

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



# **Thirtieth Session of the Assembly**

Paris, 26 June – 4 July 2019

**UNESCO**

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**UNESCO 2019**

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**TABLE OF CONTENTS**

page

<b>PART I – Summary Report</b>	
<b>1.</b>	<b>OPENING ..... 1</b>
<b>2.</b>	<b>ORGANIZATION OF THE SESSION..... 1</b>
2.1	ADOPTION OF THE AGENDA AND OTHER ORGANIZATIONAL MATTERS ..... 1
2.2	DESIGNATION OF THE RAPPORTEUR..... 1
2.3	ESTABLISHMENTS OF SESSIONAL COMMITTEES AND WORKING GROUPS ..... 1
2.4	INTRODUCTION OF DOCUMENTATIONS, TIMETABLE AND MEMORIAL LECTURES ..... 2
<b>3.</b>	<b>IOC MATTERS AND REPORTS..... 3</b>
3.1	STATEMENT OF THE CHAIRPERSON ..... 3
3.2	REPORT BY THE EXECUTIVE SECRETARY ON THE WORK ACCOMPLISHED SINCE THE FIFTY-FIRST SESSION OF THE EXECUTIVE COUNCIL AND ON BUDGET IMPLEMENTATION (JULY 2018–MAY 2019) ..... 4
3.3	REPORTS BY THE CHAIRS OF THE IOC SUB-COMMISSIONS AND REGIONAL COMMITTEES ..... 7
	<b>3.3.1 IOC Sub-Commission for the Western Pacific: 12th Session of WESTPAC, Manila, Philippines, 2–5 April 2019..... 7</b>
	<b>3.3.2 IOC Sub-Commission for the Caribbean and Adjacent Regions: 15th Session of IOCARIBE, Oranjestad, Aruba, 6–10 May 2019..... 10</b>
	<b>3.3.3 IOC Sub-Commission for Africa and the Adjacent Island States: 5th Session of IOCAFRICA, Nairobi, Kenya, 25–27 March 2019 ..... 13</b>
	<b>3.3.4 IOC Regional Committee for the Central Indian Ocean: 7th Session of IOCINDIO, Hyderabad, India, 25–26 April 2019..... 15</b>
3.4	REPORT OF THE IOC ACTIVITIES (2018–2019) TO THE FORTIETH GENERAL CONFERENCE OF UNESCO ..... 17
<b>4.</b>	<b>IOC AND THE FUTURE OF THE OCEAN: STRATEGIC DEVELOPMENTS PROGRESS..... 18</b>
4.1	REPORT ON THE PREPARATION OF THE UNITED NATIONS DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT ..... 18
4.2	ENHANCED COHERENCE, IMPACT AND FUTURE ORIENTATIONS OF THE IOC IN SUPPORT OF THE UN DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT AND 2030 AGENDA ..... 22
<b>5.</b>	<b>UNITED NATIONS PARTNERSHIPS ..... 23</b>
5.1	COOPERATION WITH WMO ..... 23
5.2	IOC CONTRIBUTION TO THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC) ..... 27

