that become available to the General Account mentioned in Article 8.1 below.
- 7.4 Appropriations shall remain available for obligation during the financial period to which they relate.
- 7.5 Appropriations shall remain available for 12 months following the end of the financial period to which they relate to the extent that they are required to discharge obligations for goods supplied and services rendered in the financial period and to liquidate any other outstanding legal obligations of the financial period.
- 7.6 At the end of the 12-month period provided for in Article 7.5 above, the then remaining unspent balance of obligations retained shall revert to the General Account mentioned in Article 8.1 below.

#### **Article 8 – Accounts**

- 8.1 There shall be established a General Account, to which shall be credited the income of IOC as described in Article 5 above and which shall be used to finance the approved budget of IOC.
- 8.2 The balance remaining in this General Account shall be carried forward from one financial period to the next.
- 8.3 The uses to which this balance may be put shall be determined by the IOC Assembly.
- 8.4 Subsidiary Accounts and any other Reserve Accounts may be established by the Secretary and shall be reported to the IOC Assembly and Executive Council at the time of the budget approval.
- 8.5 The Chief Financial Officer of UNESCO shall maintain such accounting records as are necessary.
- 8.6 The accounts of the Special Account shall be part of the consolidated financial statements presented for audit to the External Auditor of UNESCO. The report of the External Auditor of UNESCO shall be shared with the IOC Assembly.

8.7 Contributions in kind shall be recorded outside the Special Account.

#### **Article 9 – Investments**

9.1 The Director-General may make short-term or long-term investments of sums standing to the credit of the Special Account.

9.2 Revenue from these investments shall be credited to the Special Account in line with UNESCO's Financial Rules.

#### **Article 10 – Reporting**

10.1 An annual financial report showing the income and expenditure under the Special Account shall be prepared and submitted to the IOC Assembly and Executive Council and the donors to the Special Account. Such reports shall include for the financial period to which they relate:

- (i) original approved appropriations;
- (ii) the appropriations as modified by any transfers;
- (iii) the amounts charged against these appropriations.

10.2 An annual narrative report providing a detailed assessment of the results achieved shall be submitted to the IOC Assembly and Executive Council, and the donors to the Special Account, as part of the consolidated statutory reporting by the Secretary on the work accomplished by the Commission in the intersessional period.

10.3 The Secretary shall also give such other information as may be appropriate to indicate the current financial position of IOC.

#### **Article 11 – Closure of the Special Account**

11.1 The Director-General shall submit a proposal for the IOC Assembly's decision at such time as he/she deems that the operation of the Special Account is no longer necessary. Such proposal shall cover the decision on the use of any unspent balance.

11.2 The decision of the IOC Assembly shall be transmitted to the Executive Board of UNESCO prior to the effective closure of the Special Account.

#### **Article 12 – General provision**

12.1 Any amendment to these Financial Regulations shall be approved by the Executive Board of UNESCO, upon recommendation of, or following consultation with the IOC Assembly.

12.2 Unless otherwise provided in these Regulations, the Special Account shall be administered in accordance with the Financial Regulations of UNESCO.

**Detailed analysis of changes introduced (in italics)**

Current version as established by 157 EX/Decisions – 3.3.1	Revised version in accordance with 201 EX/Decision – 24.I
Financial Regulations applicable to the Intergovernmental Oceanographic Commission (IOC)	Financial Regulations applicable to <i>the Special Account</i> for the Intergovernmental Oceanographic Commission (IOC) of UNESCO
<i>Article 1 – Creation of a Special Account of UNESCO</i>	<i>Article 1 – Creation of a Special Account</i>
1.1 In accordance with Article 6, paragraph 6, of the Financial Regulations of UNESCO, there is hereby created a Special Account for the Intergovernmental Oceanographic Commission, hereinafter referred to as IOC.	1.1 In accordance with Article 6, paragraph 5 and 6, of the Financial Regulations of UNESCO, there is hereby created a Special Account for the Intergovernmental Oceanographic Commission ( <i>IOC</i> ) of UNESCO, hereinafter referred to as <i>the Special Account</i> .
1.2 The following Regulations shall govern the operation of this Special Account	1.2 The following Financial Regulations shall govern the operations of this Special Account.
<i>Article 2 – Financial period</i>	<i>Article 2 – Financial period</i>
2.1 The financial period shall correspond to that of UNESCO.	2.1 The financial period <i>for budget estimates shall be two consecutive calendar years beginning with an even-numbered year.</i>
	2.2 The financial period <i>for accounting shall be an annual calendar year.</i>
	<i>Article 3 – Purpose</i>
	3.1 <i>The purpose of this special account is to support the implementation of the programme of activities, as adopted by the IOC Assembly, to ‘promote international cooperation and to coordinate programmes in research, services and capacity-building, in order to learn more about the nature and resources of the ocean and coastal areas and to apply that knowledge for the improvement of management, sustainable development, the protection of the marine environment, and the decision-making processes of its Member States’ (IOC Statutes Article 2.1).</i>
	3.2 <i>The results framework in line with the Approved Programme and budget of UNESCO (C/5), provided as Annex to the Financial Regulations, shall be updated as and when necessary.</i>
	<i>Article 4 – Governance</i>
	4.1 <i>The IOC Assembly has the authority over the appropriation of the resources under the Special Account.</i>
	4.2 <i>The IOC Executive Council shall exercise the responsibility delegated to it by the IOC Assembly.</i>
	4.3 <i>Under the authority of the Director-General of UNESCO, hereinafter referred to as the</i>



Current version as established by 157 EX/Decisions – 3.3.1	Revised version in accordance with 201 EX/Decision – 24.I
	<i>Director-General, the Executive Secretary of IOC, hereinafter referred to as the Secretary, shall manage and administer the funds of the Special Account in accordance with the IOC Statutes, the resolutions of UNESCO's General Conference and Executive Board and the present Financial Regulations.</i>
Article 3 - Income	Article 5 – Income
3.1 As provided in its Statutes, the income of IOC shall consist of:	5.1 The income shall consist of:
(a) funds appropriated for this purpose by the General Conference of UNESCO;	(a) funds appropriated for this purpose by the General Conference of UNESCO;
(b) voluntary contributions from States, international agencies and organizations, as well as other entities allocated to it for purposes consistent with the policies, programmes and activities of UNESCO and IOC;	(b) <i>contributions by Member States of the Commission that are not Member States of UNESCO;</i>
	(c) <i>such additional resources as may be made available by Member States of the Commission, appropriate organizations of the United Nations system and from other sources;</i>
(c) such subventions, endowments, gifts and bequests as are allocated to it for purposes consistent with the policies, programmes and activities of UNESCO and IOC;	(d) such subventions, endowments, gifts and bequests as are allocated to it for purposes consistent with the <i>object of the Special Account;</i>
(d) fees collected in respect of the execution of projects entrusted to IOC, from sale of publications or from other particular activities; and	
(e) miscellaneous income.	(e) miscellaneous income, <i>including any interest earned on the investments referred to in Article 9 below.</i>
3.2 The Executive Secretary of IOC, hereinafter referred to as the Secretary, may accept income as set forth in Article 3.1 on behalf of IOC, provided that, in any case which would involve IOC in an additional financial liability, the Secretary shall obtain the prior approval of the IOC Executive Council and the consent of the Executive Board of UNESCO.	
3.3 The Secretary shall report to the IOC Assembly and the IOC Executive Council on any subventions, contributions, grants, gifts or bequests accepted.	

Current version as established by 157 EX/Decisions – 3.3.1	Revised version in accordance with 201 EX/Decision – 24.I
<i>Article 4 – Budget</i>	<i>Article 6 – Budget</i>
4.1 The Secretary shall prepare, in a form to be determined by the IOC Assembly, a biennial programme and budget and shall submit it to the IOC Assembly for approval.	6.1 <i>In accordance with the IOC Statutes</i> , the Secretary shall prepare, in a form to be determined by the IOC Assembly, a biennial programme and budget, <i>including a budget and expenditure forecast for this Special Account, as well as any funding gap, considering the results framework described in Article 3.2 above.</i>
4.2 The appropriations voted in the budget shall constitute an authorization to the Secretary to incur obligations and to make expenditures for the purposes for which the appropriations are voted and up to the amounts so voted.	6.2 The appropriations voted in the budget shall constitute an authorization to the Secretary to incur obligations and to make expenditures for the purposes for which the appropriations are voted and up to the amounts so voted.
4.3 The Secretary is authorized to transfer funds between activities under the same appropriation line. The Secretary may be authorized by the IOC Assembly to transfer funds, when necessary, between appropriation lines within the limits established by the Appropriation Resolution voted by the IOC Assembly and shall report to the IOC Executive Council on all such transfers.	6.3 The Secretary is authorized to transfer funds between activities under the same appropriation line. The Secretary may be authorized by the IOC Assembly to transfer funds, when necessary, between appropriation lines within the limits established by the Appropriation Resolution voted by the IOC Assembly and shall report to the IOC <i>Assembly and</i> Executive Council on all such transfers.
	<i>Article 7 – Expenditure</i>
	7.1 <i>The Special Account shall be debited with the expenditure relating to its purpose as described in Article 3 above, including administrative expenses specifically relating to it and programme support cost applicable to Special Accounts.</i>
	7.2 <i>The expenditure shall be monitored against the approved budget as described in Article 6 above.</i>
4.4 The Secretary is required to maintain obligations and expenditures within the level of the actual resources that become available to the General Account mentioned in Article 5.1 below.	7.3 The Secretary is required to maintain obligations and expenditures within the level of the actual resources that become available to the General Account mentioned in Article 8.1 below.
4.5 Appropriations shall remain available for obligation during the financial period to which they relate.	7.4 Appropriations shall remain available for obligation during the financial period to which they relate.
4.6 The Secretary shall make allotments and any modifications thereon, within the limits of the Appropriation Resolution, which shall be communicated, in writing, to the officials authorized to incur obligations and make payments.	

Current version as established by 157 EX/Decisions – 3.3.1	Revised version in accordance with 201 EX/Decision – 24.I
4.7 Appropriations shall remain available for 12 months following the end of the financial period to which they relate to the extent that they are required to discharge obligations for goods supplied and services rendered in the financial period and to liquidate any other outstanding legal obligations of the financial period.	7.5 Appropriations shall remain available for 12 months following the end of the financial period to which they relate to the extent that they are required to discharge obligations for goods supplied and services rendered in the financial period and to liquidate any other outstanding legal obligations of the financial period.
4.8 At the end of the 12-month period provided for in Article 4.7 above, the then remaining unspent balance of obligations retained shall revert to the General Account mentioned in Article 5.1 below.	7.6 At the end of the 12-month period provided for in Article 7.5 above, the then remaining unspent balance of obligations retained shall revert to the General Account mentioned in Article 8.1 below.
Article 5 - The General Account	Article 8 – Accounts
5.1 There shall be established a General Account, to which shall be credited the income of IOC as described in Article 3 above and which shall be used to finance the approved budget of IOC.	8.1 There shall be established a General Account, to which shall be credited the income of IOC as described in Article 5 above and which shall be used to finance the approved budget of IOC.
5.2 The balance remaining in this General Account shall be carried forward from one financial period to the next.	8.2 The balance remaining in this General Account shall be carried forward from one financial period to the next.
5.3 The uses to which this balance may be put shall be determined by the IOC Assembly.	8.3 The uses to which this balance may be put shall be determined by the IOC Assembly.
Article 6 – Trust Funds, Reserve and Subsidiary Special Accounts	
6.1 In addition to a Working Capital Fund, the Secretary shall establish a Reserve Fund to cover end-of-service indemnities and other related liabilities; the Fund shall be reported to the IOC Assembly at the time of the budget approval.	8.4 <i>Subsidiary Accounts and any other Reserve Accounts may be established by the Secretary and shall be reported to the IOC Assembly and Executive Council at the time of the budget approval.</i>
6.2 Trust Funds, Subsidiary Special Accounts and any other Reserve Accounts may be established by the Secretary, who shall report to the IOC Assembly and the IOC Executive Council.	
6.3 The Secretary may, when necessary, in connection with the purpose of a Trust Fund, Reserve or Subsidiary Special Account, prepare special financial regulations to govern the operations of these funds or accounts and shall report thereon to the IOC Assembly and the IOC Executive Council. Unless otherwise provided these funds and accounts shall be administered in accordance with these Financial Regulations.	
Article 7 – Accounts	

Current version as established by 157 EX/Decisions – 3.3.1	Revised version in accordance with 201 EX/Decision – 24.I
<p>7.1 The UNESCO Comptroller shall maintain such accounting records as are necessary and shall prepare, for submission to the IOC Assembly and the IOC Executive Council, the biennial accounts showing, for the financial period to which they relate:</p> <p>(a) the income and expenditure of all funds;</p> <p>(b) the budgetary situation including:</p> <p>(i) original appropriations;</p> <p>(ii) the appropriations as modified by any transfers;</p> <p>(iii) the amounts charged against these appropriations;</p> <p>(c) the assets and liabilities of IOC.</p>	<p>8.5 <i>The Chief Financial Officer of UNESCO shall maintain such accounting records as are necessary.</i></p>
<p>7.2 The Secretary shall also give such other information as may be appropriate to indicate the current financial position of IOC.</p>	<p><i>[see 10.3 below]</i></p>
<p>7.3 The biennial accounts of IOC shall be presented in dollars of the United States of America. Accounting records, may, however, be kept in such currency or currencies as the Secretary may deem necessary.</p>	
<p>7.4 Appropriate separate accounts shall be maintained for all Trust Funds, Reserve and Subsidiary Special Accounts.</p>	
<p>Article 8 - External audit</p>	
<p>The audited accounts of IOC, which constitute an integral part of the statement of the financial position of UNESCO, and the report of the External Auditor of UNESCO on IOC, shall be submitted to the IOC Assembly for approval.</p>	<p>8.6 <i>The accounts of the Special Account shall be part of the consolidated financial statements presented for audit to the External Auditor of UNESCO. The report of the External Auditor of UNESCO shall be shared with the IOC Assembly.</i></p>
	<p>8.7 Contributions in kind shall be recorded outside the Special Account.</p>
<p>Article 9 – Investments</p>	
	<p>9.1 <i>The Director-General may make short-term or long-term investments of sums standing to the credit of the Special Account.</i></p>
	<p>9.2 <i>Revenue from these investments shall be credited to the Special Account in line with UNESCO’s Financial Rules.</i></p>
<p>Article 10 – Reporting</p>	
<p><i>[see 7.1 above]</i></p>	<p>10.1 <i>An annual financial report showing the income and expenditure under the Special Account shall be prepared and submitted to the IOC Assembly and Executive Council and the donors to the Special Account. Such reports shall include for the financial period to which they relate:</i></p>

Current version as established by 157 EX/Decisions – 3.3.1	Revised version in accordance with 201 EX/Decision – 24.I
	(i) original <i>approved</i> appropriations; (ii) the appropriations as modified by any transfers; (iii) the amounts charged against these appropriations;
	10.2 <i>An annual narrative report providing a detailed assessment of the results achieved shall be submitted to the IOC Assembly and Executive Council, and the donors to the Special Account, as part of the consolidated statutory reporting by the Secretary on the work accomplished by the Commission in the intersessional period.</i>
[see 7.2 above]	10.3 The Secretary shall also give such other information as may be appropriate to indicate the current financial position of IOC.
	<i>Article 11 – Closure of the Special Account</i>
	11.1 <i>The Director-General shall submit a proposal for the IOC Assembly’s decision at such time as he/she deems that the operation of the Special Account is no longer necessary. Such proposal shall cover the decision on the use of any unspent balance.</i>
	11.2 <i>The decision of the IOC Assembly shall be transmitted to the Executive Board of UNESCO prior to the effective closure of the Special Account.</i>
Article 9 – General provision	Article 12 – General provision
	12.1 <i>Any amendment to these Financial Regulations shall be approved by the Executive Board of UNESCO, upon recommendation of, or following consultation with the IOC Assembly.</i>
Unless otherwise provided in these Regulations this Special Account shall be administered in accordance with the Financial Regulations of UNESCO.	12.2 Unless otherwise provided in these Regulations, the Special Account shall be administered in accordance with the Financial Regulations of UNESCO.

**APPENDIX**

**2018–2019 IOC RESULT FRAMEWORK<sup>1</sup> (39 C/5)**

**Expected result: 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 2030 Agenda**

<i>Performance indicators</i>	<i>Baselines</i>	<i>Targets 2019<sup>2</sup></i>
<b>1.</b> Number of supported Member States which have conducted up-to-date ocean research to address specific challenges of the ocean and human impacts on coastal areas	<p>(i) 50 MS of which 5 in Africa and 5 SIDS, participate in international research initiatives under the WCRP</p> <p>(ii) 89 MS of which 22 in Africa and 11 SIDS, integrate best practices, standards and methodologies to observe ocean acidification and blue carbon ecosystems</p> <p>(iii) 76 MS of which 6 in Africa and 2 SIDS, contribute at improving understanding of marine ecosystem functioning and the impacts of change on ecosystem services</p>	<p>(i) 52 of which 7 from Africa and 7 SIDS</p> <p>(ii) 91 of which 24 from Africa and 13 SIDS</p> <p>(iii) 80 of which 8 from Africa and 4 SIDS</p>
<b>2.</b> Number of supported Member States which maintained, strengthened and integrated global ocean observing, data and information system to reduce vulnerability to ocean hazards and benefit from their outputs	<p>(i) 104 MS are part of GOOS Regional Alliances, of which 5 in Africa and 39 in SIDS. Levels of participation and engagement vary, with an estimated 60 of which 5 in Africa and 8 in SIDS</p> <p>(ii) 13 MS of which 5 in Africa and 1 SIDS participate in ILOGOOS, as an indicator of involvement in IIOE-2</p> <p>(iii) 20 MS contribute to JCOMMOPS</p> <p>(iv) 84 MS of which 19 in Africa participate in the IODE network &amp; collaborate in D&amp;IM</p>	<p>(i) 60 of which 5 from Africa and 8 SIDS</p> <p>(ii) 13 of which 5 from Africa and 1 SIDS</p> <p>(iii) 20</p> <p>(iv) 90 of which 22 from Africa</p>
<b>3.</b> Number of supported Member States which have developed early warning systems and preparedness to mitigate the risks of tsunamis and other ocean-related hazards towards increased resilience	<p>(i) 72 MS of which 14 SIDS and 6 in Africa have National Tsunami Warning Centres</p> <p>(ii) 5 MS of which 5 SIDS have increased communities' preparedness</p> <p>(iii) 3 MS of which 1 SIDS, developed capacities for tsunami &amp; other coastal hazard assessment</p> <p>(iv) 9 MS actively participate in operational ocean forecast system (0 in Africa, 0 SIDS)</p> <p>(v) 45 MS developed capacities for research and management of harmful algae</p>	<p>(i) 75 of which 15 SIDS and 6 from Africa</p> <p>(ii) 9 of which 5 SIDS</p> <p>(iii) 5 of which 1 SIDS</p> <p>(iv) 13 of which 2 from Africa and 2 SIDS</p> <p>(v) 45 of which 6 from Africa and 5 SIDS</p>

<sup>1</sup> IOC's result framework presented below is structured around IOC's six functions as defined in IOC's Medium-term Strategy for 2014–2021.

<sup>2</sup> Based on Expenditure Plan \$518 M



<i>Performance indicators</i>	<i>Baselines</i>	<i>Targets 2019<sup>2</sup></i>
<p><b>4.</b> Number of supported Member States that have ocean science and policy interface mechanisms in support of healthy ocean ecosystems in accordance with Agenda 2030</p>	<p>(i) 8 MS contribute to and use bathymetric datasets through GEBCO</p> <p>(ii) 25 MS of which 5 SIDS and 5 in Africa nominate experts to WOA Pool of Experts, and IPBES and IPCC assessments</p> <p>(iii) Number of MS contributing to national ocean SDG datasets through IODE – no existing baseline</p> <p>(iv) 25 MS participate in science and CD programmes on nutrients assessment and management</p> <p>(v) 5 MS in Africa implement science-based guidelines on coastal hazards mitigation/ climate change adaptation</p>	<p>(i) 12</p> <p>(ii) 25 of which 5 SIDS and 5 from Africa</p> <p>(iii) 45 of which 6 from Africa</p> <p>(iv) 35 of which 5 SIDS and 7 from Africa</p> <p>(v) 9 of which 5 from Africa and 1 SIDS</p>
<p><b>5.</b> Number of supported Member States which implement science- based ecosystem management and measure progress on SDG 14 implementation</p>	<p>(i) 74 MS of which 16 in Africa and 8 SIDS contribute to the implementation of workplans of governing and regional subsidiary bodies</p> <p>(ii) 40 MS of which 5 in Africa and 3 SIDS develop marine spatial plans and sustainable ocean economic programmes</p> <p>(iii) 10 MS of which 3 SIDS participate in the implementation of inter- agency activities and outreach programmes</p>	<p>(i) 88 of which 13 from Africa and 10 SIDS</p> <p>(ii) 45 of which 6 from Africa and 5 SIDS</p> <p>(iii) 13 of which 4 SIDS</p>
<p><b>6.</b> Number of supported Member States which have developed institutional capacity and used it towards IOC's high-level objectives</p>	<p>(i) Number of MS contributing to regional needs assessment and delivery of marine technology - no existing baseline</p> <p>(ii) 34 MS, of which 6 in Africa and 2 SIDS, contributing to 1st GOSR</p> <p>(iii) (a) Number of MS implementing CD workplans through IOCAFICA, IOCARIBE, WESTPAC &amp; IOCINDIO – N/A as no CD plans adopted</p> <p>(b) 80 practitioners, of which 20 from Africa and 4 from SIDS, trained in priority topics identified regional sub-commissions</p> <p>(iv) 80 practitioners of which 20 in Africa and 0 SIDS, trained in priority topics identified through regional assessments</p>	<p>(i) 10 of which 1 from Africa and 1 SIDS</p> <p>(ii) 60 of which 8 Africa and 8 SIDS including gender disaggregated human resources information from 45 MS</p> <p>(iii) (a) CD implementation plans adopted and implementation started, with minimal seed funding, otherwise dependent on XB</p> <p>(b) 120 practitioners, of which 20 from Africa and 5 from SIDS</p> <p>(iv) 100 practitioners of which 30 from Africa and 0 SIDS, with a gender target of 40% women (5 RTCs established)</p>

## DECISIONS

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### EC-LI/Dec.2

#### Organization of the Session

The Executive Council,

##### I. Agenda

Adopts the agenda and the timetable of work as set out in document IOC/EC-LI/1 Prov. Rev.2 and Addendum with the following additional modifications:

Agenda item 4.6 should read: IOC relevant issues related to the Intergovernmental Conference on an International Legally Binding Instrument under the UN Convention on the Law of the Sea on the conservation and sustainable use of biological diversity of areas beyond national jurisdiction;

##### II. Rapporteur

Upon a proposal from Germany, seconded by Argentina and Spain,

Designates Andrew Stewart of Canada Rapporteur for its present session to assist the Chairperson and the Executive Secretary in the preparation of the draft summary report of the session;

##### III. Sessional Committees and Working Groups

Establishes the following open-ended sessional committees and refers the following agenda items and responsibilities to them:

Financial Committee: examine the financial implications of draft decisions/resolutions and prepare a resolution under items **3.1**, **6.1** and **6.2** under the chairpersonship of Ariel H. Troisi (Argentina, Vice-Chairperson) and with the participation of the following Member States: Argentina, Australia, Belgium, Brazil, Canada, China, Colombia, Egypt, France, Germany, Grenada, India, Italy, Japan, Kenya, Norway, Philippines, Portugal, Republic of Korea, Russian Federation, Senegal and United States of America (observer). Ms Ksenia Yvinec provided secretarial support to the Financial Committee;

Resolutions Committee: report on all draft resolutions duly submitted for consideration by 29 June and the draft resolution covering financial matters drafted during the session under the chairpersonship of Prof. Yutaka Michida (Japan) and with the participation of the following Member States: Canada, China, France, Indonesia, Japan, Norway, Portugal, Republic of Korea, Russian Federation and Thailand. Julian Barbière provided secretarial support to the Resolutions Committee.

### EC-LI/Dec. 3.1

#### Report of the Executive Secretary

The Executive Council,

Having examined documents [IOC/EC-LI/2 Annex 1](#) and [Add.](#), [IOC/INF-1351 Part 2](#), [IOC/GE-CD-I/3](#), and [IOC/EC-LI/2 Annex 2](#) and [Corr.](#) and [Addendum](#),

Takes note of the report by the Executive Secretary of IOC on the work accomplished since the Twenty-ninth Session of the Assembly (July 2017–May 2018), including the report on budget execution for 2016–2017 and the outline of the budget for 2018–2019, subject to further examination by the Financial Committee with a view to formulating draft resolution [EC-LI/DR.\(6.2\)](#) for discussion and adoption in the plenary meeting.

## EC-LI/Dec. 3.2

### **Work of the Primary Regional Subsidiary Bodies**

The Executive Council,

Having considered document [IOC/INF-1356](#),

Takes note of the respective reports by the representatives of the IOC Sub-Commission for the Western Pacific (WESTPAC), the IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE), the IOC Sub-Commission for Africa and the Adjacent Island States (IOCAFRICA) and the IOC Regional Committee for the Central Indian Ocean (IOCINDIO).

## EC-LI/Dec.3.3

### **Regional Tsunami and Multi-Hazard Warning Systems**

The Executive Council,

Having considered the summary reports produced following the recent sessions of the Intergovernmental Coordination Groups (ICG) for the Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas ([ICG/NEAMTWS-XIV](#)) and the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions ([ICG/CARIBE EWS-XIII](#)), as well as the report by the Working Group on Tsunamis and Other Hazards related to Sea-Level Warning and Mitigation Systems ([TOWS-WG-XI](#)),

Accepts the reports by the IOC/ICGs and TOWS-WG;

Notes with satisfaction the progress made during the intersessional period, including:

- (i) the success of the symposium 'Advances in Tsunami Warning to Enhance Community Responses' (12–14 February 2018, Paris, France) in identifying the current status of operational tsunami warnings and community resilience and future avenues for improvement;
- (ii) the execution of two exercises (NEAMWave 17, CARIBEWave 2018) and regular communication tests;
- (iii) the sharing of the results of tsunami exercises and communication tests with the World Meteorological Organization (WMO);
- (iv) the higher number of sea-level stations in the NEAMTWS region to ensure the reinstatement of monitoring, detection, communication and warning capacities;
- (v) the publication of the document "Plans and Procedures for Tsunami Warning and Emergency Management" (IOC Manuals and Guides, 76);
- (vi) the adaptation and launch of the CARIBE-EWS tsunami-ready, community-based recognition programme by the Pacific Tsunami Warning and Mitigation System (PTWS) and the Indian Ocean Tsunami Warning and Mitigation System (IOTWMS);
- (vii) the completion of the educational strategy to address buoy vandalism with the contribution of the ICGs;
- (viii) China's ongoing support for the establishment of a South China Sea Tsunami Advisory Centre, inaugurated on 8 May 2018;
- (ix) the United States' ongoing support for the development of a standardized process and training course on Tsunami Evacuation Maps, Plans, and Procedures (TEMPP project).

**I. North-Eastern Atlantic, the Mediterranean  
and Connected Seas Tsunami Warning and Mitigation System (NEAMTWS)**

Acknowledges Portugal's commitment following the launch of its National Tsunami Warning Centre, which started operating as a Candidate Tsunami Service Provider (CTSP) in January 2018;

Encourages Member States who have not yet subscribed to the services of the NEAMTWS Tsunami Service Providers through IOC to do so as soon as possible;

Also acknowledges the importance of the NEAM Tsunami Information Centre (NEAMTIC) and invites Member States to contribute to its ongoing work through funding and secondments;

**II. Tsunami and Other Coastal Hazards Warning System  
for the Caribbean and Adjacent Regions (CARIBE-EWS)**

Recognizing the potential benefit of high-rate, real-time global navigation satellite system (GNSS) data to improve earthquake and tsunami detection and assessment, recommends the open and free distribution of 1-Hz real-time GNSS data for all GNSS Caribbean stations with suitable data communications;

Concerned about the damage that Hurricanes Irma and Maria caused to Caribbean observation systems critical for tsunami warning in 2017, expresses its thanks to the United States for its support for the recovery and strengthening of seismic and sea-level stations and to the United Kingdom, through the National Oceanography Centre (NOC), for the installation, recovery, operation and data analysis of sea-level stations in the Caribbean;

Notes the adoption by the ICG/CARIBE-EWS of its Implementation Plan 2018–2023 as a living document reflecting the work of the ICG for that period;

Also notes that CARIBEWave 19, scheduled on Thursday 14 March 2019, will consist of two scenarios that include a basin-wide event at a source to the north of Panama and a local event associated with an underwater volcanic eruption at the Kick'em Jenny volcano to the northwest of Grenada in southern Lesser Antilles;

**III. Working Group on Tsunamis and Other Hazards  
Related to Sea-Level Warning and Mitigation Systems (TOWS-WG)**

Encourages Member States to:

- (i) increase and sustain technical and financial support for the tsunami and other coastal hazard warning systems in their respective regions considering the significant impacts of these hazards on lives and livelihoods in coastal communities;
- (ii) further promote tsunami awareness in communities and among authorities through communication and tsunami wave exercises, training, information, and community preparedness and recognition programmes;
- (iii) densify sea-level and seismic networks, particularly near tsunamigenic sources;
- (iv) support the rehabilitation and enhancement of the sensing, communication and warning infrastructure to ensure readiness for future events in CARIBE-EWS;
- (v) consider the recommendations ensuing from the symposium 'Advances in Tsunami Warning to Enhance Community Responses' (12–14 February 2018, Paris, France) and contained in the summary statement (IOC/BRO/2018/3);

Instructs ICGs to:

- (i) advocate World Tsunami Awareness Day (5 November 2018) among Member States and inform them of the availability of material from the United Nations Office for Disaster Risk Reduction

(UNISDR) in this regard, and share activities and materials with UNISDR and Tsunami Information Centres;

- (ii) recommend Tsunami Service Providers and National Tsunami Warning Centres to continue adding to the international Register of alerting authorities through WMO Permanent Representatives;
- (iii) request the ICG/PTWS to: (a) complete its present work on key performance indicators (KPIs) and tailor them to the target G indicators of the Sendai Framework; (b) develop a document containing the background and context of the proposed KPIs; and (c) provide the document to all ICGs for consideration, with a view to submitting a consolidated report to the IOC Assembly at its Thirtieth Session in 2019;

Decides to extend the tenure of Tsunamis and Other Hazards related to Sea-Level Warning and Mitigation Systems (TOWS) and its Task Teams on (i) Disaster Management and Preparedness (DMP) and (ii) Tsunami Watch Operations (TWO) with the terms of reference provided in [IOC resolution XXIV-4](#) for TOWS-WG, [IOC/TOWS-WG-VI/3](#) Annex II for the Task Team on Disaster Management and Preparedness (TTDMP) and [IOC/TOWS-WG-X](#) Appendix I for the Task Team on Tsunami Watch Operations (TTTWO).

#### EC-LI/Dec.3.4.1

### **Fifth Session of the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM-5)**

The Executive Council,

Having examined the report produced following the recent session of the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM-5),

Accepts document [WMO-IOC/JCOMM-5/3](#) and the recommendations contained therein.

#### EC-LI/Dec.4.2

### **Enhanced Coherence, Impact and Future Orientations of the IOC Ocean Science Portfolio in Support of the United Nations Decade of Ocean Science for Sustainable Development and the 2030 Agenda**

The Executive Council,

Having considered document [IOC/EC-LI/2 Annex 5](#) and [Corr.](#),

Recognizing that in light of the highly dynamic nature of ocean science, there is a need to ensure the continuous coherence and impact of the IOC ocean science portfolio by reflecting relevant scientific developments in ocean science,

Recalling the importance of the world ocean in the climate system and the continuous need for coordinated ocean carbon research to support scientific advances and respond to relevant requests for knowledge by the policy community,

Endorses the development of a new initiative on integrated ocean carbon research, in close cooperation with the International Ocean Carbon Coordination Project (IOCCP), the Surface-Ocean Lower Atmosphere Study (SOLAS), the Integrated Marine Biosphere Research (IMBeR) project, the Global Carbon Project (GCP), the core project on Climate and Ocean Variability, Predictability and Change (CLIVAR) of the World Climate Research Programme (WCRP/CLIVAR) and other relevant partners active in carbon research, in the form of a dedicated IOC working group with terms of reference provided in [Annex 1](#);

Decides to capitalize on the efforts of IOC working groups focusing on individual ocean stressors by establishing a new IOC working group on multiple ocean stressors to support ecosystem-based management, with terms of reference provided in [Annex 2](#);

Invites Member States to contribute financial resources and other in-kind contributions in support of the two newly created working groups;

Expresses its appreciation for the strategic alignment of the ocean science portfolio with the planning process of the United Nations Decade of Ocean Science for Sustainable Development, the UNFCCC and its Paris Agreement, and the unfolding work related to the implementation of the relevant goals and targets of the 2030 Agenda for Sustainable Development, so as to enhance the contribution of IOC ocean science activities to the sustainable development agenda.

#### Annex 1 to [decision EC-LI/4.2](#)

##### **Terms of Reference of the IOC Working Group on Integrated Ocean Carbon Research**

1. The IOC Working Group on Integrated Ocean Carbon Research (hereinafter referred to as 'the Working Group') aims at filling knowledge gaps in relation to ocean carbon by designing and promoting the implementation of the new generation of integrated ocean carbon research.
2. The Working Group, coordinated by IOC, will foster active collaboration and synergies amongst IOC, the International Ocean Carbon Coordination Project (IOCCP), the Surface-Ocean Lower Atmosphere Study (SOLAS), the Integrated Marine Biosphere Research (IMBeR), the Global Carbon Project (GCP), the core project on Climate and Ocean Variability, Predictability and Change (CLIVAR) of the World Climate Research Programme (WCRP), and relevant national efforts on carbon research. The initiative is open to any other relevant international efforts on ocean carbon research with a demonstrated scientific record.
3. The Working Group will be composed of approximately 20 to 25 experts. The core of the Group will be constituted by two experts designated by each partner (IOC, IOCCP, SOLAS, IMBeR, GCP, WCRP/CLIVAR), who will act as the Working Group's Steering Committee (SC). The SC will identify additional experts for their inclusion in the Working Group. The SC will identify and appoint two members of the Working Group as co-Chairpersons of the Group. Group membership will last two years. While membership could be prolonged for a second two-year term, it is envisaged that at the end of the first term, one third to half of the group be renewed by the appointment of new members.
4. The Working Group will have a geographic and gender-balanced representation, reflecting, *inter alia*, the following disciplines and areas of ocean carbon research: ocean physics, chemistry, biochemistry, biology, ecology and technology.
5. Depending on scientific needs, the Working Group may establish task teams around specific themes or crosscutting issues related to various aspects of ocean carbon research. These task teams would be co-chaired by two members of the Working Group, taking into due account geographic and gender balance.
6. The Working Group will build upon the multiple relevant synthesis activities for ocean carbon and promote coordination among them. These syntheses will inform the organization of efforts in ocean carbon research at multiple levels – national, regional and global.
7. The findings of the Working Group may contribute to the sixth assessment report of the Intergovernmental Panel on Climate Change (IPCC AR6) and other IPCC reports, as appropriate, and according to the IPCC rules of procedure (e.g., through the peer-review process of the AR6 and other IPCC reports). The Working Group, in coordination with the Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC), may also assist in facilitating informal consultations among science organizations invited to contribute to research dialogues convened by the UNFCCC.

8. The Working Group will develop a yearly work plan, review it on a yearly basis and report, through the IOC Secretariat, to the IOC governing bodies on progress made in the performance of its duties.<sup>3</sup>
9. The Working Group will produce its findings in the form of meeting reports, scientific articles, science plans and implementation plans. It will also assist the IOC Secretariat in producing policy briefs and public awareness materials as appropriate, including dedicated web pages within the IOC website.
10. A Working Group secretariat will be provided by the Ocean Science Section (OSS) of the IOC Secretariat. Collaborating organizations, programmes and initiatives may also provide staff or in-kind contributions, including the secondment of experts, to support the Working Group secretariat.
11. The Working Group will operate on the basis of voluntary financial and in-kind contributions from IOC Member States, other governments and international organizations.

#### Annex 2 to Decision EC-LI/4.2

#### **Terms of Reference of the IOC Working Group on Multiple Ocean Stressors**

1. The IOC Working Group on Multiple Ocean Stressors (hereinafter referred to as 'the Working Group') aims at identifying main ocean stressors and their interaction, with a view to elucidating possible actions related to ecosystem-based management (EBM).
2. The Working Group will be composed of approximately 20 experts, the bulk of whom will be provided by the co-Chairpersons of relevant IOC working groups (the Global Ocean Acidification Observing Network (GOA-ON), the Global Ocean Oxygen Network (GO2NE), the IOC-UNESCO Working Group on Harmful Algal Blooms (HAB), the IOC-UNESCO Working Group on Climate Change and Global Trends of Phytoplankton in the Ocean (TrendsPO), the Blue Carbon Initiative (BCI), Working Group 40 of the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP WG 40) which focuses on the sources, fates and effects of plastics and micro-plastics in the marine environment, and the IOC-UNESCO Working Group on nutrients), with the addition of expertise, including EBM, and a geographic and gender-balanced representation. Two members of the Working Group will act as co-Chairpersons of the Group.
3. The Working Group will produce a synthesis report in 2019 to provide information on work carried out under the United Nations Decade of Ocean Science for Sustainable Development relevant to multiple stressors and EBM.
4. The Working Group may produce scientific articles, and will be asked to produce technical reports on, *inter alia*:
  - a. experimental challenges related to multiple driver experiments,
  - b. links between physiological responses and impacts on ecosystems,
  - c. ecosystem-level reference points related to multiple stressors,
  - d. the development of indicators for systematic observations of multiple stressors,
  - e. the integration of the multi-stressor approach in ocean models and predictions,
  - f. management requirements in relation to multi-stressor research.

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<sup>3</sup> Initial activities of the Working Group, envisaged to start in the last quarter of 2018, may entail: An inception meeting of the Working Group in early 2019; Coordinated contributions to WCRP Coupled Model Intercomparison Project (CMIP6) activities as a follow-up to the CMIP6 workshop on ocean carbon uptake (AGU, 2018), in coordination with CMIP;

- a. Contributions to relevant ocean acidification activities in relation to the work plans of the Global Ocean Acidification Observing Network (GOA-ON) and the International Atomic Energy Agency's (IAEA) Ocean Acidification International Coordination Centre (OA-ICC), in coordination with GOA-ON;
- b. Contributions to the Global Carbon Project (GCP) REgional Carbon Cycle Assessment and Processes (RECCAP) 2 meeting (Japan, March 2019).



5. The Working Group may be called upon to assist the IOC Secretariat in producing policy briefs and public awareness materials as appropriate, including dedicated web pages within the IOC website.
6. The Working Group will review its work plan on a yearly basis and report, through the IOC Secretariat, to the IOC governing bodies on progress made in the performance of its duties.
7. A Working Group secretariat will be provided by the Ocean Science Section (OSS) of the IOC Secretariat. Collaborating organizations, programmes and initiatives may temporarily transfer staff to support the Working Group secretariat.
8. The Working Group will operate on the basis of voluntary financial and in-kind contributions from IOC Member States, other governments and international organizations.

#### EC-LI/Dec.4.3

### **Proposed Implementation Plan for Conducting the Second Edition of the Global Ocean Science Report (GOSR)**

The Executive Council,

Recalling [IOC decision XXIX/5.1](#) on the Global Ocean Science Report: Perspectives and Development,

Noting the importance of the Global Ocean Science Report (GOSR) as the main mechanism to measure progress towards the achievement of Sustainable Development Goal (SDG) 14, Target 14.A,

Recognizing that investments in ocean science are key to developing sustainable ocean economies,

Endorses the approach proposed by the IOC Secretariat with regard to the composition of the Editorial Board for the second edition of the report (GOSR-II), its terms of reference, the GOSR Data Portal and the timeline related to the preparation of GOSR-II;

Encourages each Member State to contribute actively to the second edition of the report by providing relevant data and information through the GOSR Data Portal and, in particular, by contributing actively to the GOSR-II questionnaire and survey;

Acknowledges the contribution already received from the Republic of Korea in support of the second edition of the report and invites IOC Member States to provide additional resources in support of GOSR-II.

#### EC-LI/Dec.4.4

### **Follow-up to IOC's Custodianship Role in Relation to SDG 14 Indicators**

The Executive Council,

Having examined document [IOC/EC-LI/2 Annex 6](#),

Recalling IOC decisions [EC-XLIX/4.1](#) defining the strategic contributions of IOC to the implementation of the 2030 Agenda and SDG process and [XXIX/9.1](#) acknowledging the role of IOC as custodian agency for SDG indicators,

Welcomes the proposed methodology for indicator 14.3.1 as presented in document IOC/EC-LI/2 Annex 6 and recommends its presentation to the Inter-agency and Expert Group on SDG indicators (IAEG-SDGs) at its next meeting.

EC-LI/Dec.4.5

**Report of the IOC Working Group on User Requirements  
and Contributions to General Bathymetric Chart of the Oceans (GEBCO) Products**

The Executive Council,

Recalling decision [EC-XLIX/4.4](#) establishing a regular working group tasked with collecting, integrating and assessing the user requirements for General Bathymetric Chart of the Oceans (GEBCO) products and addressing potential ways to contribute to GEBCO data and products,

Having examined the report of the working group submitted in document [IOC/EC-LI/2 Annex 7](#),

Recognizing the continued need of the IOC scientific community for bathymetric products and the fact that access to high quality bathymetry is important not only for navigation, but also for other purposes including ocean science, tsunami warning and preparedness and climate modelling,

Also noting that significant amounts of bathymetric data are collected by the scientific and commercial sector for purposes other than chart improvement, but are not easily made discoverable or available for secondary purposes,

Takes note of the conclusion of the review group;

Requests the Executive Secretary to:

- (i) convey the conclusion of this review to the International Hydrographic Organization (IHO) and the GEBCO Guiding Committee;
- (ii) identify ways and means to increase the participation of respondents, particularly representing the interest of IOC programmes, as well as regional subsidiary organs, in future assessments carried out by the working group;
- (iii) share the findings of the review with relevant IOC communities;

Decides to conduct the Review of User Requirements and Potential Contributions to GEBCO on a biennial basis, with the next assessment to be presented to the IOC governing body in 2020;

Encourages Member States to:

- (i) cooperate to advance basin-scale campaign mapping and accelerate the delivery of GEBCO objectives and general knowledge of the ocean in particular by supporting and contributing to the Nippon Foundation – GEBCO Seabed 2030 Project,
- (ii) facilitate GEBCO capacity development, including training opportunities, and
- (iii) actively participate in the next assessment, to be conducted by the Working Group.

EC-LI/Dec.4.6

**IOC relevant issues related to the Intergovernmental Conference on an International Legally Binding Instrument under the UN Convention on the Law of the Sea on the conservation and sustainable use of biological diversity of areas beyond national jurisdiction**

The Executive Council,

Recalling United Nations General Assembly [resolution 72/249](#), which decided to convene, commencing in 2018, the Intergovernmental Conference on an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological

diversity of areas beyond national jurisdiction,

Recalling also that IOC is a competent international organization under UNCLOS and has a long history in promoting international cooperation in ocean science within and beyond national jurisdiction,

Further recalling United Nations General Assembly [resolution 69/292](#), which recognizes that the BBNJ process should not undermine existing, relevant, legal instruments and frameworks and relevant global, regional and sectoral bodies,

Takes note of and welcomes the active role of the Commission at the organisational meeting of the Intergovernmental Conference, in accordance with its mandate in areas related to marine scientific research, capacity development and the transfer of marine technology, as well as data and information management;

Requests the Executive Secretary, Chairperson or a designated Officer of IOC to represent the Commission in the forthcoming meetings of the Intergovernmental Conference;

Invites IOC Member States to continue supporting the role of the Commission through their preparation and statements at forthcoming meetings of the intergovernmental conference;

Requests the Executive Secretary and Officers of IOC to report on developments in this area to the IOC Assembly at its Thirtieth Session in 2019.

#### EC-LI/Dec.4.7

### **The Global Ocean Observing System (GOOS)**

The Executive Council,

#### **I. A Ten-Year Strategy for GOOS**

Having examined [IOC/EC-LI/2 Annex 8](#),

Acknowledging the ongoing broad community review process,

Takes note of the draft *GOOS 2030 Strategy*, and of the opportunity to provide further comment by a deadline to be agreed with the help of the IOC Secretariat;

Requests the Executive Secretary to work with the GOOS Steering Committee, Secretariat and the other co-sponsors of GOOS to finalize the GOOS 2030 Strategy, based on feedback from Member States and other stakeholders;

Further notes that the final version of the *GOOS 2030 Strategy* will be submitted to the IOC Assembly at its 30th Session in 2019 for consideration and endorsement;

Welcomes development of an accompanying implementation plan covering more specific outputs and milestones on a one to five-year timescale;

Calls on the other sponsors of GOOS —the World Meteorological Organization, the United Nations Environment Programme, and the International Science Council— to consider how they will contribute to implementing the Strategy;

#### **II. OceanObs'19**

Recognizing that OceanObs'19 is an instrumental opportunity to build community-driven enhancement of the requirements of ocean observing system development, and to contribute to the planning stage of United Nations Decade of Ocean Science for Sustainable Development, particularly regarding its priority areas of ocean observations,

Encourages Member States to disseminate opportunities to engage in the OceanObs'19 Conference to appropriate national audiences, and further encourages Member States to support the conference itself.

## EC-LI/Dec.4.8

### **Evolving Capabilities of the Argo Global Array of Profiling Floats**

The Executive Council,

#### **I. Global implementation of six new biogeochemical parameters for Argo floats**

Having examined the evolving capabilities of the Argo global array of profiling floats and the planned global implementation of sensors to measure six new biogeochemical parameters described in [IOC/EC-LI/2 Annex 9](#) Section II,

Recognizing Argo's contribution to the measurement of GOOS essential ocean variables (EOVs) and the potential scientific and societal benefits of the global measurement of the six new biogeochemical parameters,

Appreciating Argo's pioneering free and open data policy, in compliance with the later IOC Oceanographic Data Exchange Policy ([IOC Resolution XXII-6](#)),

Approves the global implementation of Argo floats measuring these six parameters - oxygen, pH, nitrate, chlorophyll, backscatter and irradiance; and

Agrees to the continued use of IOC's *Guidelines for the Implementation of Resolution XX-6 of the IOC Assembly Regarding the Deployment of Profiling Floats in the High Seas within the Framework of the Argo Programme* ([IOC resolution EC-XLI.4](#)) to notify coastal Member States of all Argo profiling floats likely to enter their Exclusive Economic Zone (EEZ), including those measuring these new variables;

Recognizing Argo's value in responding to global challenges on climate variability and change and its role in underpinning ocean and marine services, encourages all IOC Member States to further support and participate in the implementation of the Argo programme;

#### **II. The approval framework for additional new parameters for Argo**

Having examined the proposed approval framework for additional new parameters for Argo described in [IOC/EC-LI/2 Annex 9](#) Section III,

Notes that experimental new parameters on Argo floats will be tested through individual national research programmes, in a manner consistent with the United Nations Convention on the Law of the Sea (UNCLOS);

Agrees that the Argo Steering Team can designate *Argo-approved pilot* parameters based on requirements of technological readiness, a compelling global design and implementation plan, and the potential to deliver major benefits to research and societal services, for deployment under Argo's notification regime ([IOC resolution EC-XLI.4](#)) and under its free and open data policy, for a limited period allowing for the scientific evaluation of the results; and

Requests the Argo Steering Team and the GOOS Steering Committee to bring the results of Argo-approved pilots to an IOC governing body for approval before moving to a stage of global implementation.

EC-LI/Dec.4.9

**IOC's Contribution to Ocean Literacy in 2018–2021**

The Executive Council,

Having considered document [EC-LI/2 Annex 10](#),

Recalling:

- (i) the *IOC Capacity Development Strategy, 2015–2021*, in which ocean literacy is identified as a main strategic activity under output 5: “Visibility and awareness increased”;
- (ii) the IOC Programme and Budget, 2018–2019, which states that IOC must further reaffirm its mediating role between the scientific and policy communities, and
- (iii) the UNESCO/IOC's voluntary commitment [#OceanAction15187](#), “Ocean literacy for all: a global strategy to raise the awareness for the conservation, restoration, and sustainable use of our ocean”,

Taking into account IOC's achievements in ocean literacy and the role it can play in communicating IOC's activities to the general public, including in the context of the United Nations Decade of Ocean Science for Sustainable Development,

Decides to pursue IOC's involvement in ocean literacy activities;

Invites the Secretariat to develop a plan of action for review by the IOC Assembly at its Thirtieth Session in 2019;

Encourages Member States to contribute to ocean literacy activities by identifying good practices, tools and approaches to be shared within and across regions;

Expresses its appreciation to the Government of Sweden for the financial support provided for IOC's ocean literacy activities and encourages other Member States to follow this example.

EC-LI/Dec.5.1

**IOC Recommendations regarding the proposed reform of the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM)**

The Executive Council,

Recognizing the success of the cooperation between IOC and WMO in JCOMM and the achievements in terms of bridging oceanographic and marine meteorological observations, data management and service systems,

Recognizing further the need to develop and implement state-of-the-art technologies and competencies in response to the expanding and evolving needs of users of marine data and products,

Noting the importance of research and capacity development to support observations, data management and services, including information services aimed at setting global and national policies,

Noting the need for a restructuring of JCOMM that will increase the connection between IOC-specific groups and WMO reformed structures,

Noting the WMO Executive Council decision EC-70/16.3(5)/1 titled WMO-IOC Consultation on the Reform of JCOMM,

Noting [IOC/EC-LI/2 Annex 11 Rev.](#) and [IOC/INF-1359](#),

Noting with appreciation the intent behind the proposed reform of WMO structures, to improve efficiency and delivery,

Noting the involvement of the Officers and Executive Secretary of IOC in WMO discussions regarding reforms that touch on the co-sponsored bodies JCOMM, GCOS, GOOS and WCRP,

Emphasizing the importance of continued and enhanced cooperation between oceanography and meteorology, and between IOC and WMO, to ensure a coherent and compatible earth-systems approach to observations, data management, forecast systems and the development of appropriate services,

Decides to establish a joint IOC-WMO consultation group with the terms of reference provided in the [Annex](#) to the present decision.

#### Annex to [EC-LI/Dec.5.1](#)

### **Joint WMO-IOC Consultation Group on the Reform of JCOMM**

#### **Terms of Reference**

- (i) Examine the proposal for the transition to a Joint WMO-IOC Committee for Oceanography and Meteorology (JCOM),
- (ii) Consult WMO Members and IOC Member States,
- (iii) Propose terms of reference for a JCOM,
- (iv) Identify working arrangements and sponsorship for all bodies presently in JCOMM, the relationship between existing co-sponsored programmes (GCOS, GOOS, WCRP) and the proposed JCOM, and any other jointly undertaken work,
- (v) Identify and map all technical functions from the current JCOMM to the proposed JCOM, to insure the full functioning of all operational matters.
- (vi) Develop a revised proposal and a recommendation for the way forward, to be submitted to both the 18th WMO Congress and the 30th IOC Assembly for decision.

#### **Membership**

- (a) For WMO:
  - (i) Representatives of Members (equal number to IOC) appointed by the President,
  - (ii) Representatives of JCOMM (marine meteorology) and the Commission for Basic Systems (CBS);
- (b) For IOC:
  - (i) Representatives of Member States (equal number to WMO) consistently selected by the Chairperson of IOC in consultation with the Vice-Chairpersons to ensure balanced geographic representation,
  - (ii) Representatives of JCOMM (oceanography) selected by the JCOMM co-Presidents in consultation with the Chairpersons of the JCOMM programme areas;
  - (iii) Representatives of International Oceanographic Data and Information Exchange (IODE) and the Working Group on Tsunamis and Other Hazards Related to Sea-Level Warning and Mitigation Systems (TOWS-WG);

- (c) Representatives of co-sponsored programmes (GCOS, GOOS, WCRP) as proposed by the programmes.

### **Working procedures**

The group will be expected to work primarily by electronic means.

Two co-Chairpersons representing the meteorological and oceanographic communities will be selected by the group.

The co-Chairpersons, in consultation with the group, may wish to invite other experts (as needed) to participate in the work of the group.

### EC-LI/Dec.5.2

#### **Review of the World Climate Research Programme (WCRP)**

The Executive Council,

Recalling [IOC decision XXIX/5.3](#) on the World Climate Research Programme (WCRP),

Takes note of the results of the independent review of WCRP and the WCRP Strategic Plan for 2019–2029;

Reiterates the important role of the ocean in climate regulation and climate-change mitigation, and hence the need to maintain a strong ocean focus in climate research conducted in the context of WCRP;

Endorses the approach pursued by the IOC Secretariat in relation to the need for IOC to partner with WCRP in the implementation of relevant IOC programmes and activities, while reiterating IOC's commitment to continuing to co-sponsor WCRP;

Encourages WCRP to play an active role in the design and execution of relevant elements of the Implementation Plan of the United Nations Decade of Ocean Science for Sustainable Development.

### EC-LI/Dec.5.3

#### **A Ten-Year Strategy for the Global Climate Observing System (GCOS)**

The Executive Council,

Having examined [IOC/INF-1360](#),

Notes the development of the *GCOS Strategy*;

Requests the Executive Secretary to work with the GCOS Secretariat and other co-sponsors of GCOS to finalize and approve the *GCOS Strategy*.

### EC-LI/Dec.6.1

#### **Follow-Up to Resolution XXIX-2: Finance and Regulations, Governance, Working Methods and Procedures**

The Executive Council,

Thanks Vice-Chairperson Troisi and all Member States having contributed to the work of the Intersessional Financial Advisory Group (IFAG);



Takes note of documents [IOC/EC-LI/2 Annex 2](#), Corr. and Add., [IOC/EC-LI/2 Annex 12](#), [IOC/EC-LI/2 Annex 13](#) and [IOC/EC-LI/2 Annex 14 Rev.](#) subject to further examination by the Financial Committee with a view to formulating draft resolution [EC-LI/DR.\(6.2\)](#) for discussion and adoption in plenary.

### EC-LI/Dec.6.3

#### **Preparation of the Thirtieth Session of the Assembly and the Next Sessions of the Executive Council**

The Executive Council,

Recalling [IOC Assembly decision XXIX/11.4](#) on the length and organization of its Thirtieth Session,

Having considered potential conflicting dates with important meetings to take place in June 2019,

Expressing thanks to the Member States and partners for their sponsoring of side events and services and notably their support of recent sessions of IOC governing bodies and the organization of special events such as Ocean Science Day,

Decides to hold:

- (i) the Thirtieth Session of the Assembly for a duration of 6.5 working days plus an Ocean Science day at UNESCO Headquarters over the period from 26 June to 4 July 2019, preceded by a one-day session of the Executive Council (EC-LII);
- (ii) the Fifty-third Session of the Executive Council for a duration of 3.5 days in June 2020.

### EC-LI/Dec.7

#### **Report**

The Executive Council,

Adopts [Part I](#) of the summary report for the present session;

Requests the Executive Secretary to circulate Parts II and III of the draft summary report to Member States within one week after the closure;

Decides to defer the adoption of Parts II and III of the draft summary report, to be completed by correspondence within one month from its receipt.



ANNEX I

**AGENDA**

- 1. OPENING**
- 2. ORGANIZATION OF THE SESSION**
  - 2.1 ADOPTION OF THE AGENDA
  - 2.2 DESIGNATION OF THE RAPPORTEUR
  - 2.3 ESTABLISHMENT OF SESSIONAL COMMITTEES AND WORKING GROUPS
  - 2.4 INTRODUCTION OF TIMETABLE AND DOCUMENTATION
  - 2.5 ROGER REVELLE MEMORIAL LECTURE
- 3. STATUTORY REPORTS**
  - 3.1 REPORT OF THE EXECUTIVE SECRETARY ON THE WORK ACCOMPLISHED SINCE THE TWENTY-NINTH SESSION OF THE ASSEMBLY AND ON BUDGET IMPLEMENTATION (JULY 2017–MAY 2018)  
[Rule of Procedure 49.1]
  - 3.2 WORK OF THE PRIMARY REGIONAL SUBSIDIARY BODIES  
[Rule of Procedure 8.1(g)]
  - 3.3 REPORTS OF INTERGOVERNMENTAL COORDINATION GROUPS FOR REGIONAL TSUNAMI AND MULTI-HAZARDS WARNING SYSTEMS  
[Rule of Procedure 48.3]
    - 3.3.1 Fourteenth Session of the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North-eastern Atlantic, the Mediterranean and Connected Seas (ICG/NEAMTWS-XIV), Lisbon, Portugal, 21–23 November 2017**
    - 3.3.2 Thirteenth Session of the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE EWS-XIII), Willemstad, Curaçao, 23–27 April 2018**
    - 3.3.3 Eleventh Meeting of the Working Group on Tsunamis and other Hazards related to Sea-Level Warning and Mitigation Systems (TOWS-WG), UNESCO, Paris, 16–17 February 2018**
  - 3.4 REPORTS OF IOC TECHNICAL SUBSIDIARY BODIES  
[Rule of Procedure 48.3]
    - 3.4.1 Fifth Session of the Joint WMO-IOC Commission for Oceanography and Marine Meteorology (JCOMM-5), Geneva, Switzerland, 25–29 October 2017**
- 4. IOC AND THE FUTURE OF THE OCEAN: STRATEGIC DEVELOPMENTS**
  - 4.1 DRAFT IMPLEMENTATION PLAN FOR THE UNITED NATIONS DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT  
[39 C/Resolution 25; Res. XXIX-1]
  - 4.2 ENHANCED COHERENCE, IMPACT AND FUTURE ORIENTATIONS OF THE IOC OCEAN SCIENCE PORTFOLIO IN SUPPORT OF THE UN DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT AND 2030 AGENDA  
[Rule of Procedure 8.1(g)]

- 4.3 PROPOSED IMPLEMENTATION PLAN FOR CONDUCTING THE SECOND EDITION OF THE GLOBAL OCEAN SCIENCE REPORT (GOSR)  
[Dec. IOC-XXIX/5.1]
- 4.4 FOLLOW-UP TO IOC CUSTODIANSHIP ROLE IN RELATION TO SDG 14 INDICATORS  
[Dec. IOC-XXIX/9.1]
- 4.5 REPORT OF IOC REGULAR WORKING GROUP ON USER REQUIREMENTS AND CONTRIBUTIONS TO GEBCO PRODUCTS  
[Dec. IOC-XXVIII/6.2 (II); Dec. EC-XLIX/4.4; Dec. IOC-XXIX/8.1]
- 4.6 IOC RELEVANT ISSUES RELATED TO THE INTERGOVERNMENTAL CONFERENCE ON AN INTERNATIONAL LEGALLY BINDING INSTRUMENT UNDER THE UN CONVENTION ON THE LAW OF THE SEA ON THE CONSERVATION AND SUSTAINABLE USE OF BIOLOGICAL DIVERSITY OF AREAS BEYOND NATIONAL JURISDICTION  
[Dec. IOC-XXIX/9.2]
- 4.7 A TEN-YEAR STRATEGY FOR THE GLOBAL OCEAN OBSERVING SYSTEM (GOOS)  
[[GOOS-SC-6 Dec.](#); Dec. IOC-XXIX/6.1.1(I)]
- 4.8 EVOLVING CAPABILITIES OF THE ARGO PROFILING FLOAT NETWORK  
[Dec. IOC-XXIX/6.1.1(III)]
- 4.9 IOC CONTRIBUTION TO OCEAN LITERACY IN 2018–2021  
[Rule of Procedure 8.1(g)]

## **5. REVIEW OF IOC PROGRAMMES CO-SPONSORED WITH WMO**

- 5.1 RECOMMENDATIONS OF THE WMO GOVERNANCE REVIEW REGARDING JCOMM, GCOS, GOOS AND WCRP  
[Dec. IOC-XXIX/6.1.3]
- 5.2 REVIEW OF THE WORLD CLIMATE RESEARCH PROGRAMME (WCRP)  
[Dec. IOC-XXIX/5.3]
- 5.3 A 10-YEAR STRATEGY FOR THE GLOBAL CLIMATE OBSERVING SYSTEM  
[Dec. IOC-XVIII/7.1.2]

## **6. ADMINISTRATION, FINANCE AND MANAGEMENT**

- 6.1 FOLLOW-UP TO RESOLUTION XXIX-2: FINANCE AND REGULATIONS, GOVERNANCE, WORKING METHODS AND PROCEDURES  
[Res. XXIX/2; 39 C/Res.87]
- 6.2 REPORT BY THE CHAIRPERSON OF THE FINANCIAL COMMITTEE  
[Res. XXIX/2]
- 6.3 PREPARATION OF THE THIRTIETH SESSION OF THE ASSEMBLY AND NEXT SESSIONS OF THE EXECUTIVE COUNCIL  
[Statutes Art. 7.C.8; Rule of Procedure 8.3 & 21.2(c); Rule of Procedure 19.2]

## **7. REPORT**

## **8. CLOSURE**

ANNEX II

**ADDRESSES AND STATEMENTS**

**- A -**

**Address by Ms Audrey Azoulay**

Director-General of UNESCO

3 July 2018

Monsieur Peter Haugan, Président de la Commission Océanographique Intergouvernementale,

Monsieur Vladimir Ryabinin, Secrétaire exécutif de la Commission océanographique intergouvernementale,

Mesdames et Messieurs les représentants des Etats membres de la Commission océanographique intergouvernementale,

Mesdames et Messieurs,

Je tenais à être parmi vous pour ouvrir cette 51<sup>e</sup> session de la Commission océanographique intergouvernementale. La mer est dépositaire de notre avenir commun, or vous savez mieux que quiconque à quel point elle est fragilisée. Je reviens à peine de Corée du sud où la tradition multiséculaire magnifique des femmes plongeuses dans la mer de Jeju, les haenyo, inscrite au patrimoine culturel immatériel, menace de disparaître car avec la dégradation des océans disparaissent aussi les cultures qui y sont associées.