<b>6.</b>	<b>OCEAN RESEARCH .....</b>	<b>29</b>
6.1	HARMFUL ALGAL BLOOMS: 14TH SESSION OF IPHAB, UNESCO, PARIS, 20–26 APRIL 2019 .....	29
6.2	REPORT OF THE WMO-IOC-ISC WORLD CLIMATE RESEARCH PROGRAMME (WCRP) .....	30
<b>7.</b>	<b>OBSERVING SYSTEMS AND DATA MANAGEMENT.....</b>	<b>31</b>
7.1	OBSERVING SYSTEMS .....	31
	<b>7.1.1.GOOS: Strategy, Implementation, And Governance.....</b>	<b>31</b>
	<b>7.1.2.WMO-ISC-IOC-UNEP Global Climate Observing System (GCOS) Workplan .....</b>	<b>34</b>
	<b>7.1.3.Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM) .....</b>	<b>35</b>
7.2	DATA MANAGEMENT .....	37
	<b>7.2.1 International Oceanographic Data and Information Exchange: 25th Session of IODE, Tokyo, Japan, 18–22 February 2019 .....</b>	<b>37</b>
	<b>7.2.2 Draft Concept for an Ocean Data and Information System (ODIS) .....</b>	<b>42</b>
<b>8.</b>	<b>EARLY WARNING AND SERVICES .....</b>	<b>43</b>
8.1	REGIONAL TSUNAMI WARNING SYSTEMS .....	43
	<b>8.1.1 Intergovernmental Coordination Group For The Pacific Tsunami Warning And Mitigation System: 28th Session Of Icg/Ptws, Montelimar, Nicaragua, 2–5 April 2019 .....</b>	<b>43</b>
	<b>8.1.2 Intergovernmental Coordination Group For The Indian Ocean Tsunami Warning And Mitigation System: 12th Session Of Icg/lotwms, Kish Island, Iran (I.R.), 9–12 March 2019.....</b>	<b>44</b>
	<b>8.1.3 Intergovernmental Coordination Group For The Tsunami And Other Coastal Hazards Warning System For The Caribbean And Adjacent Regions: 14th Session Of The Icg/Caribe-Ews, Honduras, Punta Leona, Costa Rica, 8–11 April 2019 .....</b>	<b>45</b>
	<b>8.1.4 Intergovernmental Coordination Group For The Tsunami Early Warning And Mitigation System In The North-Eastern Atlantic, The Mediterranean And Connected Seas: 13th Session Of Icg/Neamtws, Unesco, Paris, 26–28 November 2018.....</b>	<b>45</b>
8.2	GLOBAL COORDINATION OF WARNING AND MITIGATION SYSTEMS FOR OCEAN HAZARDS .....	46
	<b>8.2.1 Working Group On Tsunamis And Other Hazards Related To Sea-Level Warning And Mitigation Systems: 12th Meeting Of Tows-Wg, Unesco, Paris, 21–22 February 2019.....</b>	<b>46</b>
<b>9.</b>	<b>ASSESSMENT AND INFORMATION FOR POLICY .....</b>	<b>50</b>
9.1	REPORT OF THE IHO-IOC GEBCO GUIDING COMMITTEE.....	50
<b>10.</b>	<b>SUSTAINABLE MANAGEMENT AND GOVERNANCE .....</b>	<b>52</b>
10.1	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 .....	52
10.2 INTEGRATED COASTAL AREA MANAGEMENT PROGRAMME (ICAM) STRATEGY IMPLEMENTATION .....	54
<b>11. CAPACITY DEVELOPMENT .....</b>	<b>55</b>
11.1 REPORT OF THE IOC CAPACITY DEVELOPMENT GROUP OF EXPERTS.....	55
11.2 IOC'S CONTRIBUTION TO OCEAN LITERACY IN 2018–2021: ACTION PLAN .....	59
<b>12. ADMINISTRATION, FINANCE AND MANAGEMENT .....</b>	<b>60</b>
12.1 FOLLOW-UP TO RESOLUTION EC-LI.2: FINANCE AND REGULATIONS, GOVERNANCE, WORKING METHODS & PROCEDURES – REPORT OF THE CHAIR OF THE INTERSESSIONAL FINANCIAL ADVISORY GROUP .....	60
12.2 DRAFT PROGRAMME AND BUDGET FOR 2020–2021 (DRAFT 40 C/5).....	61
12.3 DRAFT MEDIUM-TERM STRATEGY 2022–2029: PRELIMINARY PROPOSALS BY THE SECRETARIAT .....	62
12.4 REPORT BY THE CHAIRPERSON OF THE FINANCIAL COMMITTEE .....	63
12.5 PREPARATION FOR THE COMMEMORATION OF THE 60TH ANNIVERSARY OF THE IOC (1960–2020) .....	67
12.6 ELECTIONS OF THE OFFICERS OF THE COMMISSION AND MEMBERS OF THE EXECUTIVE COUNCIL.....	68
<b>12.6.1 Election of the Chairperson of the Commission .....</b>	<b>69</b>
<b>12.6.2 Election of the Vice-Chairpersons of the Commission .....</b>	<b>69</b>
<b>12.6.3 Election of the Members of the Executive Council .....</b>	<b>69</b>
12.7 31 <sup>TH</sup> SESSION OF THE ASSEMBLY AND 53 <sup>RD</sup> AND 54 <sup>TH</sup> SESSIONS OF THE EXECUTIVE COUNCIL .....	70
<b>13. ADOPTION OF RESOLUTIONS AND SUMMARY REPORT .....</b>	<b>71</b>
<b>14. CLOSURE.....</b>	<b>71</b>