Tout en étant lucide sur le diagnostic, il faut reconnaître comme une formidable opportunité la proclamation par l'Assemblée générale des Nations Unies en décembre dernier d'une Décennie pour les sciences océaniques au service du développement durable (2021–2030), que notre Commission est chargée de coordonner.

C'est, pour les sciences océanographiques, la reconnaissance du rôle central qu'elles sont amenées à jouer dans la réalisation de l'Agenda 2030 et au-delà.

Et c'est pour notre Commission une consécration, une reconnaissance d'un travail remarquable, mené depuis de longues années, pour promouvoir une science encore jeune mais essentielle.

C'est la récompense de ses nombreux efforts pour permettre le rapprochement des sciences océaniques et de la sphère politique... la science et l'action.

Cette session va préparer une feuille de route pour cette Décennie des sciences océaniques. C'est l'occasion de réaffirmer le rôle fédérateur que joue la Commission, qui aide à opérer une bonne division des tâches, au niveau international, entre tous les partenaires : les réseaux scientifiques, les gouvernements, les centres UNESCO de catégorie deux, les chaires et la famille onusienne.

Cette Décennie des Nations Unies est une décennie cruciale qui doit aider à trouver des solutions pour mettre fin à la dégradation du plus grand écosystème de notre planète et créer les conditions d'une gestion durable de l'océan, des mers et des régions côtières.

Nous sommes face à un défi majeur, et notre responsabilité est grande.

Nous savons que sans un océan en bonne santé, la vie sur Terre est menacée.

Nous savons que l'océan est une source de subsistance et de la culture ; nous connaissons son importance pour l'économie mondiale, la pêche, les activités côtières, pour le transport et la distribution de marchandises, pour la sécurité alimentaire, pour l'économie du loisir également.

Mais nous savons aussi sa fragilisation : 40% de l'océan est altéré par la pollution, par une pêche intensive ou par la dégradation des zones côtières.

Un tiers des émissions de dioxyde de carbone, dues aux activités humaines depuis les révolutions industrielles, a été absorbé par l'océan. Cela a conduit à son acidification qui entraîne aujourd'hui toute une série de conséquences nocives pour la vie sous-marine et l'environnement.

Pourtant, un océan en bonne santé, viable, géré de manière responsable, permet d'avancer dans la réalisation de nombreux objectifs de développement durable : la lutte contre les changements climatiques ; la création de nouveaux emplois; ou encore la sécurité alimentaire.

Ladies and Gentlemen,

We have a great opportunity with this Decade to build on the political commitments made in the 2030 Agenda, as well as the Paris Agreement.

The clarity of our vision will be the key to our success, and your discussions at this Council will shape this vision.

One important factor will be demonstrating the linkages between ocean science and its benefits for society.

Our hazard warning systems for tsunamis are a clear example of this. Other benefits to society include deepening our understanding of climate change, ecosystem functioning and biodiversity conservation to improve human well-being.

To succeed in all of these areas, we must bring together a large range of partners working on the ocean, including within the UN family and the research community... and I am glad that so many of our partner organisations are here and will be contributing to the debate on the UN Decade and other important agenda items.

Our regional intergovernmental mechanisms will also drive research.

I would like to highlight in particular IOC Africa that will be essential in contributing to the Intersectoral Initiative to Develop Scientific Research in Africa.

Within UNESCO we have the opportunity to also link to colleagues in other fields of study, particularly those related to other parts of the water cycle, including experts in UNESCO's International Hydrological Programme.

With a greater understanding of the science, we must also reinforce our work on ocean literacy, so that decision-makers can fully take advantage of scientific research in order to affect real policy change.

Education is also crucial and UNESCO's Education Sector, via its Associated Schools Network, is introducing ocean literacy into school curricula in 36 countries around the world.

It is clear that we need greater investment in ocean science. And UNESCO remains committed to this objective through its intellectual, human and institutional resources, as well as its comparative advantage of a multidisciplinary approach. We are therefore working to support the IOC for the preparation of the Decade. We will need the full commitment of the Member States as we work towards our goal.

One of the priorities of this Decade should be to encourage Member States to provide more sustainable funding for ocean science research, and strengthen international solidarity by reinforcing the capacities of the Small Island Developing States, which are often on the front line of ocean changes due to rising sea levels and tsunamis.

During this Executive Council, we will be privileged to hear from the eminent scientist Walter Munk – the Roger Revelle Medalist this year – who will share his extraordinary experience into ocean science.

The huge progress already made during his lifetime, the past hundred years, should inspire us not only during our up-coming decade, but for generations to come.

I am very confident that your discussions – under the wise guidance of Peter Haugan and the Officers – will provide the strategic vision necessary to work towards the Ocean We Need for the Future We Want.

I take this opportunity to assure you on my full support to your work and wish you fruitful discussions.

Thank you for your attention.

- B -

**Address by Prof. Yutaka Michida,**  
Chair of the Resolutions Committee

6 July 2018

The Committee met 8.00-9.40 a.m., Thursday July 5, 2018 in Salle VIII, with participation of 17 participants from 10 Member States of the Executive Council, Canada, China, France, Indonesia, Japan, Republic of Korea, Norway, Portugal, Russian Federation, and Thailand, and Chair, Prof. Yutaka Michida (Japan) with secretariat support by Julian Barbière.

Before opening the reviewing processes of the two draft resolutions submitted by the deadline, the Committee shared essential parts of the Guideline for Draft Resolution (IOC/INF-1315) including that the Committee had no responsibility for the substances of the draft resolutions and that the main task of the Committee was to carefully review the texts in terms consistency, clearness and explicitness.

The Committee reviewed and examined the texts of the following two draft resolutions, and put necessary corrections and amendments to the texts.

- i) Financial matters of the Commission
- ii) United Nations Decade of Ocean Science for Sustainable Development.

I, as the Chair of the Committee, would express deep appreciation to all participants for their careful reviewing and active discussions to improve the DR text explanations. Appreciation was also extended to Julian for his support and guidance in the work of the Committee.



- C -

**Address by Mr Ariel H. Troisi**  
Chair of the Financial Committee

6 July 2018

See PowerPoint presentation:

[http://www.ioc-unesco.org/index.php?option=com\\_oe&task=viewDocumentRecord&docID=22115](http://www.ioc-unesco.org/index.php?option=com_oe&task=viewDocumentRecord&docID=22115)

- D -

**Statements to the agenda item 4.1**  
**on Decade of Ocean Science for Sustainable Development 2021–2030**

4 July 2018

**H.E. Mr Peter Thomson,**  
**President of the 71st Session of the United Nations General Assembly**

The ocean is in deep trouble. I am sure that you are all aware of that. I won't go into the many indicators behind that statement. It was the reason for the formation of SDG 14, and was the reason for the holding of The Ocean Conference one year ago in the United Nations.

In facing up to that trouble into which we, humanity, have put the ocean, one of the really gratifying things that has happened since The Ocean Conference a year ago is the General Assembly's adoption of the resolution in December to go ahead with the UN Decade of Ocean Science for Sustainable Development. This was a real breakthrough and I give my congratulations to Vladimir and Peter and their team here at IOC and indeed to all of you who put together this drive to get the Decade established. So congratulations to you all on doing that.

I regarded as one of the many things that has happened positively since that conference in June 2017, I think that was the game changer. From that moment, it was not possible to deny that the ocean was in trouble. And as I said I won't go into the vectors of all those symptoms where we see the decline that humanity has put upon the ocean's health. But the great news is we now have these actions that are being taken. You look in your own governments. I am sure you see it on work that is being done to curb pollution. For example, I look around the room here and I see the Kenyan delegation, who are hosting a sustainable blue economy conference in the last week of November. They recognize the importance. I see the Norwegian delegation here. The Norwegian Prime Minister recently appointed a high-level panel, which is leading on the new ocean economy getting the balance right between protection and production, and half a dozen heads of State are joining her on that. Everywhere you look, there is now ocean action taking place and this is because, like climate action, we realize we are in trouble with our fundament. Climate action is required because of climate change. Likewise, ocean action is required because of ocean change. This is the fundament in which our species exist on this planet. So this is why it is suddenly breaking as the most important thing for us to do. It is why when I was given this job to do in September last year, one of the first things I did was to establish these communities of ocean action, one of which is on science, community of ocean action on science, and technology transfer, and IOC is heavily involved in that. IOC and GEF are the two leaders of that community of ocean action and I thank them for that. For any of you who are not aware of the work of the communities of ocean action, I just ask you to go to the [oceanconference.un.org](http://oceanconference.un.org) website and you will find all you need to there.

I think what we definitely have now is with the General Assembly resolution in December adopting the Decade, we have a recognition from the international community that we have to see our future action in the ocean with a scientific foundation. We have to require ocean science, data and information exchange for sustainable development as the foundation on which we are building our

work. In saying that, as the advocate for SDG 14, I do say that this spreads to all of the SDGs. There is not an SDG that is not touched by our work on oceans. I won't go into that but I am happy to sit down with any of you and talk about that because particularly for the freshwater community and for the agricultural community, it is absolutely essential that we see the whole picture.

When I was listening to Peter (Haugan) giving us the societal outcomes there, they are envisaged as part of your design process, I was very pleased that it is led off by pollution. I am sure you are aware of the extent of pollution in the ocean right down to micro-life, which is the foundation of it all. I would remind you that our governments have all approved SDG 14 and the other sustainable development goals and that part of that approval back in 2015 was SDG 14.1, which was the marine pollution target, maturing in 2025, which is halfway through our Decade, so I just want to raise that in your minds.

The other thing I noticed from Peter's presentation was marine ecosystems being mapped. I want to report to you that there is huge interest in this. As I go around talking to the academic community, the prize community, like XPRIZE and so on, as well as the private sector, there is huge interest in getting involved in this, so please open yourselves as Member States to that high level of interest, drones and all the rest. There is strong interest by the non-governmental sector in getting involved and helping us with this.

The other thing that I think was really important in that list was the predicted ocean. When you look at what is happening in the Arctic now, with the sea routes opening up, when you look at the changing of vital ocean currents, and what that will do, we have to be able to predict this for our future human security and prosperity.

So on all these things, I think you are on the right track with your design, it is always an exciting time to be part of the design and I hope that Member States will all get actively involved in this. I would like to say just a couple of other points. One is the importance of partnership. I think the days are gone when we can see ourselves as bureaucrats, which is what I have been all my life, and in the 10 years that I spent at the United Nations, there was a lot of talk about partnerships. However, when it came to actually making a partnership happen between a government and an NGO or a scientific body, there was always that standing back, because I think that as bureaucrats, we need the prophylactics of protection when the private sector and public sector come together. But what I did learn in that time at the United Nations is that we cannot do it alone as bureaucrats and as Member States and governments. We have to incorporate the private sector. We have to incorporate the science community and we have to regard this with a sense of trust because we are in this totally new era of humanity's place on this planet, the so-called Anthropocene.

The other thing I would say is that that has a very important aspect for United Nations. I used to be president of things like the UNDP Board and UNFPA, and so on. One of the things that used to distress me about the UN system was how siloed it had become, that everyone was pursuing their own brands. Well, I am happy to say that in the ocean work that I am observing now, since The Ocean Conference, there has been fantastic cooperation that I have observed between the IOC secretariat, FAO, UNEP, the International Seabed Authority, and so on. This is as it should be and I am doing everything I can to help break down those silos and I think as we approach the Decade of Ocean Science for Sustainable Development, that we have to have this total UN approach to our design and our implementation of the Decade. So I encourage you very much to, as I say, be inclusive with the other UN system agencies and programmes and invite them in.

I think also I would be remiss in not telling you that work is afoot at the United Nations now for a second UN conference to happen in 2020. Lisbon and Kenya have kindly put up their hands to cover the costs and host that in Lisbon in 2020. Of course, it has to go through the UN process. There is no presumption that there will be an adoption of that resolution but the sensitization process is now under way in New York for a resolution to have a second UN conference in 2020. What is the logic of that? The logic is that four of the ten targets of SDG 14 mature in 2020. So we

have to, for fidelity to the sustainable development goals, assess how we are going with four of our ten targets of SDG 14 maturing in 2020. So good luck to those who are putting that together.

In conclusion, I would say to you that I advocate this Decade wherever I go. For example, this morning I was making an address at the National Museum of Natural History on coral, where the coral community had been assembled and there everybody is stressing, and I was stressing that we have to base all our action on good scientific decisions. Otherwise, coral is gone. The role of science in saving coral is an example. Indeed, I wrote to the Kenyan Government yesterday about the Sustainable Blue Economy Conference, emphasizing that the decisions being made at that conference must be based in science. Hopefully, IOC will be a strong part of what is happening in Nairobi in November.

So to all of you, I encourage you to get involved in the design of this Decade. I am very confident that we are going to meet the ten targets of SDG 14 and I regard this Decade as an essential part of that as we march towards the maturity of SDG 14 in the year 2030 when this Decade finishes. So good luck to all of you and please, I would say to IOC, you have the full support of my office and the teams that are working around me particularly in the stakeholder forum which I think is a great idea. Thank you very much for your time this morning.

*(transcript)*

**Mr David Grimes,  
President of the World Meteorological Organization (WMO)**

Professor Peter Haugan, Chair of IOC,  
Dr Vladimir Ryabinin, Executive Secretary,  
Members of the IOC Executive Council,  
Distinguished observers and guests

It is a great pleasure for me, as the President of the World Meteorological Organization, to bring my perspective on the Decade of Ocean Science for Sustainable Development. Its objectives are of great relevance to WMO. Let me give you some examples based on the decision adopted by the WMO Council.

**A safe ocean**

Coastal regions, especially in developing countries and small island States, withstand the worst of increasingly destructive coastal flooding, such as from storm surges, which are exacerbated by sea level rise.

Maritime transport is foreseen to expand in areas with harsh meteorological conditions such as polar waters, with increasing demands on maritime safety services.

Based on developments in coupled forecasting systems, weather and storm forecasts increasingly rely on information from the ocean. WMO is engaged in the development of more applied marine services, such as impact-based forecasting systems for sea ice, waves, storm surges, marine multi-hazard early warnings and environmental response.

**A predicted ocean**

The provision of improved sub-seasonal to seasonal forecasts is one of the areas with growing demand for delivery of services supporting decisions in a range of sectors.

Thanks to significant progress in understanding the connection between ocean and atmosphere in shaping weather and climate patterns, marine observation and data and enhanced modelling play a critical role to improve forecasting and early warnings on sub-seasonal to seasonal scales such as in the case of El Niño.

### **A transparent and accessible ocean**

Recent challenges in sustaining the ocean observing systems, particularly in the tropics and at the poles, are shedding new light on observation requirements and call for new strategies to optimize the infrastructure.

WMO has established operational mechanisms for the sharing of data and the distribution of products through global and regional centres that are essential to support forecasts and other services.

### **A clean ocean, a healthy and resilient ocean, a sustainable productive ocean**

Around half of the CO<sub>2</sub> released by humans has been absorbed by the oceans and about fifty percent of reactive nitrogen comes to the ocean from the atmosphere.

WMO advocates for high quality, routine observations of key variables of the surface atmosphere and the water column, which are essential for understanding the ocean's role in the climate system and ocean productivity. This includes environmental impacts such as ocean acidification, nutrients deposition to the ocean, and impact on ocean productivity and ecosystem services.

### **Closing comments**

The Decade of Ocean Science will certainly provide an excellent framework to strengthen our collaboration. WMO is committed to facilitate its expertise in the Planning Group and engage in the Stakeholder Forum to contribute to co-design and implementation through its technical and scientific bodies, co-sponsored programmes and observing systems and joint centres and is ready to discuss it also at a special marine dialogue to be held next year at Congress.

Thank you.

**Ms Lisa Svensson,  
Director for Ocean, UN Environment**

*(video)*

Sorry for not being present today in the venue but I am in Paris, and we are, as this happens, also having the official hand-over of the International Coral Reef Initiative here in Paris from the chairmanship of France to the chairmanship of Monaco, Australia and Indonesia.

This is also a very important initiative that I would like to strengthen science-based work to get science-based policies to save the coral reef.

I would like to convey the message from United Nations Environment that we do think that the Decade of Ocean Science for Sustainable Development is crucial. It is crucial to reach not only the ocean goal, in itself, SDG 14, but also all the ocean-related targets and indicators in the whole 2030 Agenda. For us, being the policy-based organization on oceans, we would like to strengthen the work with IOC as a science-based organization and together the science-based policies are important for any ocean where any policy-making decision on the ocean or that has an effect on the ocean.

So foremost, science-based decisions are the main thing we need to strengthen the Decade. Everyone talks today about the blue economy, to develop the blue economy, not only in developed but also in developing contexts. We think that the foundation in any development of the blue

economy is to know what have – the mapping of marine ecosystems is crucial and the assessment and evaluation of the marine ecosystems to be able to both protect them and conserve areas as well as sustainable use of marine ecosystems for any blue economy. But, to be able to map, we need science, we need to use the science that we already have. We also need to identify where we need new science. That is why we need to strengthen our partnership with IOC and the Decade of Ocean Science collectively, not only between IOC and United Nations Environment, but all other UN agencies as well as other stakeholders, to get that work and to get this important knowledge base available and accessible to all to be able to develop the blue economy is very crucial and important for our partnership.

*(transcript)*

**Mr Fredik Haag,  
Head of Office for the London Convention/Protocol & Ocean Affairs, Marine Environment  
Division, International Maritime Organization (IMO)**

Distinguished delegates,

Let me start by expressing the International Maritime Organization's gratitude for the invitation to participate in this important meeting.

International shipping uses the world's oceans to deliver more than 80 per cent of global trade by volume and over 70% of global trade by value. Annually, more than 50,000 seagoing ships carry more than 10 billion tonnes of cargoes, including commodities, fuel, food, raw materials and consumer goods ply our oceans and seas. Shipping is the engine that keeps the global economy moving, contributing to livelihoods of many. It is the most cost-effective and cleanest way to move goods in quantity. It facilitates commerce and helps to create prosperity among nations and peoples. Shipping is thus a fundamental component of any programme for sustainable development.

IMO, as the UN system specialized agency for safe, secure and efficient shipping and the prevention of pollution from ships would like to thank the Secretariat for inviting IMO to join forces with IOC and its partners in implementing the International Decade of Ocean Science for Sustainable Development.

Science plays an important role, on a daily basis, in the policy and regulatory activities in the shipping sector, through the work of IMO. In fact, many of the environmental regulations and treaties developed through IMO originate from, and have been informed by, significant scientific input, both in terms of identification of the actual issue and the formulation of the regulatory response.

Some examples can be found in the identification and understanding of emerging, such as the spread and impact of invasive alien species, leading to the adoption of the International Convention for the Control and Management of Ships' Ballast Water and Sediments in 2004, or the issue of ocean fertilization and marine geoengineering, leading to the 2013 amendments of the 1996 London Protocol on the prevention of marine pollution by dumping of wastes and other matter.

But, science also directly informs the current regulatory framework, for example our work on greenhouse gas emissions, the evaluation of hazards of harmful substances carried by ships, and the reviews of applications for 'active substances' to be used in ballast water management system, to mention a few.

For parts of its scientific needs, IMO relies on the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP), which is an advisory body, established in 1969, that advises the UN system – including both IMO and IOC - on the scientific aspects of marine

environmental protection. GESAMP's functions are to conduct and support marine environmental assessments, to undertake in-depth studies, analyses, and reviews of specific topics, and to identify emerging issues regarding the state of the marine environment, thus informing the policy and regulatory work in the sponsoring UN organizations.

Distinguished delegates,

IMO has a long-standing and strong cooperation with the IOC on matters of science, not least with respect to activities within the framework of GESAMP, for which IMO is the secretariat and both our organizations are founding members. We also work closely together in UN-Oceans, and we have a solid and active, direct bilateral dialogue, on matters of common interest.

IMO, therefore, strongly supports the initiative of the International Decade on Ocean Science for Sustainable Development, and we stand ready to support IOC in this important endeavour to the best of our abilities, both in its preparation phase and its implementation.

Thank you.

**Mr Dmitry Gonchar,**  
**Principal Legal Officer, Division for Ocean Affairs and the Law of the Sea (DOALOS)**

Mr Executive Secretary,

Distinguished Delegates,

The Division for Ocean Affairs and the Law of the Sea would like to express its support for the Decade of Ocean Science for Sustainable Development proclaimed by General Assembly resolution 72/73 on oceans and the law of the sea. The Division has also actively participated in the elaboration of the decade Roadmap, including through UN-Oceans.

It is our firm belief that the decade would greatly benefit from cooperation and synergies with other General Assembly mandated oceans processes, including the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects (the Regular Process). The aim of the Regular Process is to provide regular assessments, presenting an integrated view of the various drivers, pressures and impacts relating to the state of the marine environment, as well as the associated human responses, to support informed decision-making and thus contribute to the sustainable management of the oceans and seas.

The First Global Integrated Assessment, also known as the first World Ocean Assessment, was published in 2015. The Assessment is the first comprehensive report on the state of the world's oceans and our knowledge about them.

The second cycle of the Regular Process will culminate in the second world ocean assessment, due to be released in 2020.

The Intergovernmental Oceanographic Commission contributed significantly to the preparation of the first World Ocean Assessment by providing technical, scientific, logistical and financial support during the first cycle of the Regular Process, and is assisting in the implementation of the second cycle. Inter alia, the IOC Sub-Commission for the Western Pacific (WESTPAC) hosted a regional workshop in support of the second cycle of the Regular Process in Bangkok in November 2017. IOCARRIBE has also assisted in the organization of a workshop for the South Atlantic in Balneario Camboriu Brazil, also in November. The IOC has also recommended a number of experts for the Pool of Experts, which will assist the Group of Experts of the Regular Process to produce the second world ocean assessment. I would like to take this opportunity to thank the IOC for its continuing engagement with the Regular Process, and encourage its continued support to the second cycle.

We share IOC's vision of an ambitious and "transformative" Decade, and agree with its strategic objectives, one of which is to generate knowledge of the ocean system, including the human component, to support sustainable management. Here we see a clear role for the Regular Process and the second world ocean assessment. We believe that the trends that the assessment will evaluate and the gaps it will identify could inform the planning for activities of the Decade. Both the Regular Process and the Decade aim to increase our knowledge of the oceans and promote decision-making based on the best available science. We look forward to further cooperation with the IOC on the Regular Process, the Decade, and the many other activities where our work brings us together.

Thank you for your attention.

**Mr Christian Holde Severin,  
Senior Environmental Specialist, Global Environment Facility (GEF)**

So I want to start this by telling a story. It's a story about a 3-year old boy, standing by his father, taken by the power of the magnificence and endless opportunities of the vast ocean. That little boy was me. And that moment was captured on photo, a photo that among others have inspired me to the career that I have today.

Distinguished guests, ladies and gentlemen, friends of the ocean, I want to thank you for inviting me today and allow me to address you and to tell you a little bit about the Global Environment Facility and how we, the GEF, we were able to assist nations in delivering to the Ocean Decade, the Decade of Ocean Science. So as you may know, the Global Environment Facility was established in the eve of 1992, at the Rio Earth Summit, to help tackle our planet's most pressing environmental problems. Since then, the GEF has provided more than \$17.9 billion in grants and mobilized an additional \$93.2 billion in co-financing for more than 4,500 projects.

Today, the GEF has international partnership with over 183 countries, international institutions, civil society organizations and the private sector that together are addressing the global environmental issues.

The sixth assembly was just finalized in the magnificent country of Viet Nam last week. Celebrating the seventh replenishment with a total envelope of \$4.1 billion. International waters, and in particular oceans, got a lot of attention during the replenishment process from donors. Therefore I am very happy to announce that the GEF through the International Waters Focal Area, through investments in improving management of shared large marine ecosystems will continue over the next four years to assist countries in increasing capacity to ensure ocean science can fully support countries in the achievement of Sustainable Development Goal 14.

I am hopeful that increased the political and public attention that our ocean's health is enjoying these years will enable current and future generations to experience the magical moments that I did many years ago with my father and still do, but this will only be possible if we all of us here are able to transfer clear messages that are not only focusing on ocean science through informed conservation and so forth, but we need to haul in on economic and societal benefits that sustainable management of oceans and marine ecosystems will unlock. So with that, I challenge you to help me with that and thank you so much for your attention. Thank you.

**Ms Joanna Post,  
Principal Legal Officer Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC)**

Mr President, Mr Executive Secretary, distinguished delegates,



I am grateful for the opportunity to address the Executive Council of the UNESCO-IOC, on **behalf of the UNFCCC secretariat**, under this agenda item on the **Draft Implementation plan for the UN Decade of Ocean Sciences for Sustainable Development**.

*[Challenges and opportunities]*

**Climate change and its impacts have never been more evident** – ocean temperature and global sea level continue to rise, ocean acidification and the speed of polar ice melt is increasing. There is an urgency for mitigation and adaptation action. We have a short period to make the changes pledged under the Paris Agreement to keep temperature rise well below 2 degrees Celsius, towards 1.5 degrees Celsius.

While we face incredible challenges, *we are optimistic as climate action is happening*. More than 90% of Parties have ratified the Paris Agreement and 172 Parties have submitted Nationally Determined Contributions. This shows unprecedented political will. Many nations are developing bold plans to reach net-zero emissions.<sup>4</sup> Others are changing their national laws to align with the Paris Agreement (Mexico, Sweden).<sup>5</sup> Countries are making plans to increase their resilience to climate change impacts including through National Adaptation Plans.

**UNFCCC has three primary tasks in 2018:**

- continuing the **Talanoa Dialogue**;
- completing negotiations on the **implementation guidelines** of the Paris Agreement to unleash its full potential; and
- **increasing climate action before 2020**.

We must see more ambition by every country and see it reflected in the next set of Nationally Determined Contributions (NDCs), over 70% of which already mention marine adaptation and/or mitigation. UNFCCC secretariat is working hard to support nations in completing these tasks.

*[Strengthened collaboration]*

Against this backdrop, there has never been a greater need for **ocean science to respond directly to the policy challenges directed at it**. **The preamble of the Paris Agreement identifies that action must be based on the best available science knowledge**. **The work of the IOC has an important role in supporting discussions under the UNFCCC process, particularly under the Subsidiary Body for Science and Technological Advice (SBSTA)**

For example:

**SBSTA 47** (November 2017) recognised the importance of the development of climate indicators, including the ocean- related indicators: ocean heat content, ocean acidification, sea level rise and polar sea ice extent. It encouraged Parties to sustain observations underpinning these indicators. The SBSTA also recognized the Ocean Conference and its Call for Action and the importance of sustained ocean observations.

**SBSTA 48** (April/May 2018) encouraged Parties and relevant organizations to address gaps and needs including with regard to:

- the important role of the ocean in the global climate system, including for the global energy and carbon cycles and related impacts
- the recent and ongoing rapid changes in the Arctic

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<sup>4</sup> <http://www.eco-business.com/opinion/7-signs-of-progress-a-year-of-national-climate-action/>

<sup>5</sup> Ibid.

- vulnerabilities of ocean ecosystems
- analysis of the global carbon cycle

The SBSTA noted the importance of continued and enhanced support for climate change research, including enhancing research capacity, particularly in developing countries.

It also noted the urgency for enhanced science communication at the science/policy interface.

The UNFCCC secretariat welcomes the proposals for the two new working groups under this agenda item as part of the IOC ocean science portfolio and their importance for supporting the science/policy interface under the Convention and Paris Agreement.

1. In regards to the Ocean carbon research group - Oceans are an integral part of the carbon cycle with an important role in driving the climate and climate change and the UNFCCC secretariat welcomes the opportunities presented for addressing scientific gaps and needs.
2. In regards to the Multiple stressors group –The Paris Agreement recognizes the importance of ensuring the integrity of all ecosystems, including ocean ecosystems. Action under the Paris Agreement would ameliorate many of the climate change related impacts on these stressors. For example, ocean acidification can only be mitigated through strong emissions reductions as called for under the Paris Agreement.

*[Future engagement of IOC]*

In closing – I would like to encourage you to take into consideration the requirements of the Paris Agreement, at global, regional and national level, when planning the implementation of the United Nations Decade of Ocean Science.

Finally, there are possibilities within our mandates to report progress on the decade to the SBSTA, including through the annual SBSTA research dialogue. With this in mind – the UNFCCC secretariat would suggest a specific amendment to Decision 4.2, Annex 1, Paragraph 7 (on Page 11), and suggest an alteration of the text to :

7. ...The Working Group, in coordination with the UNFCCC Secretariat, may also assist in contributing to research dialogues and other relevant events convened under the UNFCCC.

The UNFCCC secretariat looks forward to working closely with the IOC as we move forward.

I am also pleased to announce that the UNFCCC is now a member of UN-Oceans.

I thank you, and I wish you successful deliberations.

**Mr Michael Lodge, Secretary-General of the International Seabed Authority (ISA)** *(video)*

Distinguished Delegates, Ladies and Gentlemen,

I wish to thank IOC-UNESCO for the invitation to deliver a statement at this 51st session of the IOC Executive Council. I am sorry that I am unable to be with you today but the Authority is currently holding the second part of its twenty-fourth session in Kingston, Jamaica.

Therefore, it is through this video message that I wish to reiterate the support of the International Seabed Authority to the Intergovernmental Oceanographic Commission at all stages of development and implementation of the UN Decade of Ocean Science.

We all agree that science, technology and innovation are critical if we are to achieve the Goals and Targets of the 2030 Agenda for Sustainable Development.

In this context, the Decade offers a major opportunity for member States and other stakeholders to work collectively towards common scientific objectives. These will include the mapping of the seabed, enhancing ocean observing networks, improved cooperation, coordination and communication between stakeholders and of course, increased participation of developing States in MSR programmes to enable them to develop their Blue Economy.

As Secretary-General of the Authority, one of my key priorities is to address the specific and complex challenges faced by developing States in that area. Generally, the development of scientific and technical capacity in developing States remains below its true potential.

This is most particularly the case for Small Island developing States and landlocked developing countries. But this can be reversed. That is why the Authority, following on from the 2017 UN Ocean Conference, is taking specific steps to implement its unique mandate to promote and encourage marine scientific research in the deep seabed and share the results of that research with developing countries. These steps include:

- The establishment of a long-term underwater monitoring system that will enable us to better understand the ecological functions of the deep-sea and their role in climate change;
- The publication of online taxonomic atlases, based on years of scientific study and sample collection, that will help to improve assessments of deep-sea marine biodiversity;
- The publication in a single database, managed by the Authority, of all the environmental data collected by deep sea mineral exploration contractors over several decades, including detailed mapping of the seafloor ; and
- Enhancing the role of women in marine scientific research, particularly women from developing States.

But we cannot do this alone. That is why we actively collaborating with IOC-UNESCO at all levels to advance our common objectives on the basis of the MOU signed between our respective organizations. I look forward to increased technical cooperation in the future and new opportunities for us to work together.

Bridging the technical gap between nations in the field of ocean science is essential. But the Decade can also play an important role in supporting the implementation of international law through the United Nations Convention on the Law of the Sea. This is the objective of one of the nine communities of ocean action established following the 2017 UN Ocean Conference. I am pleased to act as co-facilitator of this Community along with Mr Miguel de Serpa Soares, Legal Counsel of the United Nations. Science is essential to achieve sustainable development of marine resources in all parts of the ocean, and the Convention provides the legal basis for all activities in the ocean, including marine scientific research.

I am therefore confident that, together with IOC-UNESCO, we will continue to collaborate towards the “Ocean We Need for the Future We Want” and the achievement of the 2030 Agenda.

Thank you.

**Mr Frederic Briand,  
Director General of the Mediterranean Science Commission (CIESM)**

Thank you very much Chair, for giving us this opportunity.

Our Mediterranean Science Commission (CIESM) is old 50 years older in fact than IOC - and our bilateral cooperation in the past 50 yrs has grown on trust and the best science.

So it goes without saying that our Commission will support and take its share, in multiple ways, in the UN Decade on Ocean Science, a most important process.

There is always a certain dose of self-congratulation in our Mtgs. Therefore I will start rejoicing about one or two promising initiatives:

1st, regarding gender issues:

Our perimeter covers the Medit & the Black Sea a most sensitive, traditionally male-dominated Region. And yet we have succeeded in ensuring the presence of women researchers at the top of our programs and our scientific committees (ranging from geosciences, physics, to marine biotech.)

Women now constitute a healthy 52% majority at our large congresses. Surely what works for us could work in other Regions

2nd. we are testing the cooperation of fishermen network by incorporating marine social scientists at the interface of several projects starting with surveys of the extent of jellyfish blooms in the open sea which we rank after yrs of research as one of the top 5 marine concerns in the World Ocean.

By 2050, if current trends continue, the ocean will not only be plastic but also gelatinous.

Based on our Medit experience, we know that we must remain united and resist facility. We are ALL marine experts. We know that the WorldOcean is in deep trouble. We must keep telling this hard truth to our Member Gvnmts. We simply owe it to civil society

No, we will not resolve overfishing by 2020, not even 2030, considering the devastation of marine food webs and decimation of top predators. This is not trending down, this keeps going up.

Most scientists in our community have become convinced that we do not speak loud enough about other issues.

For instance

- a. the upcoming 6th wave of global species extinction;
- b. the emergence of marine bacterial pathogens with global warming.
- c. or dynamics of submarine canyons which constitute major geohazards for coastal cities, airports, harbours.

Our Agencies are like sentinels and have a vital role to play.

Let's not just be contented with a few 'buzz words' like sea-level rise, acidification ... they are just the trees that hide the forest.

### **Mr Mustafa Iptes, Director of the International Hydrographic Organization (IHO)**

Mr Chairman, Executive Secretary and Distinguished Delegates,

The IHO congratulates the IOC Secretariat and Member States for International Decade on Ocean Sciences for Sustainable Development initiative.

As the sister Inter-Governmental Organization and co-parent of the joint IHO-IOC General Bathymetric Chart of the Oceans (GEBCO) Project, the IHO considers that the UN Decade provides the great opportunity to raise awareness for a better understanding of the oceans which is key to a broader understanding of natural processes and the success of all human activities in, on or under the sea - including safety of navigation, protection of the marine environment, development of the blue economy and the sustainable use and governance of the marine domain which support the UN Sustainable Development Goal (SDG) 14.

The IHO also considers the UN Decade is an important endeavor that will trigger the critical contribution and urgent action needed for major advances in ocean science which informs policies and decisions and as well in the capacity to observe and manage the ocean towards the goal of healthy oceans, critical to support human life. We would also like to highlight the importance of the Decade in relation with global ocean mapping activities and the promotion and encouragement of innovative supplementary data gathering, maximizing, managing and sharing initiatives.

As conclusion, the IHO strongly support the International Decade on Ocean Sciences for Sustainable Development and pleased to express its active participation and contribution in the development of the Implementation Plan for the Decade.

**Ms Jaqueline Wood,  
Acting Executive Director of the Joint Programming Initiative Healthy and Productive Seas  
and Oceans (JPI Oceans)**

Good afternoon distinguished delegates, colleagues. Thank you for this kind invitation to comment.

**I am speaking on behalf of the Secretariat of the Joint Programming Initiative on oceans  
and Seas (JPI Oceans)**

JPI Oceans is a long-term strategic intergovernmental platform bringing together 21 European Countries Ministries with marine responsibilities and research funding agencies, and reaching out to international counterparts.

It is a voluntary partnership to address the challenge of achieving clean and healthy seas and oceans, by aiming to get best possible value from investments in marine research.

JPI Oceans does this through a strategic alignment of national research agendas as well as through specific actions, seeking to add value through cooperation, to enable cross fertilisation of ideas, knowledge and best practices.

The joint programming process uses a range of tools, such as the sharing of infrastructures and intercomparison of measurements, as well as developing and implementing joint funding calls for proposals in specific topics. Examples of JPI Oceans actions which respond to the global, European and regional policy agendas include the funding of research projects looking the effects of microplastics in our oceans, or the ecological impacts of deep sea mining, the development of new marine and maritime technologies. Actions are in planning across the range of the UN Sustainable Development Goals, be it in global climate change and the impact on the oceans, the cumulative effects of new pollutants or ways to realising the potential of the 'Blue Bioeconomy' for energy, food and nutrition security.

Marine science is inherently expensive, using costly infrastructures to access, monitor and observe the seas and oceans. JPI Oceans is a process that recognises the need to plan jointly, to pool efforts, avoid duplication of research, share data and ensure consistent approaches.

Whilst knowledge of the oceans needs to be downscaled to understand the impacts at the regional and local levels, there are also scientific questions that can only be addressed efficiently at an international level and in partnership. This needs ambition and strong leadership

In this context JPI Oceans Secretariat welcomes the proposal for the UN Decade of Ocean Sciences for Sustainable Development and warmly congratulates the IOC team for raising this high on the UN agenda. You will hear separately from our common Member Countries of course. At a practical level the JPI Oceans Secretariat has already engaged in a dialogue with the IOC secretariat. We would be pleased to inform the planning process and share our experience in developing a shared research and innovation agenda for marine research, some work we have done on a framework for monitoring and evaluation and the criteria for impact assessment for such

partnerships. We look forward also to contributing with tangible actions in the operational phase of the UN Decade of Ocean Sciences for Sustainable Development.

**Ms Wendy Watson-Wright,  
Chief Executive Officer of Ocean Frontier Institute (OFI)**

As the Ocean Frontier institute is taking the floor for the first time, we would like to thank the IOC for having granted us observer status at this 51<sup>st</sup> session of the Executive Council, and for inviting the OFI to contribute to the UN Decade planning.

OFI believes the proposed Regional workshops will play a crucial role in the development of new initiatives during the decade. However, we believe the number of regions should be increased to at least six to include the polar areas which appear to be absent in the current formulation. The Ocean Frontier Institute, working in conjunction with the Canadian delegation, would be pleased to contribute to a regional workshop focused on the sub-polar Atlantic.

We would also suggest that in addition to workshops, regional organizations should form subcommittees that would contribute and report to the Executive Planning Group, given the challenges such a small group would face in trying to stimulate new initiatives while addressing the wide range of regional interests.

We would further encourage the organizers to collaborate with and contribute directly to the numerous global community activities focused on ocean science and sustainability. OceanObs'19 in Honolulu next September 16<sup>th</sup> – 20<sup>th</sup> and OceanPredict'19, a GODAE initiative scheduled for Halifax, Canada May 6<sup>th</sup> – 8<sup>th</sup>, are 2 such examples.

Finally, the Ocean Frontier Institute strongly supports the inclusion of ocean literacy, gender equity, indigenous knowledge and capacity development as key areas of emphasis within the UN Decade of Ocean Science for Sustainable Development.

**Mr Cameron Diver,  
Deputy Director-General of the Pacific Community (SPC)**

Honourable Chairman, Executive Secretary, colleagues,

Greetings from the Pacific Community and our 26 Member States and Territories of which 22 are Pacific islands.

The countries of Oceania represent 20% of the planet's exclusive economic zones. However, we have limited data about the ocean and limited skill in applying what ocean data we have. The Pacific Community's island Members are among those leading a push to "know your ocean" and advocating for improved ocean intelligence. In response to this need, the Pacific Community is focusing energy and resources on providing more ocean data, better communicating ocean science to inform decision-making at international, regional and country level, and using ocean science to contribute directly to resilient and sustainable development in the Pacific.

The Framework for a Pacific Oceanscape was endorsed by Pacific Leaders in 2010 and the overarching goal is to "to protect, manage and sustain the cultural and natural integrity of the ocean for present and future generations and for the broader global community". And for this we need ocean science.

I am proud to say that the Pacific Community is home to many of the Pacific region's most robust ocean science research and technical support teams. These include our Coastal and Oceanic Fisheries Programmes, our Ocean and Maritime Programme, our Maritime Boundaries programme, our new Pacific Ocean Portal, which we launched on World Oceans Day this year,

and our Pacific Community Centre for Ocean Science (PCCOS). Through our expertise and capacity and in partnership with other agencies like the IOC, the Pacific Community stands ready to help design, implement and take action in support of the UN Decade of Ocean Science for Sustainable Development and SDG 14.

Colleagues, as we look toward the Decade, I would encourage you to think of Oceania not as “islands in a far sea” but rather as “a sea of islands”<sup>6</sup> and to remember the words of the celebrated Tongan/Fijian author Epeli Hau’ofa:

“Oceania is vast, Oceania is expanding, Oceania is hospitable and generous, Oceania is humanity rising from the depths of brine and regions of fire deeper still, Oceania is us. We are the sea, we are the ocean, we must wake up to this ancient truth”<sup>7</sup>.

And that ancient truth, ladies and gentlemen, could be a vision that we collectively own, protect and promote through the Decade: “the sea is our pathway to each other and to everyone else, the sea is our endless saga, the sea is our most powerful metaphor, the ocean is in us”<sup>8</sup>.

Thank you for your attention.

**Prof. Ziad Abu Gararah,  
Secretary General of Regional Organization  
for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA)**

Thank you, Mr. Chairman,

I am pleased to speak on behalf of PERSGA

and let me first introduce PERSGA very briefly. PERSGA is an intergovernmental organization dedicated for the conservation of the marine environment of the Red Sea and Gulf of Aden. The Member Countries of PERSGA are the parties of the Jeddah Convention (1982), PERSGA HQ is based in Jeddah, Saudi Arabia. PERSGA has also established a regional Emergency Mutual Aid Center based in Hrhada, Egypt since 2006.

Several protocols, and regional strategies dealing with various issues including EBM (Ecosystem Based Management), blue carbon and adaptation to Climate change, Fishery management, Spatial planning, have been adopted by the ministerial council of PERSGA.

PERSGA organized several marine research forums attended by all academic and research institutes from PERSGA member states to facilitate knowledge sharing and promote science-based management decisions.

It is worth mentioning that IOC was the first international organization to sign a MoU for technical Cooperation with PERSGA. The MoU was signed by Dr. Gunner Kullenberg in 1991.

As one of the many partners, PERSGA would like to express its interest in collaborating with IOC in the preparation and implementation phases of the UN Decade of Ocean Science for SD. We will communicate with member states and stakeholders in the PERSGA region to introduce the Decade and indicate activities, expected outcome and associated benefits.

We look forward for a very successful and effective collaboration with IOC.

Thank you.

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<sup>6</sup> Epeli Hau’ofa, “Our Sea of Islands”.

<sup>7</sup> Idem.

<sup>8</sup> Epeli Hau’ofa “The ocean in us”.



**Ms Marie-Alexandrine Sicre, President of the Scientific Committee on Oceanic Research (SCOR)**

Thank you, Mr. Chairman, for the chance to intervene on this agenda item.

The Scientific Committee on Oceanic Research, SCOR, appreciates IOC's leadership on promoting the UN Decade of Ocean Science for Sustainable Development.

Existing and new IOC-sponsored activities will benefit from the structure provided by the UN Decade.

SCOR looks forward to working with the IOC to implement the UN Decade through our co-sponsored projects, such as GlobalHAB, the International Ocean Carbon Coordination Project, and the second International Indian Ocean Expedition.

In addition to participating in the UN Decade with IOC, SCOR also contributed voluntary commitments following the UN Ocean Conference in June 2017.

Thank you, Mr. Chairman.

**Robin Brown, Executive Secretary of North Pacific Marine Science Organization (PICES)**

The North Pacific Marine Science Organization (PICES) is a non-UN regional intergovernmental marine science organization for the North Pacific Ocean. All of the PICES member countries are IOC member nations.

*The purposes of the Organization are as follows:*

- *to promote and coordinate marine research in the northern North Pacific and adjacent seas especially northward of 30 degrees North,*
- *to advance scientific knowledge about the ocean environment, global weather and climate change, living resources and their ecosystems, and the impacts of human activities, and*
- *to promote the collection and rapid exchange of scientific information on these issues.*

The objectives for the Ocean Decade are a very good match with the PICES mandate. Accordingly, in May 2017 PICES provided IOC with a letter of support to collaborate on the development of a plan for the International Decade on Ocean Science for Sustainable Development.

In response to recent communications with the Executive Secretary of IOC, PICES commits to work with other partners to organize a Regional Workshop in support of planning for the Ocean Decade. We look forward to working with the IOC to develop the approach for these Regional Workshops

Additionally, PICES will consider encouraging appropriate individuals to submit applications for membership on the Executive Planning Group. We are also in active discussions on the Ocean Decade with our network of partner organizations.

It is not too soon to start laying out the framework, objectives, schedule and locations for the global, regional and stakeholder workshops. We need the framework and objectives to get the right people in the right rooms. The right people are always in high demand, so it is important have as much notice as possible. This also allows participants and their organizations to prepare. This will improve the outcome.

**Embajador Mentor Villagómez,  
Secretario General de la Comisión Permanente del Pacífico Sur (CPPS)**

Gracias señor Presidente

Señor Secretario Ejecutivo de la COI

Distinguidos delegados

Es un honor representar a una organización internacional de cuatro países miembros: Chile, Colombia, Ecuador y Perú, y que tiene 65 años de existencia.

En primer lugar, quiero expresar el total apoyo y respaldo de la Comisión Permanente del Pacífico Sur a la iniciativa sobre la Década de las Ciencias Oceánicas aprobada por la Asamblea General de las Naciones Unidas y liderada por Comisión Oceanográfica Intergubernamental, la cual está en línea con las prioridades de nuestra región y con iniciativas internacionales como los Objetivos para el Desarrollo Sostenible y en particular para alcanzar las metas del Objetivo 14.

En efecto, permítanme resaltar el compromiso regional adoptado por los Cancilleres de CPPS en la Declaración de Galápagos de 2012, mediante la cual "Reconocen la necesidad de adoptar el criterio de hacer evaluaciones integradas del océano como lo establece el Proceso Ordinario de Naciones Unidas, para lo cual se comprometen a colaborar en los programas de investigación científica integrada de los ecosistemas marinos dentro de las áreas de jurisdicción nacional, y a proyectar esos esfuerzos más allá de esas zonas a toda la Cuenca del Pacífico."

Asimismo, resaltar el trabajo que venimos realizando en conjunto con COI-UNESCO a través de diferentes programas y proyectos como GRASP, OBIS, IODE y el proyecto SPINCAM, para fortalecer capacidades en la región en materia de oceanografía operacional, gestión de riesgos, gestión de información y datos, manejo costero integrado y planificación espacial marina.

Desde hace muchos años ya, la CPPS lleva a cabo acciones concertadas regionalmente para la vigilancia integrada del océano en escenarios de variabilidad climática a través del Protocolo sobre el Programa para el Estudio Regional del Fenómeno El Niño en el Pacífico Sudeste (ERFEN).

Con estos antecedentes, me es grato manifestar el interés de CPPS de hospedar un taller regional de consulta en alguno de los países de la región en el año 2019. Luego de un proceso interno que realizaremos con los Estados Miembros, estaré en capacidad de ratificar este ofrecimiento y señalar mayores detalles sobre el mismo, lo antes posible.

La CPPS tiene interés también en nominar expertos para que participen del foro de consultas para promover las necesidades de la región.

En resumen, señor Presidente y señores Delegados, la CPPS está lista para asumir un liderazgo en la región del Pacífico Sudeste para impulsar el avance de la iniciativa y aportar a que se alcancen los objetivos que se propone.



ANNEX III

**IOC ROGER REVELLE MEMORIAL LECTURE, 2018**

**Celebrating a hundred years of oceanography**

by Prof. Walter Munk

*Physical Oceanographer and Geophysicist (Austria)*

**5 July 2018, 16:45**



For all of human history, life in the oceans have greatly helped humans. Walter Munk was born in Vienna, Austria on October 19, 1917. He is a Physical Oceanographer and Geophysicist whose career, spanning eight decades, includes contributions to our understanding of ocean currents, tides and deep ocean mixing, wind waves, tsunamis and seismic waves, and the rotation of the Earth. His pioneering work in Acoustic Tomography made it possible to measure ocean temperature and currents by means of acoustics. He has been at Scripps Institution of Oceanography since 1939, where he created the

Institute of Geophysics and Planetary Physics in 1962 and, with Damien Leloup, founded the Scripps Center for Marine Archaeology in 2015.

His early work on wave predictions in World War II, in collaboration with Harald Sverdrup, led to the first successful Allied offensive of the war in northern Africa (Oran). The predictions were used in the Pacific Theater of War and, ultimately, for the landings in Normandy on D-Day. According to Blair Kinsman (1965: Wind Waves), "There are some thousands of World War II veterans alive today who would have been dead in the surf had Sverdrup and Munk not done the best with what they had."

In the early 50's Munk observed the Enewetak H-bomb test in the Marshall Islands from a lonely 4' by 4' raft located about five miles off-shore as part of a tsunami warning system for near-by islands. In the 60's Walter recorded the progression of waves along six stations positioned on the great-circle route, stretching 6,000 nautical miles from New Zealand to Alaska. The experiment proved that the California summer swell can originate in the Indian Ocean, halfway around the world (much to the delight of the surfing community). The Heard Island Feasibility Test of 1993 demonstrated that low-frequency sound pulses could be recorded half-way around the Earth, confirming the use of Ocean Acoustic Tomography as a tool for monitoring global ocean warming.

To celebrate Walter's centennial birthday in 2017, the La Jolla Shores community named La Vereda, the Kellogg Park Boardwalk, WALTER MUNK WAY. It was especially meaningful, because the boardwalk is adjacent to the beach where Walter did some of his first pioneering work on how the bathymetry of the "Grand Canyons of La Jolla" effect the waves coming into the shore.

Walter's career keeps taking him back to the study of waves; he is currently attempting to learn more about the physics of wind drag on the ocean, a central problem of physical oceanography. He is also focusing on climate change with an emphasis on sea level rise.

Throughout Munk's career, he has worked closely with the Navy and has the singular honor of holding the Secretary of the US Navy Chair in Oceanography at Scripps for the past 35 years. Among his numerous awards and honors, he has received the National Medal of Science (1985), Kyoto Prize (1999), Prince Albert I Medal (2001), Crafoord Prize (2010), Explorers Club Medal (2014) and been elected a Member of the National Academy of Science (1956), the American

Philosophical Society (1965), the Royal Society of London, Foreign Fellow (1976), the Russian Academy of Sciences (1994) and the Ocean Elders (2017). On July, 3rd Walter Munk will be awarded the title of Chevalier de la Légion d'Honneur by the French authorities.

See article on the IOC website: "[Celebrating a hundred years of oceanography](#)"

[http://www.unesco.org/new/en/natural-sciences/ioc-oceans/single-view-oceans/news/celebrating\\_a\\_hundred\\_years\\_of\\_oceanography/](http://www.unesco.org/new/en/natural-sciences/ioc-oceans/single-view-oceans/news/celebrating_a_hundred_years_of_oceanography/)

## ANNEX IV

### INFORMATIONAL ANNEX

Record of Member States' interventions at the 51<sup>st</sup> Session of the IOC Executive Council that were provided to the IOC Secretariat by the respective Member States. Interventions are reprinted without review or verification.

#### **3.1 Report of the Executive Secretary on the Work Accomplished since the Twenty-Ninth Session of the Assembly and on Budget Implementation (July 2017–May 2018)**

##### **Brazil**

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As we had the opportunity to share in our comments to the first draft, Brazil underscores as a high priority the integration in the Implementation Plan of mechanisms to foster South-South or North-South cooperation. In this sense, we attach great importance to initiatives bound to stimulate marine scientific research, such as researchers' exchange programmes and sharing of infrastructure associated to reference research centers - vessels, equipment, and laboratories.

At this session, we have a very important task ahead of us related to the UN Decade of Ocean Science for Sustainable Development. The approval by the UN General Assembly of the Decade testifies the existence of a global consensus towards the importance, the need and the role of Ocean Science to the environment and to society, once it recognizes Science as a prerequisite for the sustainable management and use of the ocean.

In the context of the Decade Implementation Plan, we would like to emphasize, as well the relevance of existing IOC networks and initiatives, such as the GOOS, and, particularly in the South Atlantic Region, OCEATLAN, which congregates efforts of Argentina, Brazil and Uruguay, as strong tools of cooperation. We believe that the Decade, while providing a great opportunity to raise visibility to those programmes, would also benefit from their strengthening.

We believe that this Roadmap is an excellent guiding framework for further developing the Decade objectives, modalities and outcomes, and we are willing to take part in further discussions. The Brazilian Delegation is looking forward to participate in the very important and fruitful discussions we will have for the next 3 days.

##### **Canada**

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Canada is committed to working with other countries on the collection and dissemination of ocean data to support sustainability and resilient communities. We are championing ocean observation within the commonwealth's blue charter initiative and will be seeking partners in these efforts.

Canada is also delighted to serve as cohost for the upcoming blue economy conference, with Kenya, in Nairobi in November and welcoming countries to the g7 ministerial meeting on climate change, oceans, and clean energy in the fall.

##### **China**

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Since the 29th IOC Assembly of 2017, China has continuously supported and participated in the work and activities under IOC framework, which include but not limited to the following :

The seventh and eighth training course was held by IOC/UNESCO Regional Training and Research Center on Ocean Dynamics and Climate (IOC-ODC Center) hosted by China. This center has trained more than 300 young scientists for IOC member states in recent eight years. Officials and experts from China have actively engaged in JCOMM-5 in last October. The Third Sino-Africa Forum on Marine Science and Technology was co-organized by China and IOCAFRIKA in Hangzhou in last November, with the participation of over 30 officials and experts from ten Africa member states, which has achieved very fruitful and pragmatic outcomes. Also in 8th May of this year as mentioned in Dr. Ryabinin's report, the inauguration ceremony of the IOC South China Sea Tsunami Advisory Center (SCSTAC) was held in Beijing, which is not only China's contribution to IOC tsunami early warning cooperation, but also the achievement of joint efforts of South China Sea neighbouring member states and IOC Secretariat. And we were honored to have Dr. Ryabinin and the leader of the Ministry of Natural Resources jointly launched the unveiling ceremony SCSTAC. Besides, dozens of experts from China participated in IOC programs, projects and meetings in capacity development, marine spatial planning, marine debris, marine bio-resources, HABs, ocean acidification. And

one expert has also been seconded to IOC Secretariat for two years since 2017. Hereby we would like to express our sincere appreciation to the hard work of Dr. Ryabinin and IOC Secretariat since the 29th IOC Assembly, and we would continue to cooperate closely with IOC Secretariat to advance collaboration under IOC framework.

### **Côte d'Ivoire**

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Le premier point sur lequel je voudrais insister et cela a transparu dans la réunion du comité directeur du GOOS tenue à Santa Marta en Colombie, il y a 10 jours, c'est : (i) la prise en compte des besoins réels des utilisateurs et des communautés locales dans la définition de la stratégies de la COI ; (ii) la reconnaissance de l'apport des alliances régionales GOOS dans la visibilité des actions de la COI.

Le second point que je voudrais souligner porte sur le renforcement des capacités. La Côte d'Ivoire apprécie à sa juste valeur, l'appel fait par le secrétaire Général en faveur du renforcement des capacités en Afrique.

A ce sujet la Côte d'Ivoire note que bien souvent, dans les réunions internationales, la mention faite à cette question se rapporte à l'existence de réunion, de séance de formation de quelques jours.

Je voudrais indiquer que beaucoup de choses de bien se font en Afrique à travers les universités, les instituts et centre de recherche dans la formation initiale et la formation au niveau supérieur où des programmes de Master et PhD sont mis en œuvre dans des domaines aussi variés que sont l'utilisation de la télédétection, l'océanographie physique l'océanographie humaine et la pêche etc. Ce sont des efforts financiers énormes que font les Etats africains.

### **Indonesia**

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Indonesia would like to add information:

Capacity Building: A part from the reported existing Training Center for Marine Biodiversity and Ecosystem Health, it is very important to add in the report such an additional prominent Training Center for Tsunami Early Warning System, hosted by Indonesian Agency for Meteorology Climatology and Geophysics in Jakarta. This Center is a part of IOC's IOTIC (Indian Ocean Tsunami Information Center) programme in Indonesia, which serves as the Regional Training Center for Indian Ocean Tsunami Early Warning System (IOTWS).

Several capacity building which have been conducted by IOTWS, include the latest activities during 2017 and 2018 as follows:

- a) Training Tsunami Early Warning Standard Operating Procedures (SOPs)
- b) Training workshop on Tsunami Inundation
- c) Training on tsunami modelling
- d) Training on Evacuation Map

Considering that Indonesia is also member of WMO Executive Council, where DRR issues is one of major concern within WMO as well as IOC, Indonesia would like to propose to modify the tag line as stated by Executive Secretary "Healthy Ocean" into: "Healthy and Safe Ocean" -- to address the importance of safety aspects of marine activities.

### **Italy**

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Italy believes that UN decade of ocean is an important opportunity for IOC. Italy that one of the major challenge of the decade will be to demonstrate we have moved from observing system, designed to meet the needs of the scientific community, to an integrated observing system (based on in situ, satellite and models) yielding the information necessary to the study of oceanic processes and meeting the user needs (institutional users, national and regional services, and common citizens). Italy is strongly involved on this activity in the framework of European and National effort and it will ready to contribute to this challenge. In addition, Italy is implementing the coordination action for the blue growth economy of Mediterranean region which is the key priority for Italy.

Italy believes that there is a real need for a recognition of Mediterranean Sea as one of a IOC regions this will allow to link the northern and south part of the Mediterranean Basin activity members.



## Japan

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- i) Japan reiterates the importance of regional aspects, and in particular, on behalf of WESTPAC Member States, appreciates Executive Secretary for the continuous supports and for paying close attention to the region.
- ii) The proclamation at the UNGA in December last year on the UN Decade of Ocean Science for Sustainable Development, was one of the most significant achievements of the Commission, which has provided really positive impacts to the ocean community in the world. Japanese government in this regard published 'Basic plan on ocean policy' in May 2018, as a Cabinet Decision. The plan also mentioned about the Decade and stated that Japan should actively participate in and contribute to the preparatory processes:
- iii) Japan would make comments on other important issues including BBNJ discussions and disaster prevention under the respective agenda items later during the present session of the Executive Council.

Japan is very much pleased to keep contributing to all of the activities of the Commission, by keeping and enhancing close collaborations with Member States and partner organizations.

## Kenya

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Kenya appreciates the work accomplished by the IOC Secretariat and the role of the Intergovernmental Oceanographic Commission (IOC) in supporting Member States in the achievement of SDG 14 on the ocean. Kenya also welcomes the contribution of IOC to the United Nations Decade of Ocean Science for Sustainable Development (2021-2030).

Kenya further welcomes the efforts to promote ocean literacy. To this end, we would like to highlight the important role of the Ocean Teacher Global Academy (OTGA).

We further wish to highlight the need to continue reaching out to the young scientists and young people in general. Fostering youth engagement and participation is critical to the design and implementation of solutions that will foster sustainable development.

A High Level Conference on Sustainable Blue Economy will be held from 26 to 28 November 2018 in Nairobi, Kenya. The Conference will provide an opportunity to inject fresh ideas into the international discourse on sustainable utilization and management of the blue economy. It will also be a platform for sharing good practices and information relevant related to the blue economy.

Kenya appreciates the Secretariat of the contribution of the IOC Secretariat to the High-Level Conference. We also take this opportunity to invite IOC Member States to the High-Level Conference and appreciate the support received from several Member States particularly Canada.