## PART II – Resolutions and Decisions

Resolution <b>XXX-1</b> : Progress report on the preparation of the United Nations Decade of Ocean science for Sustainable Development.....	72
Resolution <b>XXX-2</b> : Joint WMO-IOC Collaborative Board.....	73
Resolution <b>XXX-3</b> : Financial Matters of the Commission.....	77
<b>IOC-XXX/Dec. _____</b>	
<b>2. I. Agenda.....</b>	<b>95</b>
II. Rapporteur .....	95
III. Sessional Committees and Working Groups.....	95
<b>3.2 Report of the Executive Secretary .....</b>	<b>96</b>
<b>3.3.1 IOC Sub-Commission for the Western Pacific .....</b>	<b>97</b>
<b>3.3.2 IOC Sub-Commission for the Caribbean and Adjacent Region.....</b>	<b>98</b>

3.3.3	IOC Sub-Commission For Africa and the Adjacent Island States.....	98
3.3.4	IOC Regional Committee for the Central Indian Ocean .....	99
3.4	<b>100</b> Report on the IOC Activities (2018–2019) to the Fortieth General Conference of UNESCO .....	100
4.2	Enhanced Coherence, Impact and Future Orientations of the IOC in support of the UN Decade Of Ocean Science for Sustainable Development (2021–2030) and the 2030 Agenda .....	100
5.1	<b>101</b> Cooperation with WMO .....	101
5.2	IOC contribution to the United Nations Framework Convention on Climate Change (UNFCCC) .....	101
6.1	Harmful Algal Blooms .....	102
6.2	WMO-IOC-ISC World Climate Research Programme (WCRP).....	102
7.1.1	<b>103</b> The Global Ocean Observing System.....	103
7.1.2	WMO-ISC-IOC-UNEP Global Climate Observing System (GCOS) Work Plan.....	104
7.1.3	Joint WMO-IOC TECHNICAL Commission for Oceanography and Marine Meteorology (JCOMM).....	105
7.2.1	IOC Committee on International Oceanographic Data and Information Exchange.....	106
7.2.2	<b>108</b> IOC Ocean Data and Information System (ODIS).....	108
8.2	Tsunami and Other Coastal Hazards Warning Systems .....	109
9.1	IHO-IOC Gebco Guiding Committee.....	113
10.1	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.....	114
10.2	Integrated Coastal Area Management Programme (ICAM) Strategy Implementation.....	115
11.1	IOC Capacity Development Group of Experts .....	116
11.2	IOC’s Contribution to Ocean Literacy in 2018–2021 .....	117
12.1	Follow-Up to Resolution EC-LI.2 .....	118
12.2	Draft Programme and Budget for 2020–2021 (Draft 40 C/5).....	118
12.3	Draft Medium-Term Strategy for 2022–2029: Preliminary Proposals by the Secretariat .....	118
12.5	Preparation for the Commemoration of the 60th Anniversary of the IOC (1960–2020).....	119
12.6	IOC Elections 2019 .....	119
12.7	Dates and Places of Next Sessions of the Executive Council and Assembly.....	119
13	Adoption of Resolutions and the Summary Report .....	120

**ANNEXES**

I. **AGENDA**

- II. REPORT OF THE 52ND SESSION OF THE IOC EXECUTIVE COUNCIL ACTING AS THE STEERING COMMITTEE OF THE ASSEMBLY
- III. ADDRESSES AND STATEMENTS
  - A. Address by Mr Xing Qu, Deputy Director-General of UNESCO
  - B. Chairperson's Statement on recent developments in the work of the Commission and perspectives for the coming years (Prof. Peter Haugan)
  - C. Address by UNSG's Special Envoy for the Ocean, Ambassador Peter Thomson
  - D. Closing address by Prof. Peter M. Haugan, Chairperson
- IV. INFORMATIONAL ANNEX
- V. IOC MEMORIAL LECTURES
  - A. The A. Bruun Memorial Lecture, 2019
  - B. The N.K. Panikkar Memorial Lecture, 2019
- VI. RESULT OF ELECTIONS AND LIST OF IOC MEMBER STATES
- VII. LIST OF DOCUMENTS
- VIII. LIST OF PARTICIPANTS
- IX. LIST OF ACRONYMS