## The Philippines

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We note the significant development that the UNESCO General Conference at its 39th session fully recognized the functional autonomy of IOC. This recognition may have important ramifications on how member states could value and increase support to IOC and ocean-related activities at the national and regional level.

With the broad scope and breadth of IOC activities and programs, our role as country and sub-regional representatives is to take more seriously the call of Sylvia Earle and lessen ignorance among our people and increase the visibility of the Ocean. The Philippines is committed to this call, will continue to contribute to national, WESTPAC and global initiatives of IOC, especially in the area of capacity building. We look forward to participating actively in the Decade of the Ocean Science for Sustainable Development.

## Portugal

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In particular, as concerns the responsibility of IOC in the development of the Implementation Plan for the UN Decade of Ocean Science for Sustainable Development, we fully recognize the need to mobilize IOC member states to contribute to help the Secretariat to fully accomplish this major task. Portugal considers the UN Decade a major joint endeavor that will trigger the critical contribution and urgent action needed for major advances in ocean science and global observation systems to support science-informed governance decisions towards the goal of healthy oceans, critical to support human life. Among the various key tasks programmed, we would like to stress in particular the importance of the Decade as concerns global ocean mapping at an adequate scale, essential for our knowledge of the ocean and for modelling natural hazards - we cannot protect what we do not know! IOC has a critical role in supporting the joint IHO/IOC General Bathymetric Chart of the Oceans and to contribute to mobilize member states to contribute to this process

and contribute to GEBCO. Portugal is now preparing its contribution to assist the Secretariat in the development of the implementation Plan for the Decade.

As a final note, please let me use this opportunity to invite you all to participate in “Oceans Meeting 2018”, that will take place in Lisbon on the 20th and 21st of September, which will be dedicated to “Blue Circular Economy, Port Tech Clusters and Green Shipping”. The event is composed by an International Conference and a Ministerial Meeting. In addition to the Oceans Meeting 2018, we would also like to invite you all to the “BioMarine Business Convention” that will take place in Cascais from the 3rd to the 5th of October.

## **Thailand**

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Thai government has continuously supported the IOC through WESTPAC’s activities to serve the need of the Member States, the region, and the global.

There were several activities Thailand provided such as:

- the First WESTPAC Training Workshop on the distribution, source, fate and impacts of marine microplastics in September 2017;
- the 4th WESTPAC training workshop on monitoring the ecological impacts of ocean acidification on coral reef ecosystems in December 2017; and
- facilitated a side event of WESTPAC during the “ASEAN Conference on Reducing Marine Debris in ASEAN Region,” in Phuket in November last year.

We recognize the role of the IOC on the UN Decade of Ocean Science for Sustainable Development, and will strongly explore all possibilities to support and implement on the UN Decade.

Thailand has kept and will continue our support to the IOC through WESTPAC especially on capacity building and technology transfer, which is one of the key elements to develop science knowledge in the region.

As we are well recognized in the role of WESTPAC on capacity building, especially on the IOC-Regional Training and Research Center (IOC-RTRC) which provides an opportunity to young scientist to increase their capabilities to serve the need on marine science research and development of the member countries, Thailand is currently working on coordination with various institutional concerned to fully support the establishment the IOC-RTRC in Thailand to serve an increasing demand of the region beyond the existing support on regular training courses of the WESTPAC.

## **United Kingdom (Observer)**

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Mr Chairman, the United Kingdom would like to express its appreciation to the Executive Secretary for his thorough and comprehensive report. As described in his excellent report, the importance of the ocean is now increasingly recognised.

By way of example, the UK Foreign Secretary Boris Johnson on 22nd June 2018 unveiled an ambitious plan to bring together all of the UK Government’s international oceans work under a single strategy for the first time.

The UK Government will agree and implement a new oceans strategy, under the aegis of the FCO, which will cover work from departments including Department for Environment Food and Rural Affairs (Defra), Department for Business Energy & Industrial Strategy (BEIS), Department for Transport (DfT) and Department for International Trade (DIT).

The strategy will be developed over the coming months. Responding to the recommendation from the Government Chief Scientific Adviser’s Foresight Report (‘The Future of the Seas’ published in March 2018) to develop a more strategic approach to marine and maritime policy, it will provide a blueprint for international action by Her Majesty’s Government towards the oceans that supports the long-term prosperity of the UK and the long-term health of the marine environment.

The UK looks forward to participating in activities of the Decade of Ocean Sciences for Sustainable Development.

## **IOC Regional Committee for the Central Indian Ocean (IOCINDIO)**

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Being a recently revived regional body, IOCINDIO needs still more support to go ahead and take up activities in the region. I am sure that it will be provided by the IOC and the secretariat.

## **World Meteorological Organization (WMO)**

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WMO acknowledges the achievement in continued cooperation with the IOC, especially through the work of the Joint Commission for Marine Meteorology and Oceanography (JCOMM), the Global Climate Observing System (GCOS), the Global Ocean Observing System (GOOS), the World Climate Research Programme (WCRP), and support to Early Warning Systems, to address the global challenges of disaster risk reduction and climate change, and implementation of the Sendai Framework and the SDGs.

WMO is glad of the strengthened dialogue between the IOC Officers and WMO Bureau for improved coordination between our two Organizations. In light of this, the WMO President is pleased to be here tomorrow to present the WMO constituent body reform and WMO commitment to engage in the UN Decade of Ocean Science for Sustainable Development as discussed in the WMO Executive Council 70, last week in Geneva.

### **3.2 Work of the Primary Regional Subsidiary Bodies**

#### **China**

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There's no doubt that WESTPAC is one of China's most significant platforms to participate in IOC cooperation. China has been supporting and participating in WESTPAC's activities, and one Chinese expert was elected to the vice chair of WESTPAC. In China's view, WESTPAC has been one of the most active parts in IOC. The unity and constructive collaboration among member states, and the good operation of efficient regional offices are the keys of WESTPAC successful cooperation. We hope WESTPAC could follow the success practice and continuously play more significant role in IOC, particularly the preparation and implementation of UN Decade, also we hope IOC Secretariat and other coordinating bodies could give more support to WESTPAC.

Regarding the IOCAFRICA cooperation, China has provided consistent support to the work of Africa in IOC over the years. On one hand, part of our annual contribution to IOC has been used in the capacity development of IOCAFRICA, based on which we have hosted three Sino-Africa Forums on Marine Science and Technology from 2013. Meanwhile, the Marine Scholarship of China funded 27 African students studying for master and doctor degree in ocean-related majors in last six years, and some of them have begun to work for the marine science career of Africa. On the other hand, we also conducted practical cooperation in blue economy, marine spatial planning, marine observation and marine science through bilateral cooperation. In September of 2017, China-Island Countries Ocean-related Ministerial Roundtable was held in Pingtan, China, with many senior officials from Africa active engagement. China will continue and strengthen our cooperation with IOCAFRICA and its member states with the principle of mutual benefit and win-win cooperation. We also would like to offer our assistance within our power.

#### **Indonesia**

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Indonesia especially would like to thank to the IOC Westpac Regional Office, PR of China, Government of Republic of Korea, Japan and Thailand for hosting various joint research and capacity development at regional level.

Secondly, Indonesia would like to take active role on the cooperative studies of Kuroshio and adjacent region (CSK-2) and linking the study with the action of the decade program lead by Japan; Indonesia will also continue to commit to be an active member state within IOC Westpac family. Considering Indonesia as a host of Regional Research and Training Centre for Marine Biodiversity and Ecosystems Health, we will host the training for young scientists on coastal ecosystem health on in October 2018 in Bali, Indonesia.

As Indonesia located between Pacific and Indian Ocean, we also support the initiative of IOC INDIO. We appreciate the effort taken by Indian and Kuwait in revitalizing IOC INDIO. Indonesia would be happy to join on coastal vulnerability index by providing our experts at the workshop being proposed in India.

Lastly, to support The Decade of Ocean Science, Indonesia with support of IOC Westpac Regional Office will host International Marine Science 2020 Conference, we welcome all executive member states to join the conference in April 2020 in Paradise Island, Bali. Indonesia also would like to contribute at global level by hosting UN Decadal International Program. Thank you,

#### **Japan**

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Japan expresses our continuous support to WESTPAC by using J-FIT (Japan Fund in Trust) and other appropriate mechanisms, as the regional cooperation in marine and oceanographic science are crucial as

well as global one. In particular, for the promotion of UN Decade of Ocean, Japan expect WESTPAC to work effectively on regional issues in the Asia-Pacific region.

For IOC capacity developments and marine technology transfer, WESTPAC has initiated networking and development of Regional Training and Research Centers (RTRCs) in the region, and is expected that the experiences on the success of RTRCs will be shared with the other activities of IOC.

### **The Philippines**

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At the risk of being self-serving, it is important to highlight some elements that may have contributed to the significant strides of IOC-WESTPAC. One of these was the establishment in 2008 of a relatively small scientific advisory group, as a mechanism for providing advice to the Chairperson and the Sub-Commission, including the scientific and technical review of Project Proposals submitted for adoption as WESTPAC Projects and on the development, planning and implementation of the activities of the Sub- Commission. The advisory committee meets formally and virtually (via Skype) several times a year.

A second element that has catalyzed interaction among countries in the region, especially among young scientists has been the holding of the IOC/WESTPAC International Marine Science Conference once every three years. This has brought together young students, researchers, scientists and stakeholders in ever-increasing numbers, the last one of which had almost 800 participants. This platform of meeting and exchange has increased the visibility of IOC and IOC-WESTPAC and, arguably, enhances buy-in of stakeholders.

Finally, the establishment of Regional Training and Research Centers by member countries and the additional RTRCs being proposed by others (including the Philippines) are addressing capacity building needs in oceanography, meteorology, and many facets of marine biology and ecology. This is a crucial development as the RTRCs of member countries build on each other's strengths in the various marine scientific disciplines and availability of resources.

### **Republic of Korea**

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The Republic of Korea recognizes that the activities of IOC/WESTPAC, in particular, are increasing, the science becomes stronger and its capacity becomes expanding fast, which makes significant influence on the society and the government policies in the region.

It is also noticeable that the IOC/WESTPAC activities fit very well to the objectives and scope of the UN decade of ocean science for the sustainable development and also to the goals of the UN 2030 agenda.

In this regard, the Republic of Korea would like to recommend the forthcoming Executive Planning Group of UN Decade of Ocean Science to pay attention to the activities of the subsidiary bodies such as IOC/WESTPAC. As a member of WESTPAC, the Republic of Korea will continue our support and contribution to the IOC/WESTPAC in this context.

### **Thailand**

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Thailand will continue our strong support to WESTPAC, both in-kind and in-cash, as well as to host the WESTPAC office in Bangkok.

In terms of capacity development to enhance the knowledge on emerging ocean science issue in the region, Thai government in cooperation with the WESTPAC secretariat, has successfully conducted various trainings and workshops, including joint research projects and programs, such as the ocean acidification, marine debris and microplastic, bio-diversity, harmful algal blooms, and projects under SEAGOOS.

As was earlier mentioned in the report of the IOC Executive Secretary that the Regional Subsidiary Bodies will play a key role in the implementation of the Decade, Thailand will closely cooperate with the Member States in the region and the IOC to support the preparation and implementation of the Decade, as well as to achieve the targets of the SDGs.

### **United Kingdom (Observer)**

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The UK welcomes the rejuvenation of IOCINDIO and are in the process of providing financial support. We will also consider sending a participant to the workshop on Coastal Vulnerability Index Mapping in Hyderabad, India in November 2018.

The UK would also like to emphasize our continued support to other regions, in particular IOCARIBE, where we work with a number of Caribbean countries including via the UK government funded Commonwealth Marine Economies Programme.

## **General Bathymetric Chart of the Oceans (GEBCO)**

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GEBCO has started the Seabed 2030 project. Seabed 2030 aims to greatly improve GEBCO charts by filling all the grids with real soundings by year 2030. Currently the coverage is 6.4%.

In order to achieve this challenging goal, regional cooperation, coordination and networking are the keys and very important.

GEBCO Guiding Committee thanks IOCINDIO for mentioning the importance of GEBCO.

GEBCO Guiding Committee wishes that all the regional bodies of IOC will invite Seabed 2030 officers to regional bodies' activities in person, directly or through GEBCO Guiding Committee.

### **3.3 Reports of Intergovernmental Coordination Groups for Regional Tsunami and Multi-Hazards Warning Systems**

#### **Chile**

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Los tsunamis han sucedido en el pasado, continúan sucediendo y seguirán sucediendo; Esa es la experiencia de nuestro país.

Es por ello que Chile participa activamente en el ICG/PTWS y otorga alta prioridad a las acciones tendientes a mejorar permanentemente su Sistema Nacional de Alarma de Maremotos y a contribuir con su experiencia al resto de los países de la región y miembros del ese Grupo. Por esta razón, Chile se ha ofrecido para ser el anfitrión del ITIC Training Programme-Hawaii (ITP-Hawaii in Chile) On Tsunami Early Warning Systems and the PTWC Enhanced Products, que se realizará en la ciudad de Valparaíso, Chile, entre el 01 y 10 de agosto de 2018. El anuncio e invitación a este evento se realizó a través de la Carta Circular COI N° 2721. En este sentido el Estado de Chile desea agradecer la confianza depositada para conducir este programa y reitera la invitación al entrenamiento mencionado.

#### **China**

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Firstly, China fully agrees the recommendation mentioned in the TOWS WG presentation, which encourage the member states to increase and sustain technical and financial support of tsunami early warning issues.

Secondly, we also highly value the importance of public awareness of disaster reduction and mitigation. We suggest that it could be combined with the efforts on Ocean Literacy, as one of the priorities.

Thirdly, we appreciate that the Chair of TOWS WG mentioned the IOC South China Sea Tsunami Advisory Center (SCSTAC), which is hosted by China. More information is following for information:

With great efforts by IOC Member States around the South China Sea region, the SCSTAC has successfully commenced trial issuance of its SCSTAC Products on 26 January 2018. The Inauguration of the SCSTAC was held on 8 May this year in conjunction with a Regional Training on "Strengthening Standard Operating Procedures for Tsunami Warning and the use of the ICG/PTWS SCSTAC Tsunami Advisory Products" in Beijing, China.

On its 7th Meeting in Hanoi, 6-8 March 2018, the Regional Working Group on Tsunami Warning and Mitigation System for the South China Sea Region approved SCSTAC's proposal to host one short-term international staff per year from the Member States around the South China Sea region, and agreed that the SCSTAC starts its full operation with target date set to the second half of 2019, and specific date to be decided by the Steering Committee of the ICG/PTWS.

China will continue to closely work with Member States around the South China Sea region under the IOC umbrella and provide sustained support on the operation of the SCSTAC to increase the public awareness and preparedness, and to cultivate the SCSTAC serving as a platform for regional cooperation and exchange, not only in the area of tsunami warning and mitigation, but also in a multi-hazards framework in years to come:

#### **Indonesia**

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1. Apart from Tsunami, Indonesia is also struck by Tropical Cyclones Cempaka and Dahlia in Dec 2017 and then Flamboyant last February. Learning from the presentation of Tsunami Early Warning and Mitigation System in North Eastern Atlantic, The Mediterranean and Connected Seas, as well as Other Coastal Hazard Warning System in Caribbean, indeed we realize the urgent needs for development of Integrated Science and Technology on both Oceanography and Meteorology. THAT IS WHY Indonesia strongly supports the establishment of Joint Committee WMO and IOC on Oceanography and Meteorology (JCOM).

Accordingly, we would like to host Observation Coordination Group in 2019 next year, in order to follow up the JCOMM Program.

2. During the meeting of the Working Group on TOWS (Tsunami and Other Hazards Related to Sea Level Warning and Mitigation Systems) on February 2018, it was proposed that in the near future it will be beneficial to utilize sub-marine cable for oceanographic, tsunami and ocean hazards sensors. At JCOMM-V 2017 in Geneva, this idea was also supported by the member countries.

In this regard, Indonesia would like to support this idea and propose to implement a pilot project on installation of tsunami sensors at sub-marine ocean fiber-optics cable in collaboration with telecommunication providers. Currently, the last stage of sub-marine fiber-optic cables are being laid out in eastern part of Indonesia, which will be part of our national broadband network Palapa-Ring. This can be the case for all of us to conduct pilot project for cable based tsunami early warning system.

## **Italy**

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As reported by the NEAMTWS chair, Italy is strongly involving on the North Atlantic and Mediterranean tsunami early warning System and INGV is Tsunami Service Provider” (TSP), serving since then several countries and Institutions in the Mediterranean region). Since in 2017 the Italian National Alerting System for seismically induced Tsunami has been established by law coordinating the activity of INGV, Civil Protection, National environmental agency. Real potentially tsunamigenic events in the operational phase has been demonstrated by the recent event occurred in Mediterranean, during which the First alert messages by CAT-INGV to NEAMTWS centers and Italian DPC were issued within 10 minutes from the earthquake origin time. Ongoing developments and future trends/needs foreseen by Italy are:

- To Improve the deepsea level monitoring with buoys or other instruments (none is available now in the Mediterranean and Northeastern Atlantic Ocean) and tide gauges.
- Involve northern Africa countries to improve seismic data monitoring and data exchange, as well as GPS and tide gauges.
- Probabilistic Tsunami Forecast for real time assessment of tsunami hazard (instead of the NEAMTWS Decision Matrix adopted today).
- At national level will be working on the Definition of the inundation areas for evacuation along the Italian coasts:

## **Japan**

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Japan appreciates the contribution of the TOWS-WG in globally harmonized development and implementation of warning and mitigation systems for tsunamis and other hazards related to sea levels.

Japan also would like to show our special interest on the upcoming Caribe Wave 19, which takes a tsunami case induced by an underwater volcanic eruption, because Japan also has a lot of underwater volcanoes in its territory.

Tsunami caused by an underwater eruption is one of the biggest concerns in the world, but there are great challenges in detecting and forecasting the occurrence of volcanic tsunami as well as in disaster management for such an event.

Japan hopes that the outcomes and findings of this exercise will be shared in the TOWS-WG.

Japan also looks forward to the continued efforts of TOWS-WG in coordinated development of the four ICGs in consideration of their individual situations.

## **Portugal**

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Portugal considers of extreme importance and high societal impact the existence of Tsunami Early Warning Systems, and has been actively involved in the implementation of the Tsunami Warning System for the NE Atlantic and Mediterranean region since the beginning.

Last year Portugal created its National Tsunami Warning Center, based at the Portuguese Institute for Sea and Atmosphere (IPMA), and started to provide tsunami services at national level, having declared its operational status during the ICG/NEAMTWS-XIV occurred in Lisbon in November. This implementation has been conducted in coordination with the National Civil Protection Authority (ANPC), which is a crucial entity in the process. We also highlight the contribution of several institutions, at national and international level, namely in the seismic and sea level data sharing process.

During the mentioned ICG/NEAMTWS-XIV →IPMA also announced that on January 2018 it will start its operations at regional level providing services for the NE Atlantic Region as Candidate Tsunami Service Provider (CTSP).

In this process, and due to the low frequency of tsunami events in the NEAM region, more and more exercises are essential for the preparation of the system, and we highlight initiatives as the NEAMWave17, which are crucial to test and validate the operational procedures.

### **World Meteorological Organization (WMO)**

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WMO has been involved in the support of these critical services since inception and the WMO Information System (WIS) contributes to the communication infrastructure for tsunami warnings.

Last year, IOC Assembly-29 asked ICGs to share communication tests with WMO. This has been well received by WMO Global Information System Centres, and this September these centres will be looking at collaborating with ICG communication tests as a part of WIS performance monitoring. To further reduce communication time, WMO would like to continue monitoring and using the results of the tests.

WMO welcomes the recommendation to Tsunami Service Providers and National Tsunami Warning Centres to continue populating the international register of alerting authorities through WMO National Permanent Representatives.

WMO remains committed to work together in the area of coastal hazards and multi hazard early warning systems. The new JCOMM Expert Team for Disaster Risk Reduction allows for strengthened collaboration between WMO and IOC in support of improved preparedness and early warnings.

### **3.4.1 Fifth Session of the Joint WMO-IOC Commission for Oceanography and Marine Meteorology (JCOMM-5), Geneva, Switzerland, 25–29 October 2017**

#### **Australia**

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Australia strongly supports the JCOMM-5 recommendations and in particular would like to note our progress in meeting many of the important outcomes from the session, including:

- Australia's leadership in the formation of the Worldwide Met-Ocean Information and Warning Service (WWMIWS) Committee comprising all METAREA Coordinator members, to better reflect the responsibility of members under the IMO's Safety of Life at Sea (SOLAS) Convention, and to implement marine specific Global Data-processing and Forecasting Centres (GDPFS).
- The nomination of Ms Lucie Blom as Australia's National Marine Services Focal Point.
- Australia's qualification as a marine-related centre for marine services, wave and ocean models, as part of the WMO Global Data-processing and Forecasting Centres, due to our High Seas forecasting role for the Worldwide Met-Ocean Information and Warning Service (WWMIWS) Committee.

### **World Meteorological Organization (WMO)**

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Due to the imminent volcanic eruption, the Session was relocated from Bali to Geneva with very short notice. WMO would like to thank Indonesia for their support and their very gracious offer to host the next Session in Indonesia.

In addition to the very positive gender comments by Co-President Pinarði, WMO would like to note that the participation of females at the Session was 20% more than in previous sessions, and that more than half of the delegates at the Marine Technical Conference were female. This is very encouraging in support of both the WMO and UNESCO gender policies for increased participation of women in science.

WMO and IOC alternate responsibility in preparing and coordinating the JCOMM Sessions. For JCOMM-5, the responsibility was with WMO. WMO would like to take the opportunity to express deep appreciation to the IOC Secretariat for the support provided to WMO before and during the Session.

The Joint IOC/WMO/Permanent Commission for the South Pacific (CPPS) Working Group on the Investigations of El Niño has been inactive for many years and last week, WMO EC decided to close it, recommending that its ToR be incorporated into JCOMM activities. WMO encourages CPPS to continue their collaboration with WMO and IOC through JCOMM, to provide relevant contributions to the investigations in El Niño. WMO invites the IOC, as the principal secretariat in the IOC/WMO/CPPS partnership, to initiate the process to close the Joint Working Group

## **4.1 Draft Implementation Plan for the United Nations Decade of Ocean Science for Sustainable Development**

### **Argentina**

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Como ya se dijera anteriormente aquí, la Década de las Ciencias Oceánicas constituye un hito y una enorme oportunidad. La Argentina apoya decididamente este proceso y participará en la ulterior elaboración de la Hoja de Ruta. En ese contexto, deseamos recordar que la Convención de las Naciones Unidas sobre el Derecho del Mar de 1982 (CONVEMAR) constituye el marco jurídico básico y esencial para todas las actividades de los océanos, y que sus normas deberán ser tenidas en cuenta en todo momento. Apoyamos lo manifestado previamente por Uruguay y también por Grenada en cuanto a enfatizar la participación de los Estados Miembros a través de un proceso de consultas abierto y transparente. Por otra parte, consideramos fundamental que en el Grupo de Planeamiento, y en el desarrollo de todo este proceso, se tenga en cuenta el equilibrio de género y que también exista una equilibrada participación de las distintas regiones geográficas. Finalmente, nos gustaría conocer mayores precisiones sobre cómo funcionaría el denominado Stakeholder Forum y quiénes serían las instituciones que podrían ser elegidas para participar en él.

### **Australia**

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It was extremely refreshing to hear from the potential partners that have expressed support for the decade. We warmly thank them for their presentations.

We would also suggest that as well as the statements of our potential partners being included in the final report from EC-51, that they be actively engaged in "writing" the next version of the Roadmap...as well as the Objectives...what do they see as critical objectives!

Australia will be a strong partner in the Decade. We note that many of the strategic objectives of the Decade as articulated in the Roadmap align with Australia's own science research objectives for our national marine domain – most prominently those regarding climate change impacts and capacity building for SIDS.

The Australian Government recently announced \$1.9 billion investment in national research infrastructure. This includes continued support and funding for the Integrated Marine Observing System – which is a GOOS Regional Alliance, funding for additional days at sea for Australia's National Marine Research Vessel, the RV Investigator, and increased investment in supercomputing capacity. These investments stand Australia in good stead to engage with the preparatory stages of the Decade.

Peter Thomson this morning underlined the importance of partnerships to the Decade. The Decade must engage the private sector and the science community together if it's objectives are to be realised.

We strongly support the additional consideration of gender into the draft resolution as proposed by Canada.

We all understand how critical the work by the Executive Planning Group will be between now and the commencement of the Decade. Australia urges the Executive Secretary in his coordination of the selection process for the Executive Planning Group to ensure that the proposed candidates are deeply committed to the work of the Group and are able to dedicate significant amounts of their time (for example in the order of 20% of their time) to the work of the Planning Group.

Additionally the Executive Planning Group members must include expertise in Ocean science as stated in the Terms of Reference, but this should include experts in not only physical oceanography, but also biogeochemistry and biology.

Australia intends to put forward some strong candidates for the Executive Planning Group, and will indeed explore all other methods to engage in this important initiative.

### **Belgium**

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Belgium is very supportive of the prospect of the Decade and wants to contribute to its success in several ways.

The Decade needs to foster real science-based improvements in our relation to the oceans, and, to that effect, ensure that it mobilises and galvanises new partnerships between all the relevant actors.

At the regional level in Europe, we look forward to opportunities to have conversations with other countries in the marine science organizations on the European scene with a mandate for marine science organization and planning. Different organizations should be instrumental in this.

At the national level, we will organize preparatory meetings with the scientific stakeholders, targeting in particular the upcoming generation of bright scientists and blue economy stakeholders, in order to shape our participation in the Decade.



As regards the objectives of the Decade for the IOC and the sustained operation of its important functions, we express a strong wish that the actions of the Decade should leave a lasting imprint on the organization, and have as a result that some of the functions of the IOC which currently have an insufficiently secure resource basis should come out reinforced for the future.

Finally, Belgium supports the addition to the draft Resolution on gender issues as proposed by Canada.

## **Canada**

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Canada welcomes the revised roadmap, and is pleased to see the explicit reference to the consideration of the incorporation of traditional knowledge in the materials and also reference to the need for broad engagement of academic, non-government and other partners in the development and implementation of the decade.

Effectively connecting the outcomes of the decade with policy decision makers requires early and continued engagement of this community throughout the process.

As the work on the decade continues, Canada looks forward to receiving additional details on planned governance including the nature of regional definitions and how connections will be made across geographic groupings and IOC organizational structures in the planning phase.

Further, recognizing gender equality is a priority of UNESCO, which was referenced by the director general in her opening remarks to the executive council, and that efforts should be made to provide strong role models for women in science, to build capacities of women in natural sciences and engineering, and bring gender considerations to the forefront, Canada has proposed an addition to the draft resolution put forward by Norway and the Republic of Korea, to reflect gender, and the text is currently captured in the version on the screen.

## **Chile**

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Considerando la importancia esencial que el Mar constituye para Chile, es que nuestro País ha tomado en cuenta las recomendaciones de la COI, relacionadas con el Proyecto de Plan de Aplicación del Decenio y las ha adoptado para establecer una Estructura Nacional que conduzca los esfuerzos asociados a esta iniciativa del Decenio.

Es por esta razón, que el Comité Oceanográfico Nacional (CONA) de Chile, decidió en su última asamblea celebrada el 01 de Junio de 2018, establecer un Grupo de Trabajo como parte de su tarea, considerando los siguientes objetivos:

- Identificar las instituciones y proyectos nacionales, que sean relevantes para las ciencias marinas en Chile y que puedan contribuir al ODS 14 y al logro de la meta 14.A.
- Evaluar y preparar los informes técnicos, sobre la situación y progresos relativos a la meta 14.A, del objetivo de desarrollo sostenible 14 de la agenda 2030.
- Analizar líneas de investigación y acciones factibles de emprender por la Comunidad Científica Marina Nacional en el marco del plan de ejecución del decenio de las ciencias oceánicas para el desarrollo sostenible.
- Proponer las acciones de coordinación necesarias para el establecimiento de un Programa Nacional sobre el Decenio.

Finalmente, Chile apoya la propuesta de Resolución elaborada por Noruega y Corea y de igual manera apoya la contribución de Canadá:

## **China**

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After being authorized by UN Assembly, the Decade has become the not only the task but also responsibility of IOC member states, China would fully support the work on Decade and IOC's leading role. We think as the only UN body specialized in ocean science and services, IOC should do more in the process, particularly the future implementation of UN Decade, meanwhile having a much clear vision for its future. As other member states, China has participated in the preparation of the Roadmap for the Decade and has fed back our comments to IOC Secretariat, herein I would like to reiterate our several principle comments: Firstly, we hope the Decade should be a strategic paper with quite ambitious rather than the description of current work with a summary of all work plan of programs; Secondly, considering the highly profile and wide coverage, the strong support from academy will be necessary; Thirdly, China agrees the suggestion of Thailand, that we support the IOC Regional Subsidiary Bodies (RSBs) play more significant and key roles in the preparation and implementation of the Decade, and we also suggest that IOC RSBs should also combine its current and

future process with the implementation of the Decade. Fourthly, we encourage IOC Secretariat strengthen the communication and coordination with other ocean-related stakeholders including international organizations and NGOs, as what you did today; Fifth, public awareness is also key for the future of Decade, we have responsibility to let our people rather than small group elite to know the importance of the Decade, as referred for many times, it is not a IOC Decade, it is UN Decade, it is also a Decade for global society. We also support the proposal of Canada on gender issue.

### **Côte d'Ivoire**

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Nous avons participé à plusieurs conseils exécutifs et c'est l'une des rares fois où l'on voit un conseil exécutif résolument tourné vers la science. La délégation de la côte d'Ivoire en tout état de cause félicite le secrétariat pour cet effort de mobilisation de la communauté scientifique mais également de toutes les parties prenantes de tous les pays en veillant au genre.

Vue la complexité de l'océan, la délégation ivoirienne considère que cette approche pluridisciplinaire et multisectoriel est la voie à suivre dans le cadre de l'élaboration d'une feuille de route adressée à un sujet aussi important que l'océan.

La Côte d'Ivoire adhère pleinement à cette démarche qu'elle soutient. Elle est prête à participer à toute réflexion tendant à relever le défi de la mutualisation de toutes les intelligences issues des différents partenaires en faveur d'un océan au service de l'homme.