## PART I

**SUMMARY REPORT****1. OPENING**

1. The Chair, Professor Peter M. Haugan, opened the 30th session of the IOC Assembly at 10:00 on Wednesday 26 June 2019 in Room I at UNESCO Headquarters. He expressed great appreciation for the opportunity to welcome IOC delegations and representatives of partner organizations in the main conference hall in UNESCO for the first time in the history of Assembly plenary sessions. He announced that one new IOC Member State joined the IOC since the last Executive Council in 2019: Equatorial Guinea as from 5 April 2019, taking the IOC membership to 150. He welcomed the new officers recently elected in the following subsidiary bodies of the Commission: ICG/IOTMWS, ICG/PTWS, IOCAFRICA, IOCARIBE, IODE, IPHAB, and WESTPAC. He concluded with his personal reflections on his time as Chairman of the Commission, this Assembly being his last in this capacity, and thanked Member States for the opportunity to serve the Commission.
2. The Deputy Director-General of UNESCO, Mr Qu Xing, addressed the Assembly on behalf of the Director-General Ms Audrey Azoulay. He highlighted the pivotal role of the IOC in bringing together the scientific communities, the governmental decision-making system, and a broader set of stakeholders within our Member States, including the private sector and the civil society as a whole, to create an efficient science-based integrated ocean management. IOC's strong contribution to the sustainable development agenda and the planning of the UN Decade of Ocean Science for Sustainable Development (2021–2030) have shown that the IOC can play a key role in ocean-related approaches to global challenges of our time. He stressed that the Decade will offer an exceptional opportunity to highlight the societal benefits of all IOC programmes through a transformative approach to generating actionable scientific knowledge at the service of decision-makers. Full text of the address is available in [Annex III-A](#).
3. The Chair asked participants to stand for a minute of silence to honour distinguished individuals who had participated in the work of the Commission and have passed away in the past years: Dr Fauzi (Indonesia, –2018), J. Frederick M. Grassle (USA, 1939–2018), Angus McEwan (Australia, 1937–2018), Walter Munk (USA, 1917–2019) and Joanna Toole (U.K., 1983–2019).
4. The Chair invited participants to visit the exhibition in the Foyer. On behalf of the Assembly, he thanked several partners and sponsors for supporting the session in various ways including the Ministry of Education, Culture, Sports, Science and Technology of Japan (MEXT), the Korea Institute of Marine Science & Technology promotion (KIMST), the USA, the UK, the Indian Ministry of Earth Sciences, Ocean Technology Institute, SCOR, and the Permanent Delegation to UNESCO of Norway. The traditional IOC reception was organized by the IOC Secretariat.

**2. ORGANIZATION OF THE SESSION****2.1 ADOPTION OF THE AGENDA AND OTHER ORGANIZATIONAL MATTERS**

5. The Chair reminded the Assembly that the Executive Council, acting as the Steering Committee for this Assembly session, examined the revised provisional agenda for the session and noted there was no request for supplementary items.

**2.2 DESIGNATION OF THE RAPPORTEUR**

6. The representatives of 6 Member States took the floor.

**2.3 ESTABLISHMENTS OF SESSIONAL COMMITTEES AND WORKING GROUPS**

7. Referring to the recommendations made by the Executive Council (EC-LII, Dec. 3.1) on this

item, acting as the steering committee for the present session, the Chair reminded the Assembly of the mandate of the three statutory sessional committees, the open-ended composition thereof, and the working arrangements made for their meetings.

## 2.4 INTRODUCTION OF DOCUMENTATIONS, TIMETABLE AND MEMORIAL LECTURES

8. The Executive Secretary, Dr Vladimir Ryabinin, introduced this item. He explained that it was a deliberate choice to welcome the Assembly in room I of UNESCO for the first two days of its plenary session. The Assembly would then continue its work in room II until the end of the session. He then briefly reviewed the list of working documents and reminded the Assembly that the report would be focused on decisions. Referring to IOC-XXX/Inf.1, the Executive Secretary reminded the Assembly that draft decisions would be agreed upon during the discussion of each agenda item and draft resolutions would be adopted at the end of the session under item 13. The complete set of adopted decisions and resolutions in all four languages would be made available at the end of the session, in line with the established UNESCO practices. The translation and the adoption of the narrative part of the report will be done after the session. He then referred to his presentation to the Executive Council under item 3.3 to explain the reasons that led the Secretariat to propose this approach. He reminded the Assembly that two Draft Resolutions were received by the deadline of 21 June. Member States that wished to have specific, particularly important, plenary interventions recorded, were invited to provide written records thereof in one of the four working languages of the Commission, to be annexed to the report, in their original language as an informational annex to this report. A template and a dedicated e-mail address (iocgovbody@unesco.org) was set up to this end (IOC-XXX/Inf.1 Add.).
9. With reference to the timetable for the session, the Executive Secretary informed the Assembly about the interpretation arrangements during the session. Meetings of the Financial Committee benefitted from English/French interpretation.
10. The Executive Secretary informed the Assembly that the second day of the session (Thursday 27 June) was dedicated to the UN Decade of Ocean Science for Sustainable Development (2021–2030) and therefore open to a wider audience, in particular during the Ocean Science Day event in the morning. That event consisted of round table discussions around the three first strategic objectives of the Decade: Filling Gaps in Current Knowledge; Knowledge on Multiple Ocean Stressors for Ecosystem-based Management; and Ocean Science for Saving Lives.
11. The IOC Anton Bruun Memorial Lecture on ‘Time Series and their Contribution to the Prediction of the State of the Ocean’ was delivered by Professor Peter A. Thompson (CSIRO, Australia). The IOC N.K. Panikkar Memorial Lecture on the theme ‘Science Capacity Development in support of Societal Goals in Western Africa’ was delivered by videoconference by Dr Jacqueline Uku, President of the Western Indian Ocean Marine Science Association (WIOMSA). Following their presentations, Professor Thompson and Dr Uku were awarded the IOC Anton Bruun Medal and the IOC N.K. Panikkar Medal, respectively.