Le seul petit regret est que l'on a l'impression que le budget ne semble pas en adéquation avec les enjeux. Toutefois La délégation ivoirienne demeure optimiste dans la mesure où il a été dit que les réflexions continuent sur ce sujet.

### **Germany**

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The Ocean Decade provides us with a unique opportunity to promote the importance of our oceans for the global climate, economy, tourism and society in its broadest sense. Now, it is upon us, all the member states of the IOC – and I stress all rather than a select few – together with relevant UN organisations and stakeholders to grasp this opportunity by filling the roadmap with life.

To this end, we are fully supporting the resolution submitted by Norway and the Republic of Korea. Among possible offers from other member states as well as many opportunities during the duration of the Decade, Germany is glad to announce that we offer to host the kick-off conference for the UN Decade of Ocean Science for Sustainable Development (2021-2030) in 2021. With this conference we wish to mobilize governments, science and societal groups with the aim of providing maximum visibility for the upcoming Decade. Thus we are offering Berlin as the location. We offer to work in the closest way possible with the IOC secretariat and the Executive Planning Group to ensure a successful start to this endeavour.

Furthermore, Germany offers to host one of the two Global Planning Meetings which are envisioned in the revised roadmap.

### **Indonesia**

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Understanding the importance of Ocean for Human Resiliency and Prosperity with respect to sustainable development, Indonesia would eager to support the UN Decade of Ocean Science for Sustainable Development (2021-2030), by actively participate in the research and education (capacity development) programs, especially those related to Sustainable Maritime Continent Science Development. Furthermore, we do support the Integration of Natural and Social Sciences, which must be addressed appropriately. Partnerships and synergy among Scientific Communities, Academia, Industries, Decision Makers and Civil Societies should also be the basis of Actions of this Decade.

Considering about 60% of Indonesian population are the millennial generation, we recommend the need for promoting inter-generation harmony by involving the youth such as students or young experts, starting from the planning stage, up to the implementation of the actions and evaluation/ enhancement of the Decade Program. This would allow the youth-friendly, innovative and attractive Decade Actions could be implemented and sustained.

Finally, with regard to the support of Indonesia, we would commit to voluntary participate in the Executive Planning Group, and also interested in hosting the Global Planning Workshop of the Decade, which will be held on the first quarter of 2019.

## **Italy**

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The Italy welcomes the revised roadmap for the UN Decade of Ocean Science for Sustainable Development and believes that decade is a unique opportunity to engage scientific community, stakeholder and citizens. Italy fully support the draft resolution prepared Norway and Republican Korea. Italy appreciates the bottom-up top-down approach that allow member states to contribute to R&D Priority Areas and Decade Implementation. Italy welcomes establishment of executive planning group which we would participate. The main areas of action of the UN Decade include: ocean observation, capacity development of ocean stakeholders, ocean literacy, ecosystem-based management to support blue economy, and hazards early warning systems, all these teams are priorities for Italy. Italy will support the UN decade its implementation plan. Italy is proposing to organize a stakeholder workshop for the Mediterranean region to support the blue growth linking up the BlueMed initiative (coordinated by Italy) with the Decade preparation. The objective of the workshop will be to discuss what could be role of the Mediterranean countries in the context of the UN Decade. The foreseen output of the workshop would be a proposal of projects to be implemented in the Mediterranean during the Decade. Italy would like to organize the workshop in Venice and contact with Venice UNESCO office is already started.

## **Japan**

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Japan fully supports the current revised road map as presented today, and also supports the contents of the draft resolution including the amendment proposed by the distinguished delegate of Canada.

Having heard all the statements made by partner organizations, institutions and programmes, we are very much encouraged to proceed our preparatory efforts, even in a rather short time frame within the next couple of years.

Japan will be pleased to make contributions to the planning process during the preparatory period of the Decade both at global and regional levels. At the regional level, in particular, Japan is ready to collaborate with the regional sub-commission, WESTPAC.

With regard to the proposed Executive Planning Group, Japan considers its importance in the process to formulate the implementation plan of the Decade, and would like to nominate a candidate for the Group according to the selection procedure of the Group, as one of Japan's contribution to the process

Finally, Japan would like to draw your attention that Japan will host the forthcoming 25th session of the IODE in Tokyo, February 2019. In conjunction with the IODE session, a one-day Scientific Conference will be organized where the UN Decade will be highlighted in terms of contributions from oceanographic data and information management to the Decade planning.

## **Kenya**

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Kenya strongly supports the United Nations Decade of Ocean Science for Sustainable Development (2021-2030) which offers an important opportunity to better understand the ocean and promote the protection and sustainable use of the marine ecosystem.

We appreciate the work that has gone into the preparation of the revised roadmap and welcome the draft resolution presented by the Kingdom of Norway and the Republic of Korea as well as the gender perspective highlighted by Canada.

Kenya concurs with the United Nations Secretary General's Special Envoy for the Ocean on the importance of building partnerships amongst all stakeholders and strengthening synergies between the United Nations agencies and programmes.

As part of Kenya's contribution to highlighting the importance of the ocean, we shall be hosting a High Level Conference on Sustainable Blue Economy to be held from 26 to 28 November 2018 in Nairobi, Kenya. In the spirit of collaboration we shall co-host the High Level Conference with Canada.

We believe that the High Level Conference will contribute to our common efforts to build a strong stakeholder engagement around the ocean. This is why the High Level Conference seeks to gather not only decision-makers but also United Nations Agencies, Regional Economic Communities, International Organizations, Civil Societies, Academic and Scientific organizations, Private Sector, youth and other stakeholders.

Cognizant of the importance of ocean science, Kenya is pleased to collaborate with the IOC in the context of the High Level Conference on Sustainable Blue Economy. We wish to reiterate our appreciation for the contribution and support of the IOC.

Kenya is also keen to see the realization of the United Nations Ocean Conference in 2020 which we are pleased to co-host with Portugal.

Kenya looks forward to further collaboration with all Member States and partners towards a successful United Nations Decade of Ocean Science for Sustainable Development.

## **Mexico**

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Para México, el estudio de los océanos y su dinámica espacial y temporal, ha sido de importancia histórica por razones académicas y por las necesidades de información de los diversos sectores que dependen de los mares nacionales. México considera que este “Decenio Internacional de las Naciones Unidas de las Ciencias Oceánicas para el Desarrollo Sostenible” es una gran oportunidad para incrementar el grado de colaboración entre naciones e instituciones para avanzar en un mejor entendimiento y aprovechamiento de nuestros océanos. México manifiesta particular preocupación por la contaminación, la acidificación, la desoxigenación y la sobreexplotación de los recursos del océano, así como la salud del Océano Mundial en general.

En consecuencia expresa su interés en continuar e intensificar las investigaciones científicas en estos temas en los mares mexicanos; con atención especial al Gran Ecosistema Marino del Pacífico Costero Centroamericano, de gran interés tanto económico como por su relación con el fenómeno de El Niño-Oscilación Austral y su importancia para el clima mundial. También México ve con entusiasmo la posibilidad de establecer relaciones de colaboración con los países de la cuenca del Pacífico sudamericano, a fin de facilitar la realización de estudios comparativos entre los sistemas de surgencias costeras de Humboldt y de California. La década puede ser también la ocasión para que México participe más activamente en organizaciones científicas internacionales como la Organización Científica del Pacífico Norte (PICES por sus siglas en inglés). Finalmente, México expresa su interés por continuar e intensificar los esfuerzos de investigación realizados durante las últimas décadas en la región mexicana del Golfo de México y Mar Caribe. En estos y otros esfuerzos, nuestro país expresa su interés en colaborar y, de ser el caso, coordinar los esfuerzos internacionales de investigación en estos temas dentro de los mares mexicanos.

## **Norway**

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Norway and Republic of Korea have submitted the Draft Resolution EC-29 (4.1) on the United Nations Decade of Ocean Science for Sustainable Development. The purpose of this resolution is to enable the planning phase to proceed as expected and described in the United Nations General Assembly resolution 72/73

I commend the progress that has been made possible already by IOC officers as well as contributing Member States, other interested parties and the Interim Planning Group in elaborating elements of the preparation phase of the decade.

I note that establishment of an Executive Planning Group is an essential part of the resolution, and that the involvement of Member States will be essential. I will now ask professor Haugan to explain the details in the resolution text.

## **Portugal**

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We would like to start by stating that we fully subscribe the Draft resolution proposed by Norway and the Republic of Korea, and the amendment concerning gender balance introduced by Canada.

We also would like to express our recognition for the great work that has been carried out in the revision of the Roadmap for the UN Decade of Ocean Science for Sustainable Development, prepared by the Secretariat, with the contributions of member states. This document is now much more objective and clear.

Portugal is highly committed to actively participate and contribute to the objectives of the UN Decade.

We also agree with the proposed Terms of Reference for the Decade Executive Planning Group, in which Portugal would very much like to participate.

Being aware of the resource Implications related to the coordination and development of the Implementation Plan for the Decade in the preparatory phase 2018-2020, and in particular as concerns the period 2021-2030, Portugal is committed to actively contribute to this Process.

Along this line, since Portugal has offered to host in Lisbon, in 2020, the 2nd United Nations Ocean Conference, together with Kenya, we consider this a unique opportunity to gather in the same place at the same time a very large number of decision makers, scientists and major stakeholders. As such, Portugal has the pleasure to announce that we offer to host during the 2nd Ocean Conference, the second Global Planning Meeting which is envisioned in the revised roadmap to take place in 2020.

## **Republic of Korea**

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Republic of Korea was deeply involved in making the Decade plan from the initial stage and especially January this year, Ministry of Oceans and Fisheries of the Republic of Korea concluded MOU with IOC secretariat for financial contribution as well as experts' secondments for the DECADE.

And also we internally establish the national committee that are composed of many experts as roadmap suggested. The national committee through the communication with IOC secretariat will make efforts to find the best way for the contributions towards achieving the goal of the Decade with regards to member states' contributions, the Republic of Korea would like to comment on the role of the Executive Planning Group and IOC secretariat.

As we know, the member states' contribution to the DECADE is critical for successful implementation. According to the 'roadmap' 3.5.2, there are going to be many forms of contributions by member states. But also there may be possibilities that member states do not know exactly how and when to make contributions and support for the project and programme base activities,

For example, if the Republic of Korea wants to host of a decade project or programme office as a way of contribution, it needs to be aware of the implementation plan as soon as possible and have consultations with Planning Group.

This is the actual concerns from the financial ministry of Korean government while we were having meetings with relevant ministry. So, predictability and communications are so much important for successful contributions by member states.

Given that the Role of Executive Planning Group is to make the draft implementation Plan, it should have the chances or opportunities to consult with member states who are willing to make financial contributions and should inform the plan in each stages while they are making a plan as often as possible.

If the planning group is not able to make such a role, IOC secretariat should do that kind of role instead.

## **Spain**

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España está de acuerdo con la propuesta de resolución de la República de Corea y de Noruega y con la enmienda planteada por Canadá. España agradece el excelente trabajo realizado por la Secretaría y la Presidencia de la COI por el desarrollo de esta iniciativa y también al grupo de trabajo que ha desarrollado la Hoja de Ruta, que consideramos que es un excelente punto de partida para el Grupo Ejecutivo de Planificación. España requiere que se aclare cuál será el mecanismo para enviar comentarios y propuestas sobre la hoja de ruta.

## **Thailand**

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We understand that there will be a large amount of work needed to be done for the implementation of the Decade during the next 2 years, in which the IOC would play the leading role.

As Thailand is the country facing two oceans, the Pacific Ocean on the right and the Indian Ocean on the left, we truly understand the significance of the sea and ocean which bring various benefits to people and create both economic and non-economic value for the nations.

Thailand would like to express our full support to the IOC in preparing the implementation plan of the Decade. We will actively participate and closely work with the IOC through the Regional Subsidiary Bodies to support the preparation and implementation of the Decade in the near future.

## **Ireland (Observer)**

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Ireland wishes to indicate its strong support for the development and implementation of the Roadmap for the UN Decade of the Ocean, recognising the unique opportunity to make significant progress to conserve and sustainably use the oceans, seas and marine resources. Ireland supports the resolution drafted by Norway and the Republic of Korea and the inclusion of the amendment on gender balance highlighted by Canada. We look forward to consult national stakeholders on how to contribute practically to the Roadmap. Ireland plans to engage constructively and deeply within this global partnership to successfully achieve the objectives and goals of the Decade of the Ocean.

## **United Kingdom (Observer)**

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The UK is very supportive of its emphasis on actions to achieve transformational change over the decade. The UK supports the proposed framing and articulation of the intended societal benefits, including in terms of a clean, healthy, safe and productive ocean.

The UK supports the draft resolution and in particular the establishment of the Executive Planning Group to guide preparation of the implementation plan and has interest in engaging in the nomination process.

Through the National Oceanography Centre, the UK has already provided a modest voluntary contribution in 2018 specifically for the Decade and will now be considering, probably under the auspices of the pan-Government UK Marine Science Coordination Committee, in what further ways we might contribute activities and resources to support the Decade.

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### **United States of America (Observer)**

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The history of the Decade goes back to the International Decade of Ocean Exploration. The United States was a leading part of that effort, which became truly global. We should endeavor to do the same. We are delighted to see so many members of the Executive Council stepping forward to support this initiative; that is what the Council should be doing: leading. Compared to the original Decade we see engagement and active involvement by even more countries, since more countries have the ability to contribute. Technology has transferred, and advances have been proffered.

In looking back to the original Decade, we should recall subjects such as investigating El Nino, which has resulted in seasonal forecasts around the world. Similarly, the study of the Arabian Sea monsoon has resulted in far better predictability of the monsoon that provides rain and nourishes two thirds of the world population, and project FAMOUS to explore the Mid-Atlantic Ridge, was completed by the collaboration of 6 nations. Finally, and this is more germane to the side event we had today, the morphology of the seafloor and contributions to GEBCO: let's get it done, and let's get it right.

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### **European Marine Board (EMB)**

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The EMB is a science-policy-interface organisation with >30 members which include the largest marine research organisations in Europe. We want to galvanise the European Marine Science Community for the Decade of Ocean Science and we therefore offer to focus on the Decade of Ocean Science in our EurOCEAN2019 conference in April 2019. EurOCEAN2019 is a high-level marine policy-science conference, co-organised with EC and EU Presidency and this might be a good place for an European regional planning meeting.

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### **World Meteorological Organization (WMO)**

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Regarding the composition of the interim planning group, there has been a lot of diversity of expertise. However, in the proposed Terms of Reference for the Executive Planning Group, it isn't obvious that the planning group will comprise the same breadth of expertise. WMO proposed clearer articulation of the expertise IOC is seeking in this group.

Listening to Peter Thomson today, it was clear that there is great need to engage the private sector, which may be a valuable contribution to the Executive Planning Group. This would ensure value of the private interests (which have direct links to sustainable economic development). Perhaps engagement with the private sector should be given more consideration in the Terms of Reference.

WMO noted that there has been a lot of engagement from science based Organizations, however ICSU was missing. Representatives from the community of science and academia are linked to ICSU. Learning from the WCRP review – there was importance given to nurturing these communities. WMO suggests that ICSU may play an influential role more actively if they are engaged directly.

WMO notes the expertise between WMO and IOC already exists through the Co-Presidents of JCOMM and their body of experts. WMO would like to know how JCOMM will be tapped into this process as it hasn't been clearly articulated so far.

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### **IOC Sub-Commission for the Western Pacific (WESTPAC)**

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Considering the importance of UN Decade of Ocean, WESTPAC is willing to contribute to the preparatory procedures for the UN Decade of Ocean according to a roadmap of the Decade, in cooperation with the WESTPAC member states, and other international organizations. This message is also a response to the interventions by China, Japan, Thailand, and all other WESTPAC countries.

## **4.2 Enhanced Coherence, Impact and Future Orientations of the IOC Ocean Science Portfolio in Support of the UN Decade of Ocean Science for Sustainable Development and 2030 Agenda**

### **Australia**

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Australia submits the following comments on the proposed Terms of Reference of the IOC Working Group on Integrated Ocean Carbon Research:

- Greater understanding of the net C sinks will become increasingly important as we struggle to manage the future climate. Therefore the working group on Integrated Carbon Research should extend beyond inorganic C. It is already well known that the inorganic CO<sub>2</sub> stored in the surface ocean is an important short term sink for anthropogenic CO<sub>2</sub>. Increased understanding of this aspect of the carbon cycle is investing in an increasingly precise description of the problem. It is the longer-term sinks of Carbon that need more research. Many of them are very poorly quantified. While many may be smaller in magnitude than inorganic C fluxes it is the sum of these net fluxes into long term sinks that need to be quantified and understood.
- The initial activity of the WG “a synthesis report on ocean carbon: current knowledge, gaps, and related research and observation requirements” should focus not just on gaps but on gaps in net fluxes leading to long term sequestration. These provide potential solutions to one of the most challenging problems of this century. A focus on delivering solutions to society rather than solving scientific questions needs to be part of the working groups ethos.
- Regarding the proposed Terms of Reference of the IOC Working Group on Multiple Ocean Stressors, Australia notes the following:
  - An initial effort should be to identify the best focus for the Working Group. In particular the risks posed by a wide range of stressors and their interactions should be assessed.
  - The efforts of the Working Group should seek solutions to the most serious risks posed by multiple stressors; those risks that also have a high probability of occurring.
  - In addition the Working Group should consider the potential for their solutions to be adopted. It is the fact that most stressors are managed by different agencies that most often leads to our failure to deal with multiple stressors. There seems to be almost a complete lack of a governance structure that will support the implementation of appropriate responses to multiple stressors. This extra challenge should be given significant consideration in the selection of activities by the WG.

### **Norway**

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Norway would like to commend the IOC for showing a will to proactively anticipate and respond to emerging issues requiring expert attention like these initiatives on integrated ocean carbon research and on multiple ocean stressors.

Within the ocean carbon initiative there is a need to increase the attention towards the High Latitudes. These are the areas where largest changes are occurring. There are still processes affecting the CO<sub>2</sub> uptake and sequestration that we are not fully aware of.

We would also like to draw attention to the need to discuss limitations and benefits of the use of different observational platforms and sensors/instrumentation in order to achieve global coverage with an appropriate accuracy and resolution in time and space.

## **4.3 Proposed Implementation Plan for Conducting the Second Edition of the Global Ocean Science Report (GOSR)**

### **Canada**

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Canada appreciates the success of the IOC and its collaborators in launching the 1st edition of the GOSR and the efforts of the IOC Secretariat and the editorial group in developing a way forward for the 2nd edition of the GOSR. While the launch of the first GOSR was well organized with good discussion, we have anecdotal evidence that its uptake in global ocean policy dialogue since then has been low. In addition to discussions on the content, there should be discussion on how to get greater traction for GOSR in these ocean policy and management initiatives, and establish it as the go-to source for information, in particular on information collection priorities.

The second edition of the GOSR could be an opportunity to commence discussion on how Indigenous and Local Knowledge (ILK) about the ocean could be captured, if not fully partnered with, the traditional science focus of the IOC.

Another issue is that, as is well recognized, we need to increase the number of member states that contribute to the report and also make sure that the report includes as much as possible contributions from the full range of organizations that produce marine science and technology within member states.

In that context, we know that capturing full the range of information can be difficult and we welcome the development of the data portal that can be accessed by individuals and organizations.

However, the positive impact of this change is partly counteracted by the requirement for one validator for each member state. This requirement creates the potential for inefficiencies and seems counter to the desired result to increase contributions from non-government entities.

In order to increase participation overall, there could be more consideration to streamlining the questionnaire, while maintaining continuity with the first edition. Perhaps, the 2nd edition could be focused on fewer key indicators that are required to establish a baseline to assess the impact of the decade on SDG 14.a.1. To assess how successful the decade has been in increasing and equalizing capacity across the globe, broadening participation in the survey may well be more important than going deep into each organization's contributions.

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### **Indonesia**

Indonesia would like to strongly support proposed implementation plan for the 2nd GOSR, and would commit to actively participate as member of editor, in order to share experiences of Indonesia in improving sustainable coastal & marine development, which will (but not limited to) focus on 2 implementation programmes on:

- 1) Community-based sustainable coastal & marine development, with the show case of Climate Field School for Farmers & Fishermen);
- 2) Innovation of maritime weather services, through modernization of state-of-the art data observation, processing & forecasting system, through Strengthening Climate & Weather Services Capacity (phase-2).

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### **Italy**

Italy appreciates for the GOSR for the report and support the initiative.

Italy contribute to the first report collecting information of 8 different organization involved in marine science including the data from all the University working on marine research. This was a huge effort of the Italian COI. Italy confirms the Italian contribution to the second report.

Italy welcome on the idea to have a section on Key message will be an important.

Italy would like to ask if there is any plan to ask the member state to be involved in the design of the GOSR and provide feedback on the template of the report.

We appreciate the plan to have an online questioner but for country in which the marine science is spread among different organizations it will not an advantage only if we have possibility get the information request by the questioner in advance before to start to fill the questioner. In addition, Italy requires that the filling of questioner will be allowed only to Italian President COI. This will allow the Italian COI to homogenize the data coming by different organizations and ensure consistency with the previous report.

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### **Kenya**

Kenya appreciates the work undertaken by the IOC Secretariat and the Editorial Board towards the preparation of the Second edition of the Global Ocean Science Report (GOSR).

We consider the report as a useful tool in generating increased knowledge regarding the ocean as well as in supporting Member States achieve the 2030 Agenda for Sustainable Development and the objectives of the United Nations Decade of Ocean Science for Sustainable Development (2021-2030). Kenya therefore welcomes the proposal to increase communication regarding the GOSR and highlighting key messages in the second report.

Kenya also welcomes efforts to draw on lessons learnt from the preparation of the first report. The first report highlighted the need to gather more input from some regions that provided few responses to the questionnaire related to the GOSR. We wish to highlight the important role that the IOC Sub-Commissions



could play in supporting efforts to get responses from Member States. We therefore welcome efforts to expand the regional scope covered in the report.

Finally, Kenya appreciates the in-kind contribution that is being provided by the IOC Secretariat in support of the GOSR.

### **Norway**

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Norway supports the proposed implementation plan for conducting the second edition of the Global Ocean Science report, as an important mechanism to measure progress and to track changes in ocean science.

And we will contribute actively to the second edition of the report by providing relevant data and information.

### **The Philippines**

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The Philippines appreciates the publication of the first Global Ocean Science Report and notes with anticipation the publication of the second edition. We note especially the value of the items to be included in GOSR-II for members of the IOC– why countries conduct and why they should enforce/support ocean sciences and innovative ways to measure ocean science outputs, among others.

We also recognize, however, that providing inputs to the proposed Chapter 3 of GOSR II- funding for ocean science - by some or possibly many member countries will remain a challenge. Our planning and budget ministries may not have an 'ocean lens' so the data on budgets and funding is likely lodged with many government agencies and academic institutions, disaggregated and, therefore, needing to be brought together.

Nonetheless, participating in this effort may precisely bring about the needed ocean perspective so the ocean agenda is given prominence in our countries.

### **Republic of Korea**

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First of all, the Republic of Korea would like to congratulate on the successful publication of the first edition of Global Ocean Science Report and acknowledge the efforts of the IOC secretariat, editorial board members and authors as well as the Member States.

Recognizing the importance of GOSR as a mechanism for measuring the progress of achievement of UN SDG Target 14.a and also as a foundation for UN Decade of Ocean Science for sustainable development, the Republic of Korea has been willingly supporting the preparation of GOSR by providing not only the financial support but also in-kind expert support.

Regarding the proposition of the IOC secretariat for the composition of the GOSR-II Editorial Board and its terms of reference, the Republic of Korea fully agrees on it with one comment; for the selection of the lead and contributing authors of GOSR-II, recommendations from the Member States, if there is any, need to be considered.

As for the GOSR Data Portal, we welcome it as an easily accessible platform to share information on marine science and its related capacities of the Member States and also as a useful information resource for policy-makers and other stake-holders. Therefore, the design and contents of the Data Portal need to meet such demands and be updated regularly.

We also note that the primary input data for the Portal should come from the Member States. So, we strongly encourage active participation of the Member States in the establishment of the Data Portal by providing relevant information in response to the GOSR-II questionnaire and survey.

In addition, it would be possible to link the GOSR Data Portal to some of the marine science related databases, if there is any, operated by each Member States, which would make the Portal more comprehensive and useful.

## **4.4 Follow-Up to IOC Custodianship Role in Relation to SDG 14 Indicators**

### **Australia**

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Australia supports the decision to recommend the 14.3.1 indicator methodology as provided to the IAEG-SDG. The IOC leadership in developing the methodology is a major contribution to addressing SDG14.3. The application of the methodology will also contribute to SDG 14.a, the development of scientific knowledge and ocean research capacity, with many nations now developing a research capacity to address SDG14.3.

Australia has been involved in the development and drafting of the methodology, including as co-chair of the Global Ocean Acidification Observing Network and attending meetings on the methodology.

Australia has a strong ongoing commitment to SDG 14.3.1. Data are being collected in Australia regional seas and in the Southern Ocean from moorings and ship-based sampling that meet the methodology requirements and will be provided through national data centres. This includes ocean acidification mooring data collected through the Integrated Marine Observing System on the Great Barrier Reef and in Southern Australian shelf waters, one of which was used to help define the requirements and sampling strategy approach. (<http://imos.org.au/facilities/nationalmooringnetwork/acidificationmoorings/>)

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## **Republic of Korea**

Korean delegation would like to express our sincere appreciation for the IOC. We are impressed with the fact that the GOA-ON and ocean acidification experts of the IOC have been developing the methods of 14.3.1, guidance of indicator methodology for ocean acidification, and 14.1.a. for the ICEP.

In particular, we strongly support for such efforts and believe that the IOC, based on experience and networks with international society, would make close relationship with the UN's ocean communities, SDG 14.3 and 14.1.

The Republic of Korea is aware of importance of developing the SDG 14 indicators for the progress in world ocean science, and would make continuous and broad support for the IOC's activities, the works of the UN decades and the Global Ocean Science Report.

Once again, we highly appreciate the IOC's hard work and hope that members of the IOC continue to have active role and make great contribution through global cooperation.

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## **4.5 Report of IOC Regular Working Group on User Requirements and Contributions to GEBCO Products**

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### **Chile**

Chile en su calidad de Miembro del Comité Directivo de GEBCO, concuerda con el informe presentado por el Dr. Alexander Postnov y está de acuerdo con las recomendaciones propuestas.

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### **China**

We attach great attention to the GEBCO activities, and have participated the GEBCO cooperation through the International Bathymetric Chart of the Western Pacific (IBCWP) regional mapping project and Sub-Committee on Undersea Feature Names (SCUFN) activities over years.

China fully commits to the IOC's continuous support to GEBCO, and will strengthen the participation in GEBCO project in the future. We also would like to reiterate our support on enhancing IOC's role in GEBCO. China believes that it is important to expand and deepen collaboration between the GEBCO and IOC Regional Subsidiary Bodies and member states, better addressing the IOC scientific community's need for bathymetry data and related products. For supporting IOC's engagement in GEBCO cooperation, we would like to authorize IOC Secretariat to allocate 10,000USD of our annual contribution to GEBCO related work from this year.

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### **Indonesia**

Located in active tectonic region, Indonesian seabed resemblance complex geomorphological features of submarine active faults, spreading center, trench, volcanoes and others importance features.

We acknowledge GEBCO data that help us to better understand those features especially for tsunami mitigation, Global Disaster Alert System, dan Global Data Assembly System (GDACS) and marine geoscience in general. Marine scientific expedition collects invaluable bathymetric data at depth ranging from shallow to deep water, in territorial and EEZ areas. We support that these scientific data may be contributed to GEBCO with respect to regulation and sovereignty of country members to enhance science and increase the visibility of GEBCO as expressed in the Report.

The Indonesian Agencies and Center for Hydro-Oceanography of the Indonesian Navy have conducted a systematic mapping of the seafloor comply with GEBCO traditional product, shallow waters as well as in deep water. Apart from these systematic mapping, effort to map the deep sea was done in order to uncover the geo-biodiversity nature of our sea. The collaboration between researchers and Hydrographic officer reflects our support to the Conclusion and Recommendation of the Report (no.24) and encourage other

country members to do so. We also collaborate with other IOC country members to map the uncharted region with disastrous marine hazard potentiality in Indian Ocean and would like to contribute the data to improve GEBCO resolution.

Indonesia support and is ready to contribute to GEBCO Seabed 2030 project.

## **Japan**

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As we could have learnt a lot from the side event on July 4, 2018, bathymetric data of higher quality are essential datasets for all of the ocean sciences and services, in particular, for the effective and successful implementation of the UN Decade of Ocean Science for Sustainable Development as well. Although the number of responses to the questionnaire received was much smaller than expected, Japan supports the suggested actions concluded in the report, IOC/EC-LI/2 Annex 7.

Japan would also like to emphasize the importance of enhancement of collaborations between IOC and IHO in promoting GEBCO project as one of the substantial contributions to the Decade implementation.

## **Portugal**

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Portugal recognizes the importance of the GEBCO project SEABED 2030, as one of the most important initiatives in ocean research. As an active member of IOC and the International Hydrographic Organization, Portugal has started a national project called “Mapping of the Portuguese Seafloor” that will contribute to GEBCO. Coordinated by the Portuguese Navy and the Hydrographic Office, with the involvement of Universities and other research institutions, it started in June 2017 and until today an area of about 110.000 km<sup>2</sup> in the North Atlantic was detailed surveyed by multibeam, revealing amazing new features, like the new field of deep water hydrothermal vents in the heart of the Mid Atlantic Ridge, just discovered three weeks ago.

I would like to highlight that this is the 8th hydrothermal field identified in the Azores region, but the first discovered by a Portuguese scientific team on board a Portuguese research vessel, which is a proof of the Portuguese determination to map the ocean and contribution to GEBCO.

We believe that many features are still to be discovered, new habitats, new species and new opportunities to set up marine protected areas to enhance ocean’s knowledge and health.

Portugal will continue to actively contribute to GEBCO and also, urges all Member States to contribute to the GEBCO mapping of the World’s Ocean. There is a world to discover underwater which makes this effort a very exciting work.

## **United Kingdom (Observer)**

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The UK is a long-standing supporter and contributor to the General Bathymetric Chart of the Oceans (GEBCO).

The UK hosts the GEBCO Global Centre, makes a significant contribution to the GEBCO Guiding Committee and has been active in the establishment of the Nippon Foundation - GEBCO Seabed 2030 Project.

The UK welcomes the Report from the Working Group on ‘User Requirements and Contributions to GEBCO Products’. The report is timely given the recent establishment of the Seabed 2030 Project. The UK believes the Report will provide valuable input to the shaping of future GEBCO Products and ensure GEBCO products meet the requirements of the IOC scientific community.

The UK notes that, seabed mapping whilst research and survey ships are engaged in other activities or in transit (in particular in the Area) can be an effective added-value activity. Moreover the UK also notes where research and survey vessels may not be fully utilized for science then, depending on how they are funded, the differential marginal cost of them being used for seabed mapping versus remaining in port can be relatively small.

## **General Bathymetric Chart of the Oceans (GEBCO)**

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The report includes many eye opening information and this will become one of the important guidance documents for GEBCO Guiding Committee to think about how to guide GEBCO Project. For your information Mr Chairman, some of the issues are already coped with by Seabed 2030 Project.

Mr Chairman, GEBCO Guiding Committee does not want to pose extra burden on the Working Group but because GEBCO Guiding Committee has started Seabed 2030 Project, the environment surrounding GEBCO has started to change rapidly. Four year interval may be too long as I am afraid.

#### **4.6 IOC Relevant Issues Related to the Intergovernmental Conference on an International Legally Binding Instrument under the UN Convention on the Law of the Sea on the Conservation and Sustainable Use of Biological Diversity of Areas Beyond National Jurisdiction**

##### **Argentina**

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La Argentina está convencida de que la COI será de gran utilidad en la asistencia que pueda brindar a los Estados Miembros en el cumplimiento del futuro Acuerdo y ha tenido presente en sus intervenciones durante los distintos PrepCom el trabajo que la COI viene realizando. En ese sentido, queremos felicitar a la Mesa de la COI por el trabajo que han realizado durante las últimas reuniones del PrepCom, el cual ha permitido darle una gran visibilidad a nuestra Comisión y ha permitido informar a las distintas delegaciones sobre del potencial de la COI en un futuro acuerdo; y apoyamos la propuesta de seguir participando a ese mismo fin en las distintas reuniones de la Conferencia Intergubernamental.

##### **China**

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China places a high value on the conservation and sustainable use of biodiversity in areas beyond national jurisdiction (BBNJ), we are willing to participate in the negotiation process, and continue to play a constructive role in this regard.

China agrees that the BBNJ international instrument should take full account of the needs and interests of developing countries, and should encourage various forms of international cooperation, including the creation of an international cooperation platform, the establishment of information sharing mechanisms as well as the utilization of the IOC, with a view to strengthening the capacity development of and the transfer of marine technology to the developing countries.

China encourages IOC to actively participate in BBNJ process and to facilitate access to and information-sharing of marine genetic resources. We recognize the significance of the Criteria and Guidelines for the Transfer of Marine Technology (CGTMT), which provides a good reference for capacity development and technology transfer with respect to BBNJ. We appreciate the effort of IOC and support IOC to play a more important role in capacity development and technology transfer, which constitute the key elements in the BBNJ international instrument.

##### **Japan**

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Japan commends the accomplished active role of the IOC to the BBNJ process because Japan is consistent to support the role exerted actively under the IOC mandate and competency. I would also like to make clear that I believe the mandate and competency of the IOC is not limited to the PrepCom and organizational meetings but also for the coming Intergovernmental Conference meetings as well.

#### **4.7 A Ten-Year Strategy for the Global Ocean Observing System (GOOS)**

##### **Australia**

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Australia would like to congratulate the GOOS Steering Committee for their excellent work in developing the draft GOOS 2030 Strategy and the consultative approach that has been at the heart of its development.

The Draft GOOS Strategy seeks to deliver a truly global ocean observing system and grow the systematic observations of the ocean beyond physical properties to better meet essential societal needs. And as John has presented this morning the connection to the SDG goals, the Decade and the strength in partnerships is evident in the GOOS Strategy and is to be congratulated.

The value that society derives from GOOS observations cannot be stressed enough, but unfortunately most people (i.e. the end users) don't know it. Current GOOS Ocean observations are widely used by the Australian research and operational communities and this is echoed around the globe. These observations underpin ocean forecasts, Numerical Weather Prediction (NWP), as well as seasonal and near-term coupled climate forecasts.

GOOS' mission to extend its observations across a wide range of essential ocean variables will exponentially enhance the value that scientists, meteorologists and indeed society at large can extract and utilise. Our challenge as global partners in GOOS is to strongly advocate to our governments for their sustained and expanded support for ocean observations and for the free and open sharing of data. Australia is hopeful that the Strategy in hand with the Decade will provide the perfect platform to achieve these outcomes.

Australia is a strong contributor to GOOS through its participation and leadership in ocean observing networks such as Argo, SOT, SOOP and Ocean-SITES, our national marine observing infrastructure IMOS is a GOOS Regional Alliance, and through several individual memberships on GOOS Panels and the Steering Committee. We would like to echo Germany's intervention regarding the significant value of the USA's contributions and all others to this globally significant network.

The design of a useful monitoring effort to assess longer term trends, the short term and small scale spatial variation also needs to be considered as part of the Implementation Plan. This does not seem to have been done for some of the important variables to be observed by this expanded GOOS.

One of the significant challenges for global observing is overcoming the low sampling effort in both time and space across truly huge areas of the world's oceans. While this challenge is recognized in the Strategy the success will hinge on the ability of the initiative to overcome this problem and fill these gaps. Capacity building and some more creative sampling regimes will be needed.

Examples of useful advances that are required include:

1. A priority for equipment to take the required observations developed into semi-automated versions for deployment by local people with basic training. The creation a pool of these instruments for deployment to multiple countries/agencies should be considered.
2. The training and support of local people. Possibly this could commence with the locating of alumni from previous training exercises (e.g. HAB identification), particularly from these under-sampled regions to assist in this global initiative.
3. Best practice guides developed and supplied in multiple languages and formats (printed, video, etc.)
4. Development of statistical techniques for time series analysis that can effectively use sporadic temporal and spatial sampling.

Australia will continue to be deeply engaged in the finalisation of the GOOS 2030 Strategy and the development of the GOOS Implementation Plan between now and the 30th IOC Assembly.

## **Brazil**

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We've found the Strategy very well worded and well organized, showing properly the main issues, proposing actions and stating the expected outcomes. However, it still requires a detailed Implementation Plan, stating how to implement proposed actions, responsibilities and, if possible, implementation expected timeline and associated costs.

With concern to the "urgent need to better connect observations to end users in governments, communities and industry", the first step is to strive to make data available in real time via website.

Concerning the aim of GOOS "to provide one integrated system that can deliver ocean information across three key application areas: climate, operational services, and marine ecosystem health", one needs to take into account that Operational means people, equipment, expertise, but, principally, commitment.

The task of "building community consensus", requires continuous commitment, since Stakeholders will only engage "with the system as a whole" when they feel they can benefit of it.

All the specific objectives listed in Goal 2 are regionally very important as guidance rules, especially for developing regions.

The same can be said about Goal 3 objectives: the understanding of "humans impacts of the ocean" is also an objective of Ocean Literacy. Capacity development is the base of everything.

"Public understanding of the importance of the ocean is also rapidly rising, along with a deeper understanding of the threats..." Ocean Literacy can contribute in a great deal to make it still better.

"GOOS believes that the time is right to develop a forward-looking vision..." Sure it is! Henceforth, we must carefully consider the different uses and users of the oceans, some of them mutually incompatible, and also consider the protection requirement of what remained of fragile marine ecosystems. Activities can no longer be conducted in isolation, and therefore we should constantly improve our coordination process in order to foster a rational and sustainable conduction of activities in the various ocean and coastal areas.

"Working in partnership with other international, regional, and national programmes." Let's reinforce regional coordination: it is possible that coordinate with organizations sharing the same ocean may be more worthwhile than with ones in the same electoral group.

"Now we are looking forward to 2030 by identifying our unique role and how we will work with our partners to deliver this Vision." This proposal may be justified by the reasons to follow: (i) IOC is a forum where a very

heterogeneous group of professionals can seat together, in governmental basis, to think about and discuss oceanographic issues; (ii) Open data is the key for ocean forecasting, and the leadership on Data Exchange lies with IOC-IODE; and (iii) The on-going development of (IOC coordinated) GOOS has made more evident the relationship between ocean observations and Climate and Meteorology, and made obvious the need to establish and maintain a system for validating, making accessible and distributing high quality operational data.

Concerning the “core principles”, it is worthwhile to say that future challenges, like climate change, cannot be assessed, nor can reasonable mitigation measures be taken, without monitoring the Oceans; in other words, it is required to collect oceanographic data for operational purposes. It means: timely (real or near real time); collected in a systematic manner; based on latest technology developments in measurement and communication; Useful for forecasts. In earlier times researchers were accustomed, following usual MSR practices, to keep their data hidden away until they had worked it up, but to forecast the timely, free and unrestricted exchange of and access to data is essential. As it is capacity building, since If one lacks money, it is worthwhile to put the few you have in education. By doing so, you can maintain the expertise you have, while waiting for better economic times to come.

WELL DONE SIR! As you can see, with these comments, we don't intend to modify the wording of the Strategy. It has identified the issues, proposed actions, and outlines the expected outcomes. However, it lacks explaining how to reach all this. The implementation plan will fill this gap.

## **Canada**

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Canada is promoting ocean observing internationally, both as the Commonwealth Blue Charter Champion for ocean observing and through its G7 Presidency for 2018. Canada's approach to the oceans focuses on expanding global observation and tracking efforts, and increasing the availability of oceans science and data.

We note that in the coming decade, basin scale governance operations will be one of the key areas for new developments, and Canadian researchers are involved in domestic and international initiatives such as AtlantOS, a project which aims to deliver an advanced framework for the development of an integrated Atlantic Ocean Observing System.

Domestically, Canada is in the process of building a Canadian Integrated Ocean Observing System (CIOOS), to better align and integrate ocean observing within Canada and we look forward to providing an update at Ocean Obs'19.

Regarding the development of CIOOS, Canada would like to acknowledge the support we've received from the international community, and thank the GOOS Secretariat and the Regional Associations; in particular the United States Integrated Ocean Observing System and the Australian Integrated Marine Observing System, for sharing lessons learned and best practices.

## **Côte d'Ivoire**

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Cette stratégie est très ambitieuse et à juste titre car elle est à la mesure des enjeux en rapport avec les changements globaux que nous observons.

Les mots clés à retenir dans cette stratégie sont : Observation mondiale et la prise en compte des utilisateurs:

### **Observation mondiale**

Il est clairement affirmé que tout le monde doit être dans le bateau. Il y a quelques années quand on parlait de données et d'observation, certaines parties de l'océan surtout l'atlantique de l'Est apparaissait comme un trou noir. Ce qualificatif mondial n'est pas un vain mot puisque dans l'élaboration de cette stratégie toutes les parties du monde ont été appelées à apporter leur imput.

### **La prise en compte des utilisateurs**

Les actions de GOOS ne seront visibles que si les populations locales, les compagnies privées et les pays y trouvent leur compte. C'est pourquoi il est louable que cet aspect ait été pris en compte dans la stratégie.

En conclusion, La Côte d'Ivoire soutient cette stratégie.

## **Indonesia**

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With respect to the importance of the sustainable development, safety, wellbeing and prosperity, Indonesia would joint the Global Ocean Observation System (GOOS). In fact, Indonesia has been operating and providing National Marine Weather Services based on the Maritime Meteorology Observation System at the Main Harbours in Indonesia, and also conducting Voluntary Observing Ships (VOS) where 18 National Ships

and 4 Offshore Oil Platforms involved, and it will be further developed in near future. The data will be open for international data exchange through the Indonesia National Ocean Data Centre that will be established soon, by following the principal of sustained observation and open data.

Considering the importance of comprehensive global integrated atmospheric- oceanographic sciences, we also would like to emphasize the importance of Geographical Balance in any implementation of IOC Program, by including the tropical region of Maritime Continents, such as Indonesia, Philippines, and several other archipelagic countries as one of IOC Priorities.

Therefore, we do expect this important and strategic concern could be addressed in the decision of EC-LI/Dec 4.7 as well as in the relevant Resolution.

## **Italy**

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The paper well identifies the mission and the new capacity required for global ocean observing system to respond to the expected growing number and variety of stakeholders and to contribute to a sustainable use of the ocean and to the Ocean Decade.

The strategic objectives are consistent with the actions the necessary requirements of the future ocean observing system that should meet the needs of a variety of users and speed up the blue economy. Italy believes that the sustainability of the observing system is a crucial point. It is not clear how this sustainability will be ensured. Italy believes that the sustainability can be ensure only if the ocean observing system will be not founded by research project but it will become research infrastructures to be maintained and updates. Italy thinks that the role nation in the general framework is missed. Italy believes that a bottom up and top down approaches need both to be taken into consideration. A bottom up approach could be to encourage nations and regions to share their ambitions, based on more local needs and facilitate the sustainability of the observing system. Italy is strongly involved in GOOS and it would continue to support the GOOS effort and it is also working on to support GOOS office.

## **Japan**

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GOOS has been a core activity of the IOC since 1990s, and with no doubt, will be more important component of the IOC toward 2030.

Japan has been actively participating in and contributing to the GOOS networks including GOSHIP, GLOSS, NEAR-GOOS and so, through both research community and operational agencies in Japan. Japan will maintain the current level national contributions to GOOS to support the new strategy as well.

With regard to data an information management component, Japan would emphasize the importance of close cooperation and communication with the present data and information management activities including IODE and also JCOMM, in which open data access and improvement of interoperability among data serving systems have now been discussing.

Regarding OceanObs'19, it is an important opportunity for the ocean research and observation communities, not only to design their plan of ocean observations, but also it is a quite timely opportunity to contribute to the preparatory activity for UN Decade of Ocean Science for Sustainable Development through their discussion on the community-driven ocean observation planning. Japan, in this regard, would like to suggest an amendment to the part of Dec.4.7 related to OceanObs'19 to reflect the importance of the conference in the preparatory stage of the UN Decade.

## **Republic of Korea**

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We believe that the draft strategy contains clear vision, mission, and strategic objectives.

However, it seems that some modifications need to be made, including the several feedbacks raised by Member States.

We expect the review process for the draft strategy to be completed successfully with sufficient feedbacks from Member States and related programs before next IOC assembly:

## **Spain**

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España agradece y valora muy positivamente el proyecto de estrategia GOOS 2030. La estrategia hace referencia a una serie de aspectos que identifican claramente los retos para el futuro. El documento recoge la necesidad de establecer mecanismos de financiación a largo plazo para los sistemas de observación. Actualmente alrededor de un 70% de las observaciones marinas provienen de proyectos de investigación de corta duración. Sin embargo, la importancia de la variabilidad a largo plazo, y muy especialmente el impacto

del Cambio Climático, así como la información necesaria para gestionar y garantizar los recursos y requiere sistemas de observación requieren un cambio de paradigma en la observación.

Valoramos muy positivamente la evolución de GOOS para incorporar de forma creciente variables biogeoquímicas y biológicas. En este sentido estamos de acuerdo con el comentario hecho por Argentina sobre la necesidad de mencionar el programa OBIS en el documento.

La dinámica de los componentes biológicos del ecosistema tienen un papel fundamental en la provisión de recursos alimenticios, en el balance de compuestos inorgánicos como el dióxido de carbono o el oxígeno (y su equilibrio con la atmósfera), y pueden afectar a distintas industrias como el sector turístico (efectos de la presencia de medusas o eutrofización). En el Objetivo Estratégico 1 sobre alianzas con otras organizaciones solo se menciona la comunidad climática, y debería tener en cuenta otras comunidades e incluso organizaciones de Naciones Unidas, como la Organización para la Alimentación y la Agricultura o el Programa de Medio Ambiente para Naciones Unidas, relacionadas con la componente biológica de los ecosistemas. Sin embargo, el Objetivo Estratégico 3, se reconoce implícitamente esta deficiencia al reconocer que en el futuro será necesario incluir otras organizaciones en el proceso de revisión de GOOS, que como ya mencionamos debería considerar organizaciones relacionadas con la gestión de las pesquerías o de la conservación de especies y hábitats marinos.

### **United States of America (Observer)**

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As you know, we were both a founder, and a funder, of GOOS. We are on occasion called upon to explain why we do not provide financial contributions to the IOC; it is unfortunately, the situation in which we find ourselves. Rarely, however, are we asked to explain why we spend \$80 to \$100 million dollars on more than half of the global ocean observing system.

The United States echoes the appreciation of other delegations to John Gunn for his leadership and the vision of the Strategy. We truly support these efforts.

We encourage mechanisms for capacity building that would enable more Members to be involved in, draw benefit from, and purposefully apply, the products and services arising through GOOS.

We support the GOOS 2030 Strategy.

### **General Bathymetric Chart of the Oceans (GEBCO)**

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GEBCO Guiding Committee wishes that every opportunities of GOOS cruise will collect bathymetric information for the better understanding of sea bottom topography.

### **World Meteorological Organization (WMO)**

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WMO and IOC have a longstanding relationship in fostering the importance of a GOOS and in this regard, WMO welcomes the draft GOOS Strategy 2030 and is participating in its review. We believe it aligns well with the new earth system modelling and prediction thrusts in the WMO Strategic Plan to 2030 and with enhanced partnerships. We also note that under the WIGOS 2040 Vision, WMO is establishing global basic observing network to support its Numerical Modelling Centres, and clearly there is a strong link between the GOOS Strategy and this initiative.

The draft GOOS Strategy could be improved by making direct references to its links to the WMO Strategic Plan to 2030 and its relevant long-term objectives. There are also some elements, which we invite the IOC to consider adding in the Strategy. We can provide details offline.

Regarding Satcom – which is critical for the collection of global ocean observing platforms deployed and maintained for GOOS - WMO has been investing and leading Satcom Forum activities so far. We would like to invite the IOC to enhance its commitment to Satcom, and assist WMO organizing the Second Satcom Forum and finalizing the handbook.

## **4.8 Evolving Capabilities of the Argo Profiling Float Network**

### **Australia**

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Australia strongly supports the draft Decision to evolve the capabilities of the Argo Profiling Float Network and the proposed approval framework for additional new parameters for Argo. As we heard yesterday in our discussions about the WMO reforms and the Decade, the scientific community needs to be nimble and be ready to change. Our observations and systems must change with our evolving scientific understanding of the earth system.



Australia is at the forefront of these changes. We are the second largest country contributing to the International Argo program. Australia currently maintains around 400 live Argo floats, and has deployed over 800 since 2008. Of these, we have deployed 44 biogeochemical floats of which 17 are currently live and reporting data regularly. We therefore see the extremely valuable contributions to the monitoring of the ocean. We also congratulate all countries and scientists for the ongoing development of the network.

The global implementation of six new biogeochemical parameters onto Argo floats is a significant contribution to both the GOOS and GCOS draft strategies. The data provided will be a major advance in our capacity to detect biogeochemical changes in the ocean. Australia supports the idea of free and open data policy of the IOC Data Exchange Policy and subscribes to this policy by sharing and distributing our Argo and other oceanographic observational data.

It is also important to remember that as we expand our Argo measurements, that data for biogeochemical variables still needs to be collected from ships and moorings to allow calibration and drift assessments for the profiling float sensors. It is important to recognize that the more traditional measurements will still be required and without these the quality of the biogeochemical sensor data may be degraded significantly. This is similar to atmospheric satellite monitoring which requires calibration from radiosonde stations.

Finally Mr Chairman, Australia would like to note that while we are considering issues around the deployment of floats in the high seas that then may drift into countries EEZs in the draft decision before us today, it is very important that the collection of appropriate biological data from EEZs in liaison with the relevant coastal states is also strongly encouraged.

## **Canada**

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Canada strongly supports the inclusion of new sensors as part of the Argo network, which provides all data collected in a free and transparent manner. In order to facilitate its contribution, Canada has established a national governance structure that mirrors the International Argo Program with the Canadian Argo Steering Team and a Canadian Biogeochemical Argo sub-committee. The sub-committee will facilitate the implementation of the Canadian contribution to the biogeochemical-Argo program by coordinating and advising national efforts, and as liaison to the International Biogeochemical-Argo Steering Committee.

## **China**

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As the member of Argo program, China would like to reiterate our support to the program and its future plan. We will continue to engage it actively and make our contribution to the Argo program. In China, we host the China Argo Real-Time Data Center and Beidou Profiling Float Data Service Center. China Argo Real-Time Data Center undertakes the tasks of float deployment, data receiving, processing and exchanging, as well as global Argo data collection, processing and distribution. Beidou Profiling Float Data Service Center provides services of data receiving, decoding, quality control, and data exchange Beidou profiling float users, making the China Argo Real-Time Data Center the third important platform in the world that provides float data transmission for the global Argo real-time observation array, after the Collect Localization Satellites (CLS) in Toulouse, France and CLS in Maryland, USA.

In the future, China would like to strengthen our cooperation in Argo float deployment, data processing and product manufacturing with IOC relevant member states. Meanwhile, the capacity development in float deployment and data processing and the technical cooperation for the new parameter is also the priorities of cooperation.

## **Italy**

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Italy thanks for the Argo report and supports the Argo program strategy. Italy supports the program through the Italian Argo program which is part of the European Argo Infrastructure. Italy maintains about 50 floats in Mediterranean Sea founded by the Italian Ministry of Research which is the basis of the Copernicus Marine Environment Monitoring service. Part of Italian floats are already equipped with bio-chemical instruments. Italy will support the extension of Argo program with the inclusion of new bio-chemical parameters the new generation of deep floats. Italy believes that the inclusion of chlorophyll, backscattering and irradiance measurements on Argo floats will allow not only to provide EOV for understanding bio-chemical processes but will provide essential measurements for the satellite ocean colour data validation which is a priority of European Copernicus space and service components. Italy strongly suggests that Argo will become one of key program of the UN decade.

## **Japan**

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Japan recognizes the Argo network is the fundamental tool to monitor the state of the ocean in terms of temperature and salinity.

Now, we have emerging issues such as ocean acidification, spreading low-oxygen region which were mentioned several times in this Executive council.

In order to tackle to such emerging issues, Floats with new parameters, so called bio-geochemical Argo, is obviously effective and powerful tool.

Therefore, Japan supports the decision 4.8 and continue active participation to the Argo program.

### **Norway**

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Norway acknowledges that Argo is a major contributor to the Global Ocean Observing System (GOOS) and to our shared knowledge of the "state of the seas". The Argo profiling float network provides information that is crucial for predicting the global climate development and the impact of climate change.

Norway supports the global implementation of Argo floats measuring the six additional parameters, and several of the Norwegian Argo floats are about to implement the new parameters.

Norway also supports the proposed framework for additional new parameters.

### **The Philippines**

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The Philippines welcomes and looks forward to the deployment of Argo profiling floats with enhanced capabilities. The ability of these floats to measure six additional parameters – oxygen, pH, nitrate, chlorophyll, backscatter, and irradiance at spatial and temporal scales that the scientific community has not had is an exciting development and will significantly improve our understanding of critical processes such as oxygen decline and acidification of our ocean.

The Philippine delegation is happy to endorse the pilot implementation of the enhanced Argo with the expectation that the results will be shared with IOC member states, and the global program continues to operate under Argo's notification system. As other countries have done and consistent with Resolution EC-XLI.4, the Philippines will formally request the IOC Executive Secretary that the Philippines be notified by the implementer when an Argo float approaches the country's EEZ.

### **Russian Federation**

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Российская Федерация признаёт значение биохимических буёв "Арго", которые дают новое представление о биохимических процессах в океане и в этой связи не возражает против принятия решения МОК по указанной программе с поправкой по п.6 в решении. Расширение возможностей таких буёв в части сбора различного вида информации ещё раз подтверждает позицию Российской Федерации о том, что их деятельность попадает под предусмотренные Конвенцией ООН по морскому праву 1982 года положения о регулировании морских научных исследований, и, соответственно, его осуществление в исключительных экономических зонах (ИЭЗ) и территориальных морях прибрежных государств требует на то их согласия.

- В этой связи подтверждаем требование Российской Федерации о предоставлении ей официальных уведомлений о возможном входе буёв в её ИЭЗ. Российская Федерация оставляет за собой право воспрепятствовать входу буёв в морские пространства, находящиеся под её юрисдикцией.
- Информировуем также, что Российская Федерация намерена обновить в соответствии с Циркулярным письмом МОК 2666 (1 июня 2017 года) список лиц, являющихся Национальным Координатором программы "Арго".
- В этом же контексте отмечаем, что Действия IIд и IVа "Завершение процесса внедрения глобальной флотилии биохимических буёв-профилиметров, предполагающее свободный обмен информацией в рамках морского сообщества" (Приложение 1 к пересмотренной дорожной карте Десятилетия ООН, посвященного науке об океане в интересах устойчивого развития) должны касаться пространств, находящихся вне национальной юрисдикции.

### **Spain**

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España considera que ARGO es el mejor ejemplo de red automatizada de obtención de datos marinos y que como tal está generando una producción científica de excelente relevancia sobre la dinámica de los océanos. España agradece el papel que E.E.U.U. ha tenido en la puesta en marcha de este programa y en el hecho de que mantiene la mayor parte de los perfiladores en funcionamiento, así como la contribución de otros países como Australia, Gran Bretaña, Alemania, Francia, Japón, etc. La contribución de España es actualmente modesta, pero ya anunciamos el año pasado que en los próximos años teníamos previsto

desplegar alrededor de 50 perfiladores, de los cuales 9 ya están en funcionamiento. Asimismo, el Instituto Español de Oceanografía está tratando de obtener fondos nacionales para la adquisición de nuevos perfiladores en el futuro. España apoya decididamente la propuesta de incorporación de nuevas variables biogeoquímicas y del desarrollo de perfiladores con capacidad operativa a mayor profundidad. Ambos aspectos supondrán un nuevo e importante impulso en nuestro conocimiento sobre la dinámica de los océanos. Finalmente, agradecemos al programa Argo y a la Secretaría de la COI el esfuerzo para establecer un mecanismo transparente para la incorporación de nuevas variables.

#### **Ireland (Observer)**

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Ireland recognises the major contribution by the Argo programme to the Global Ocean Observing System (GOOS). Ireland strongly supports the full implementation of the evolving capabilities of the Argo profiling float network to include biogeochemical sensors measuring six new parameters. This information is critical to assess the accelerating rate of environment change and to shed light on critical processes in the ocean for the benefit of the global scientific community.

Ireland also strongly supports proposed framework for new additional pilot parameters for deployment under Argo's notification regime and under Argo's free and open data policy.

#### **United Kingdom (Observer)**

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The UK supports the Argo programme which has transformed global ocean observations. A clear priority is now to extend the Argo into deeper waters and to an expanded range of biogeochemical parameters. The UK supports the use of existing protocols to additional parameters as set out in the decision.

#### **General Bathymetric Chart of the Oceans (GEBCO)**

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GEBCO Guiding Committee wishes to remind, Mr Chairman, that precise bathymetric information saves ARGO floats from hitting the bottom.

And ARGO floats may sometimes accidentally measure the depth by hitting the unknown shallow bottom, and can be great sources of bathymetric information for GEBCO and especially Seabed 2030.

#### **World Meteorological Organization (WMO)**

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WMO is fully supportive of Argo, which is bringing essential data in near-real time to operational ocean models, numerical weather prediction, Earth System Prediction and understanding the interaction of ocean/atmosphere processes in context of greenhouse gases.

In this regard, WMO approves the data that will assist in providing data to this, including the global implementation of Argo floats measuring six parameters (oxygen, pH, nitrate, chlorophyll, backscatter, and irradiance) under the current notification regime. WMO also approves the proposed framework for additional new parameters for Argo.

WMO also notes that at the WMO Executive Council last week, there was a Recommendation to Congress for "Ensuring Adequate Marine Meteorological Observations and Data Coverage for the Safety of Navigation and the Protection of Life and Property in Coastal and Offshore Areas". This recognises that there is no clear regulation in place to collect marine meteorological and oceanographic measurements within EEZs in support of operational application of WMO. While some operational ocean models are now fully coupled with Numerical Weather Prediction models (e.g. ECMWF), Argo temperature and salinity profile data collected in the mixed layer plays a critical role in improving models. Last week's Recommendation requests JCOMM to draft a Congress Resolution on the issue. WMO invites IOC to collaborate through JCOMM.

### **4.9 IOC contribution to Ocean Literacy in 2018–2021**

#### **Argentina**

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En este punto, queremos hacer una serie de comentarios con relación al documento Documento IOC/EC-LI/2 Annex 10. Al respecto, como ya lo sostuviéramos anteriormente, la Argentina considera que la Convención de las Naciones Unidas sobre el Derecho del Mar constituye el marco jurídico fundamental que regula todas las actividades en los océanos, incluida la investigación oceánica. La Convención tiene un carácter claramente universal y es aceptada como norma jurídica vinculante incluso por Estados no partes debido a que constituye, en sí misma, derecho internacional consuetudinario.

En ese contexto, deseamos llamar la atención sobre la utilización en dicho documento de un concepto no recogido por la Convención citada. Así, tanto el párrafo 10 como el 11 y 12 de dicho documento refieren al

concepto de “gobernanza” de los océanos y también a gobernanza de los recursos oceánicos. Consideramos que la utilización de un concepto según el cual un grupo de países pretende atribuirse la potestad de adoptar medidas en zonas más allá de las jurisdicciones de los Estados, debería evitarse siendo el foro adecuado para ello la reunión de Estados Partes de la Convención de las Naciones Unidas Sobre el Derecho del Mar.

Otro concepto que no nos resulta claro en cuanto a su sentido, alcance e implicancias es el concepto de Economía Azul al cual se refiere en el párrafo 14, respecto del cual la Argentina también mantiene sus reservas.

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### **Canada**

Canada recognizes the benefits of pursuing activities that advance global ocean literacy through shared and complementary efforts to foster a better understanding of the ocean, and our collective responsibility to ensure a healthy and productive ocean for future generations.

We support the IOC’s actions in ocean literacy which provide a valuable addition to the growing body of ocean literacy resources.

In Canada, through partnerships with domestic leaders in this field, like ocean school, we are also working to advance a coordinated approach to ocean literacy activities through the development and implementation of a Canadian ocean literacy strategy. It is our hope that this initiative will be a valuable contribution to international efforts.

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### **Indonesia**

Understanding the importance of Ocean for our sustainable and resilience future, Indonesia would like to be more active in implementing the Ocean Literacy Program as well as in improving understanding and awareness on the impact of the interaction of Atmosphere and the Ocean. This Program actually has been initiated since 2011, through community-based education program, such as through the Climate and Coastal Field School for farmers and fishermen, as well as Ocean Literacy to School, in collaboration with various stake holders. Therefore, again Indonesia is willing to support this Ocean Literacy Program.

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### **Italy**

Italy believes that Ocean literacy is a fundamental tool to enhance ocean awareness, and its potential role in the framework of current IOC programs and projects, as well as in relation to the upcoming UN Decade of Ocean Science for Sustainable Development. Italy complements for the excellent work done to produce to Ocean Literacy for All –toolkit.

Italy would like to collaborate with IOC on this activity proving the link with the Italian educators and helping to find the way to fill up the present language barrier by translating the toolkit in Italian. Italy COI is building up a national ocean literacy working group and it already started to collaborates with Francesca. We believe that we need to reinforce this collaboration and Italian COI is working to find a way to provide Italian support to Ocean Literacy program. Taking into account that ocean literacy activities are carried out at UNESCO office in Venice and where there is the headquarter of largest CNR Marine Institute Italy is working to provide inkind contribution to this program by dedicating/seconding a CNR researcher. Contact with Dr. Santoro has been already started to discuss this Italian potential contribution.

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### **Portugal**

Portugal considers Ocean Literacy crucial to make citizens and all stakeholders aware of the multiple issues related to the ocean, the human impact on its health and the responsible exploitation of its resources.

Ocean literacy requires scientific rigor and that is why the IOC, as the UN competent organization for marine science has a great responsibility in its implementation. Great work and results have already been achieved.

As such, we would like to stress that the fore coming celebrations of the 500 years of the Magellan Circumnavigation and in particular the UN Decade are unique opportunities for the IOC to mobilize the scientific community and member states to join efforts towards the development of a joint venture to increase ocean literacy for all at global level.

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### **Ocean Frontier Institute (OFI)**

Researchers at the Ocean Frontier Institute and our partner organizations around the world are documenting accelerated rates of environmental change, generating unprecedented challenges for coastal communities to adapt, as well as new opportunities for growth and innovation.

Ocean literacy is an overlooked precondition for adaptation and innovation, especially for the next generation of ocean citizens and stakeholders. It will allow them to make informed decisions related to ocean stewardship and to partake more fully in a thriving blue economy. The UN Decade of Ocean Science for Sustainable Development should broaden opportunities and apply innovative approaches for current and future generations to expand their ocean literacy.

Ocean literacy is a key pillar of the OFI's strategy to find effective solutions to support development of a sustainable blue economy. We are fostering our existing partnership with the IOC and a number of international and national organizations, including Dalhousie University, Canada's National Film Board, and Fisheries and Oceans Canada. We are also developing new collaborations through our 'Ocean School' Youth Education Program that exists already in English and French and, thanks to the generosity of Sweden, is now being translated into Spanish. We envision an international community of ocean researchers, educators, and content creators that will work to raise deeper awareness of the interactions between the ocean and peoples' daily lives, and to empower citizens to make the most of the rich opportunities that the ocean holds.

The Ocean Frontier Institute believes that ocean literacy also offers us an opportunity to address a number of other challenges associated with both ocean science and sustainable development. Gender equity is already well developed in many initiatives, but other issues such as indigenous knowledge and capacity development could sensibly be included in new approaches to ocean literacy:

### **World Meteorological Organization (WMO)**

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WMO welcomes the ocean literacy initiative and we are well aware that WMO Members have a great need for this. WMO would like to call attention to the WMO Global Campus initiative and invites IOC to connect and share in building ocean literacy and participate with WMO in capacity development.

WMO recalls that JCOMM-5 designated 2 Capacity Development Coordinators (one for IOC and one for WMO) and we encourage that they be engaged in the ocean literacy initiative.

## **5.1 Recommendations of the WMO governance review regarding JCOMM, GCOS, GOOS and WCRP**

### **Argentina**

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Tras dos décadas de intenso trabajo, JCOMM ha alcanzado importantes logros. Esta experiencia nos permite evaluar nuestro desempeño y optimizar el esfuerzo conjunto COI-OMM.

Aun cuando la tardía distribución de los documentos sobre este tema no ha permitido un adecuado análisis, entendemos que la creación de un grupo de consulta es un paso más que apropiado frente a una decisión estratégica.

Entendemos también que es fundamental que este grupo de consulta tenga entre sus términos de referencia un claro mandato de analizar ventajas y desventajas, oportunidades y riesgos asociados a esta modificación, e informar estos resultados adecuada y oportunamente a nuestra 30ª Asamblea en 2019.

### **Australia**

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Australia is supportive of the proposed two-commission structure, which will separate the observation and data management components into one commission, and the meteorological services components into another.

When I was president of the WMO CIMO alongside Dr Peter Dexter of Australia as a co-president of JCOMM, I believe that WMO is moving in the right direction. Of course, Peter and others saw the need for close cooperation 20 years ago and he spent a large part of his career giving birth to JCOMM!

Inclusive of this support however is a note of caution similar to Germany's intervention, and request that the reform process ensures that the important collaboration with the IOC and its critical technical support across the end-to-end connection of marine and ocean services is preserved and enhanced in the new structure.

For example, in the development of tsunami warning systems, ocean monitoring required strong technical cooperation between WMO and IOC. In the transition we must map not only working groups, committees etc. BUT also the technical and engineering functions. Both the WMO and IOC (now) are technical organizations.

We note that the proposed reform structure already provides a number of positive opportunities to strengthen and enhance the collaboration between the IOC and WMO in marine meteorology and oceanography as part of a coherent Earth systems approach to observations, data management and services.

In this regard, Australia is strongly supportive of the establishment of a Standing Committee to preserve and enhance the collaboration between WMO and IOC. We also note with pleasure the proposed inclusion of IMO and IHO as members on the Standing Committee.

Australia also believes that the formation of the Commission for Observation, Information and Infrastructure Systems has the opportunity to enable greater connection of the IOC to the WMO systems, and greater visibility of their activities and connection to other initiatives and outcomes provided by observations.

In conclusion, Australia supports the proposed decision before the Executive Council and will seek to continue to be involved in its implementation through involvement on the joint WMO-IOC consultation group on JCOMM and their work to finalise the draft Terms of Reference of the new interagency committee, developing the six-month transition plan, and through further consultation as appropriate.

### **Côte d'Ivoire**

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La Côte d'Ivoire note que l'océan est ce milieu inaccessible du moins directement. On ne peut pas y aller comme on veut pour collecter des données qu'on pourra transformer en informations. Or cette information est nécessaire pour comprendre les changements globaux.

De telle manière que ceux qui détiennent une part d'information devrait collaborer pour mettre à la disposition des utilisateurs en temps réel. On dit habituellement que le temps c'est l'argent. Mais ici dans l'océanographie, on pourrait dire le temps c'est la vie. Merci à l'OMM pour sa disposition à collaborer Organisation météorologique mondiale

En Côte d'Ivoire une collaboration active est mise en place entre les universités et le centre de météorologie pour pourvoir aux pêcheurs des informations et presque en temps réel, sur la base du traitement des images satellitaires.

L'OMM a cette charge de travailler sur un sujet qui intéresse tout le monde. Le paysan des pays les en voie de développement qui pratique une agriculture pluviale a besoin d'avoir des informations pour savoir dans quelle période il peut mettre ses semences en terre.

La question que la Côte d'Ivoire se pose c'est de savoir Qu'est ce qui n'a pas marché dans la collaboration entre la COI et l'OMM pour qu'on demande une nouvelle collaboration ?

### **Indonesia**

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Indonesia thanks to both President of WMO and President of IOC for having strategic move on integration to work together as a community in both oceanographic and meteorological observation.

As the EC and Member of WMO, again Indonesia realize the importance of development of Science and Technology on Integrated Oceanography and Meteorology. to ensure the coherent and compatible earth-system approach to observation, data management forecasting system and the development of appropriate services related to weather, climate and freshwater. THAT IS WHY Indonesia strongly support the establishment of Joint Committee WMO and IOC on Oceanography and Meteorology (JCOM).

As part of Indonesia's supports for JCOMM, GCOS, GOOS programmes, we suggest our thoughts and additional information as follow:

(1) GOOS and GCOS's main support is linking non-communicated underwater climate information through Indonesian Through Flow (ITF). The ITF position is very strategic because it links information in the Pacific with Indian Ocean.

(2) Indonesia would like to take more active role in observing ITF's contribution to extreme climate such as ENSO and Indian Ocean Dipole. The development of Indonesia NODC (Indonesia National Ocean Data Center) facilitates the integration of observational data across institutions that have activities related to the landscape. We want to conduct Ocean cable-based technology trials for underwater climate observations, which also happen many through the ITF path. This condition will facilitate the contribution and hope that the IOC EC-51 encourages and facilitates its realization.

(3) Indonesia is currently develop integration of Indonesia National Ocean Data Center (INODC) and revitalizing NEONet (Nusantara Earth Observation network) which can be a mainstay to initiate this ITF activity, considering both the science and its application (such as bigdata and Internet of Things) to Slow Onset Early Warning System in Extreme Climate.

(4). Accordingly, Indonesian Agency of Meteorology, Climatology and Geophysics now is preparing a National Ocean Conference that will be held on October 29-30 October 2018 in Denpasar, Bali. Indeed, we would further commit to host Observation Coordination Group Meeting in 2019 next year, in order to follow up the JCOM Program

(5). Indonesia also would like to highlight the importance of Maritime Continent in affecting the dynamic interaction of Ocean and Atmosphere. That is why Indonesia and several other Institutions in several Countries such as USA (NOAA and Texas University), UK (University of East Anglia UK), Australia (Bureau of Meteorology) and Japan (Jamstec) have been conducting a joint Program which is so called as The Year of Maritime Continent Research, in order to expedite the progress of improving understanding and prediction of local multi-scale variability of the Maritime Continent weather-climate system and its global impacts through observation and modelling exercises.

(6). In addition, Indonesia is eager to continue the support and actively participate in the Research (which is also addressing the Capacity Development for the Young Experts) through the execution of Indonesia Program Initiative on Maritime Observation and Analysis (Ina Prima) conducted by Indonesian Agency for Meteorology, Climatology and Geophysics (BMKG) and National Atmospheric Administration (NOAA). The main purpose of this program is to maintain the Research Moored Array for African-Asian-Australian Monsoon Analysis and Prediction (RAMA) buoy, observe the marine meteorology data, atmospheric, oceanography, and marine-geophysics observation, especially related to Piddie Earthquake. Data obtained from this Program

We would also grateful to invite the participation of other countries in both Year of Maritime Continent Research Program and Indonesia Prima.

### **Portugal**

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We acknowledge and appreciate the efforts of streamlining the WMO structure and procedures in the scope of its constituent body reform with a view to increase its efficiency. Given the fundamental role of the ocean in climate regulation and prediction and services supported by ocean observations, we consider nevertheless essential that a coordination committee at high level between WMO and IOC is maintained, such as the one that presently exists JCOMM, considering its major achievements in these past 20 years.

The proposed solution of the new flexible high-level coordination mechanism such as the Joint WMO-IOC Committee for Oceanography and Meteorology (JCOM) appears adequate to reinforce the already existing collaboration, with a broad engagement of the key relevant bodies of IOC and WMO. We fully support the creation in this transition period of the joint consultation group to prepare the reform of JCOMM.

### **United States of America (Observer)**

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The United States has been very involved with the JCOMM since its inception; we believe it is important to us, to the entire IOC community, and to the WMO. We express our sincere appreciation to the WMO President for personally appearing here, to convey the vision being proposed for the new alignment. We also extend our appreciation to the IOC Chair, the IOC Executive Secretary, and the Chair of Group 1 for their engagement in this effort.

When we look at where we currently stand, we see that our original concerns have been met with grace; we wanted the IOC to be included in the room to ensure these discussions captured IOC equities. We commend the WMO, as did our delegation to the WMO, for working to update the organization with purpose, and in line with the demands of time. We support the JCOM proposal, and the transition mechanism, the joint consultative group. JCOM is critically important, whether it has one “M” or two.

I would like to close with three observations:

First: It is inspiring to see the maturity we all have in ensuring an organization reflects the needs of the time.

Second: We will continue to support JCOM. As you all may know, we provide funding to the WMO for JCOMM activities, and we will sustain that funding.

And third: if you appreciate your 7 day weather forecast, thank an oceanographer.

## **5.2 Review of the World Climate Research Programme (WCRP)**

### **China**

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China supports IOC to continue its involvement in and contribution to the WCRP and would like to endorse newly developed 10-year Strategic Plan of WCRP from 2019-2029. Also, China would like to encourage IOC to strengthen its leading role in the global activities related to climate change and ocean.

Since the year of 2014, China started to host the international program office of CLIVAR, one the four core projects of WCRP. Besides its daily operation, China has been cooperating with CLIVAR in promoting capacity building in the area of climate and ocean research. On 25-30 June this year, we have just organized

the first CLIVAR Summer School in Qingdao China with the theme of Sea Level Changes. Totally 47 young scientists and students from 34 countries attended the CLIVAR Summer School. One thing I want to highlight here is that this Summer School was organized through cooperation between CLIVAR and the first IOC Regional Training and Research Center for Ocean Dynamic and Climate, which is also hosted by China. In the future, China will continue its our support to the WCRP and CLIVAR related activities. And we would also like to call upon IOC Secretariat to future its coordination with and support to global climate programs.

## **Indonesia**

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In order to improve the resiliency of our Nation and the national capacity for Climate Change and Mitigation, Indonesia supports and welcomes the World Climate Research Program (WCRP) by integrating Climate Research and Social Science. This was done in Indonesia as an effort of application of science for adaptation and mitigation of climate variability.

In the Research Program Indonesia would like to propose the importance of integrating the Social Aspect into Climate Science and the respective technology development for Climate Mitigation and Adaptation.

### **5.3 A 10-Year Strategy for the Global Climate Observing System**

#### **Indonesia**

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With regard to GCOS Strategy, Indonesia has the following interventions/comments in support of this strategy:

(1). GCOS is very importance to improve the safety as well as to sustain the socio-economic economic development in our Maritime Continent of Indonesia, which is also subjected to the Global Climate Change phenomana.

Therefore, Indonesia is now preparing the development of the existing technology for providing the Climate Observing System especially for the Marine Climate.

(2). GCOS as well as GOOS's main support is linking non-communicated underwater climate information through Indonesian Through Flow (ITF). The ITF position is very strategic in climate observations because it links ocean information in the Pacific with Indian Ocean.

(3). Indonesia would like to take more active role in observing ITF's contribution to extreme climate such as ENSO and Indian Ocean Dipole. The development of Indonesia NODC (National Ocean Data Center) will facilitate the integration of observational data across institutions that have activities related to the landscape. Indonesia also plans to conduct Ocean cable-based technology trials for underwater climate observations, which also happen through the ITF path. This plan will contribute to GCOS and GOOS and hope that the IOC EC-51 encourages and facilitates its realization.

(4). Indonesia is currently develop integration of Indonesia National Ocean Data Center (INODC) and revitalizing NEONet (Nusantara Earth Observation network) which can be a mainstay to initiate this ITF activity, considering both the science and its application (such as bigdata and Internet of Things) to Slow Onset Early Warning System in Extreme Climate.

### **6.1 Follow-Up to Resolution XXIX-2: Finance and Regulations, Governance, Working Methods and Procedures**

#### **China**

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China has always attached great importance to IOC related cooperation and also contributed a large number of stable funds. In the year of 2017, we have provided about 380,000 \$ to IOC Secretariat, including 200,000\$ contribution in cash and the expense on the secondment of one expert. Meanwhile, based on our primary estimation, our total contribution and expenditure in 2017, including contribution in cash and contribution in kind from our institutions and branches to IOC and its programs and projects, has attained 4,555,000\$.

And China would continue to provide consistent and various support to IOC through hosting international workshops, sending experts, providing training courses and conducting joint programs in the future, and we would also strengthen coordination with China National Commission for UNESCO so as to provide as much support and fund to IOC as we can.



## **The Philippines**

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We thank the Intersessional Financial Advisory Group and the Secretariat for the excellent report under this item, especially Annex 13 which can serve as a good practice when examining follow-up and implementation of the recommendations of the Working Group on Governance. The IOC is a source of other good practices such as the Action Paper which outlines key issues and expectations.

On some specific recommendations:

- Recommendation 66: We think that it is important to clarify the roles and responsibilities of the Vice-Chairs, especially in strengthening coordination with Permanent Delegations in their respective electoral groups. The guidelines adopted by the General Conference disseminated in this regard.
- Recommendation 71: We think that Bureau meetings, as much as possible, should be open to observers.
- Recommendation 76: We support publication of a guidebook for the new members of the IOC Executive Council.

We would like to inquire how the Council shall follow up on these matters. We believe that it is important that the IOC report to the Open-Ended Working Group on Governance when it is reconvened in 2019 to focus on implementation of recommendations.



## ANNEX V

### SOCIAL MEDIA

This presentation provides an overview of the main statistics for the IOC social media accounts during the 51<sup>st</sup> Session of the IOC Executive Council (3–6 July 2018): [http://www.ioc-unesco.org/index.php?option=com\\_oe&task=viewDocumentRecord&docID=22334](http://www.ioc-unesco.org/index.php?option=com_oe&task=viewDocumentRecord&docID=22334).

Given the technical and institutional nature of the Executive Council, the social media engagement was particularly positive, with major peaks around the launch of the logo of the UN Decade of Ocean Science for Sustainable Development. The joint efforts by the IOC Secretariat and Member State delegates go a long way in explaining the higher than usual engagement levels around the Council: several delegations communicated heavily on their issues of interest, and in many instances shared the visuals and messaging coming from the Secretariat via the various official IOC accounts.

Thanks to social media, we can now aim to render the IOC governing body meetings as open and transparent as possible to the international ocean community and the public worldwide.

Any questions or information requests should be submitted via:  
[ioc.communication@unesco.org](mailto:ioc.communication@unesco.org)



## ANNEX VI

## LIST OF DOCUMENTS

Document Code	Title	Agenda Items	Languages available
<b>WORKING DOCUMENTS</b>			
IOC/EC-LI/1	Agenda	2.1	E F R S
IOC/EC-LI/1 Add. Prov. Rev.3	Third Revised Provisional Timetable	2.1, 2.4	E only
IOC/EC-LI/2 Prov.	Provisional Action Paper	all items	E F R S
IOC/EC-LI/4 Prov.	Provisional List of Documents ( <i>this document</i> )	2.4	E F R S
IOC/EC-LI/2 Annex 1	Report of the IOC Executive Secretary on the work accomplished since the previous session of the Assembly (July 2017–June 2018)	3.1	E F R S
IOC/EC-LI/2 Annex 1 Add.	Status Report on the Implementation of the IOC Communications Advisory Report since June 2017	3.1	E only
IOC/EC-LI/2 Annex 2 & Corrigendum	Report on Budget Execution 2016–2017 and outline of 2018–2019 budget	3.1, 6.1, 6.2	E F R S
IOC/EC-LI/2 Annex 2 Add.	Extrabudgetary resource mobilisation targets: proposals for 2018–2019	3.1, 6.2	E only
IOC/EC-LI/2 Annex 3	Abridged version of the Draft Roadmap for the UN Decade of Ocean Science for Sustainable Development	4.1	E F R S
IOC/EC-LI/2 Annex 4	Terms of Reference for the Decade Executive Planning Group	4.1	E F R S
IOC/EC-LI/2 Annex 5 & Corrigendum	Enhanced coherence, impact and future orientations of the IOC Ocean Science portfolio in support of the UN Decade of Ocean Science for Sustainable Development and 2030 Agenda	4.2	E F R S
IOC/EC-LI/2 Annex 6	Update on IOC custodianship role in relation to SDG 14 indicators	4.4	E F R S
IOC/EC-LI/2 Annex 7	First Report of the IOC Regular Working Group on User Requirements and Contributions to GEBCO Products	4.5	E F R S
IOC/EC-LI/2 Annex 8	Global Ocean Observing System 2030 Strategy	4.7	E F R S
IOC/EC-LI/2 Annex 9	Evolving capabilities of the Argo profiling float network	4.8	E F R S
IOC/EC-LI/2 Annex 10	The IOC contribution to Ocean Literacy: perspectives and development in view of the UN Decade of Ocean Science for Sustainable Development	4.9	E F R S
IOC/EC-LI/2 Annex 11 Rev.	Concept for a Joint WMO-IOC Committee for Oceanography and Meteorology (JCOM)	5.1	E F R S

Document Code	Title	Agenda Items	Languages available
IOC/EC-LI/2 Annex 12	Second Updated introduction to the IOC Medium-Term Strategy, 2014–2021	6.1, 6.2	E F R S
IOC/EC-LI/2 Annex 13	IOC Governance: Draft implementation plan of the recommendations of the UNESCO open-ended Working Group on Governance	6.1, 6.2	E F R S
IOC/EC-LI/2 Annex 14 Rev.	Revised Financial Regulations for the IOC Special Account	6.1, 6.2	E F R S

### REPORTS OF IOC AND COOPERATIVE BODIES REQUIRING ACTION

IOC/GE-CD-I/3	Summary Report of the First Meeting of the IOC Group of Experts on Capacity Development (UNESCO, 21–23 March 2018)	3.1	E
ICG/NEAMTWS-XIV/3	Fourteenth Session of the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North-eastern Atlantic, the Mediterranean and Connected Seas (ICG/NEAMTWS-XIV), Lisbon, Portugal, 21–23 November 2017	3.3.1	E (Ex. Sum. In E F R S)
ICG/CARIBE EWS-XIII	Thirteenth Session of the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE EWS-XIII), Curaçao, 23-27 April 2018	3.3.2	E (Ex. Sum. In E F R S)
IOC/TOWS-WG-XI/3	Eleventh Meeting of the Working Group on Tsunamis and other Hazards related to Sea-Level Warning and Mitigation Systems (TOWS-WG), UNESCO, Paris, 16–17 February 2018	3.3.3	E (Ex. Sum. In E F R S)
WMO-IOC/JCOMM-5/3	Fifth Session of the Joint WMO-IOC Commission for Oceanography and Marine Meteorology (JCOMM-5), Geneva, Switzerland, 25–29 October 2017	3.4.1	E F R S

### INFORMATION DOCUMENTS

IOC/EC-LI/Inf.1	Working Arrangements for the session	2.4	E only
IOC/EC-LI/Inf.1 Add.	Template for submission of written records to the Executive Council summary report	2.4	E only
IOC/EC-LI/Inf.2	Information on IOC R. Revelle Memorial Lecture, 2018 ( <i>online information at <a href="http://www.ioc-unesco.org/index.php?option=com_oe&amp;task=viewDocumentRecord&amp;docID=22017&amp;skip=1">http://www.ioc-unesco.org/index.php?option=com_oe&amp;task=viewDocumentRecord&amp;docID=22017&amp;skip=1</a></i> )	2.5	E
IOC/INF-1351 Part 2	The Second International Indian Ocean Expedition (IIOE-2) – Update on Activities, 2018	3.1	E only
IOC/INF-1355	Report of the UNESCO Category 2 Regional Education AND Research Centre on Oceanography for West Asia (RCOWA), 2016–2017	3.1	E only
IOC/INF-1356	Work of the Primary Regional Subsidiary Bodies, 2017–2018 (IOCARIBE, IOCAFRICA,	3.2	E only

Document Code	Title	Agenda Items	Languages available
	WESTPAC, and IOCINDIO)		
IOC/BRO/2018/3	Summary Statement of the Symposium on 'Advances in Tsunami Warning to Enhance Community Responses' (12–14 February 2018, Paris, France)	3.3.3	E only
IOC/INF-1357	IOC contribution to the Decade, from a programmatic perspective	4.1	E only
IOC/Decade-Inf.1	Resources implications related to the Coordination of the Decade preparatory phase (2018–2020)	4.1	E only
IOC/Decade-Inf.2	Guidelines for the use of the logo for the UN Decade of Ocean Science for Sustainable Development	4.1	E only
IOC/INF-1358	Proposed implementation plan for conducting the second edition of the Global Ocean Science Report (GOSR)	4.3	E only
IOC-BBNJ-Inf.2	Update on the UN Process on Conservation and Sustainable Use of Biological Diversity in Areas Beyond National Jurisdiction Process (From the Preparatory Committee to an Intergovernmental Conference)	4.6	E only
IOC/INF-1359	Background on the WMO governance review and implications for JCOMM, GCOS, GOOS, and WCRP	5.1	E only
IOC/INF-1342 Part 2 & Corrigendum	Review of the World Climate Research Programme (WCRP), 2018	5.2	E only
IOC/INF-1360	Development of the Global Climate Observing System Strategy	5.3	E only

## REFERENCE DOCUMENTS

IOC-XXIX/3	Summary Report of the Twenty-ninth session of the IOC Assembly, Paris, 21–29 June 2017	2.1	E
UNGA RES/72/73	UNGA Omnibus Resolution on Oceans and Law of the Sea (72th Session)	4.1	E F S R A C
IOC/INF-1353 Prov.	Draft Roadmap for the UN Decade of Ocean Science for Sustainable Development ( <i>version 1, 6/02/2018</i> )	4.1	E F R S
IOC/INF-1203	IOC Criteria and Guidelines on the Transfer of Marine Technology (2005)	4.6	E/F
IOC-BBNJ-Inf.1	United Nations Preparatory Committee (PrepCom) on BBNJ Chair's overview of the Third session of the Preparatory Committee	4.6	E only
IOC/INF-1284 rev.2	A Framework for Ocean Observing	4.7	E only
IOC/2017/MG/80	Ocean literacy for all: a toolkit	4.9	E F S
IOC/INF-1342 Prov.	Report of, and update on, the WMO-IOC-ICSU World Climate Research Programme (WCRP)	5.2	E

<b>Document Code</b>	<b>Title</b>	<b>Agenda Items</b>	<b>Languages available</b>
	and its Review by its Sponsors		
IOC-XXIX/2 Annex 5 Rev.2	Draft Programme and Budget for 2018–2021 (Draft 39 C/5)	6.1, 6.2	E F R S
204 EX/16	UNESCO, Executive Board; 204th; 2018 39 C/5 implementation plan	6.1, 6.2	E F S R A C
39 C/20	UNESCO. General Conference; 39th; 2017 Governance, procedures and methods of work of the governing bodies of UNESCO	6.1, 6.2	E F S R A C
39 C/70	UNESCO. General Conference; 39th; 2017 Report of the Finance, Administration and General Questions, Programme Support and External Relations (APX) Commission	6.1, 6.2	E F S R A C
204 EX/5. INF	UNESCO. Executive Board; 204th; 2018 Follow-up to decisions and resolutions adopted by the Executive Board and the General Conference at their previous sessions, part II: Management issues. , B. Resource Mobilisation Strategy and Annual Structured Financing Dialogue	6.1, 6.2	E F





ANNEX VII

**LIST OF PARTICIPANTS**





## ANNEX VIII

## ACRONYMS

Acronym	Title
BBNJ	Biodiversity in areas beyond national jurisdiction
CIESM	International Commission for the Scientific Exploration of the Mediterranean Sea
CPPS	Permanent Commission for the South Pacific
CSK-2	second Cooperative Study of the Kuroshio and its adjacent regions
CTSP	Candidate Tsunami Service Provider
DOALOS	Division for Ocean Affairs and the Law of the Sea
EC	Executive Council
EOVs	Essential Ocean Variables
GCOS	Global Climate Observing System
GCP	Global Carbon Project
GEBCO	General Bathymetric Chart of the Ocean
GEF	Global Environment Facility
GLOSS	Global Sea-Level Observing System
GOA-ON	Global Ocean Acidification Observing Network
GOOS	Global Ocean Observing System
GOSR	Global Ocean Science Report
IAEG-SDG	Inter-Agency and Expert Group on Sustainable Development Goal Indicators
IBF	integrated budgetary framework
ICEP	Index of Coastal Eutrophication Potential
ICG/CARIBE-EWS	Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions
ICG/NEAMTWS	Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas
IHO	International Hydrographic Organization
IIOE-2	Second International Indian Ocean Expedition
IMBeR	Integrated Marine Biogeochemistry and Ecosystem Research Project
IMO	International Maritime Organization
IOC	Intergovernmental Oceanographic Commission
IOCAFRICA	IOC Sub-Commission for Africa and the Adjacent Island States
IOCARIBE	IOC Sub-Commission for the Caribbean and Adjacent Regions
IOCCP	International Ocean Carbon Coordination Project
IOCINDIO	IOC Regional Committee for the Central Indian Ocean

<b>Acronym</b>	<b>Title</b>
IODE	International Oceanographic Data and Information Exchange
IPCC	Intergovernmental Panel on Climate Change
ISA	International Seabed Authority
JCOMM	Joint Technical Commission for Oceanography and Marine Meteorology
JPI Oceans	Joint Programming Initiative Healthy and Productive Seas and Oceans
LAOCA	Latin American Ocean Acidification Network
MHEWS	Multi-Hazard Early Warning Systems
NEAMTIC	NEAM Tsunami Information Centre
NOC	National Oceanography Centre
OBIS	Ocean Biogeographic Information System
ODC	Ocean Dynamics and Climate
OFI	Ocean Frontier Institute
OL	Ocean Literacy
OOPC	Ocean Observations Panel for Climate
OSS	Ocean Science Section
PERSGA	Regional Organization for the Conservation of the Environment and the Red Sea and Gulf of Aden
PICES	North Pacific Marine Science Organization
PrepCom	Preparatory Committee
RSB	regional subsidiary bodies
RTRC	Regional Network of Training and Research Centre
SC	Steering Committee
SCOR	Scientific Community on Oceanic Research
SDG	Sustainable Development Goals
SIDS	Small Island Developing States
SOLAS	Surface-Ocean Lower Atmosphere Study
SPC	Pacific Community
TMT	Transfer of Marine Technology
TOWS-WG	Working Group on Tsunamis and Other Hazards related to Sea Level Warning and Mitigation Systems
TSP	Tsunami Service Providers
UNCLOS	United Nations Convention on the Law of the Sea
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNGA	United Nations General Assembly
UNISDR	Disaster Risk Reduction of the United Nations Office for Disaster Risk Reduction

<b>Acronym</b>	<b>Title</b>
WCRP	World Climate Research Programme
WESTPAC	IOC Sub-Commission for the Western Pacific
WMO	World Meteorological Organization
ZNG	Zero Nominal Growth