### Decision IOC-XXX/2

#### **Organization of the Session**

The Assembly,

#### **I. Agenda**

Adopts the agenda and the timetable of work as set out in document IOC-XXX/1 Prov. Rev. and Add. Rev.2;

#### **II. Rapporteur**

On a proposal of Philippines, seconded by China, Indonesia, Japan, Kenya and Republic of Korea,

Designates Ms Suree Satapoomin of Thailand Rapporteur for its present session to assist the Chairperson and the Executive Secretary in the preparation of the draft provisional report of the session;

### III. Sessional Committees and Working Groups

Considering the recommendations of the Executive Council at its 52<sup>nd</sup> session acting as the Steering Committee for its session (EC-LII/Dec.3.1),

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

Financial Committee: to examine the financial implications of draft decisions/resolutions, workplans of subsidiary bodies and prepare a resolution under items 3.2, 3.3 and 12.1-4; under the chairship of Ariel H. Troisi (Argentina, Vice-chair) with the following Member States participating: Australia, Belgium, Brazil, Canada, China, Egypt, Equatorial Guinea, France, Germany, Grenada, India, Japan, Kenya, Norway, Portugal, Republic of Korea, Russian Federation and United States of America. Ms Ksenia Yvinec provided the Secretariat support to the Financial Committee.

Resolutions Committee: to report on all draft resolutions duly presented for consideration at the session; under the chairship of Mr Yutaka Michida (Japan) with the following Member States participating: Canada, China, Colombia, Germany, India, Japan, Norway, Republic of Korea, Russian Federation, Thailand and United States of America. Mr Julian Barbière provided the Secretariat support to the Resolutions Committee.

Nominations Committee: to examine all proposals of candidates for the elections to the chair, vice-chairs and to the Executive Council at the present session, and to report on them – item 12.6: under the chairship of Dr Sang-Kyung Byun (Republic of Korea) with the following Member States, representing all electoral groups, participating: Bulgaria, Chile, China, Cuba, Democratic Republic of the Congo, India, Ireland, Japan, Morocco, Nigeria, Portugal, Republic of Korea, Senegal, Thailand, USA. Dr Thorkild Aarup and Dr Salvatore Aricò provided the Secretariat support to the Nominations Committee.

### 3. IOC MATTERS AND REPORTS

#### 3.1 STATEMENT OF THE CHAIRPERSON

12. In accordance with rule of procedure 8.1(a), Chair Peter M. Haugan delivered an oral statement on recent developments in the work of the Commission and perspectives for the coming years ([Annex III-B](#)).
13. The decision of the 2017 United Nations General Assembly to proclaim the United Nations Decade of Ocean Science for Sustainable Development (2021–2030) was truly historic. It rewarded the leading efforts by the IOC of UNESCO to bridge ocean science and policy – to go from research to action. IOC is now bringing all stakeholders together to design an ambitious and transformative Implementation Plan for the Decade, which has the potential to grow into one of the largest targeted scientific campaigns in Earth sciences ever. The importance of a healthy ocean for eradicating poverty; ensuring food security; generating employment, from the artisanal to the industrial level; and protecting coastal communities from natural disasters, among many others, has now been highlighted and understood by key players. To maintain this momentum and make the Decade truly transformative, we need to build relationships of trust and mutual benefit between governments, businesses, academic institutions, civil society and international organizations across different fields and regions.
14. In this context, the Chair highlighted his attendance on behalf of the IOC in a number of high-level meetings, engaging with senior stakeholders on the importance of the IOC programmes to the global ocean agenda.
15. The representatives of 14 Member States and one organization took the floor.
16. The Assembly thanked the Chair for his remarks and leadership that was critical to the recent achievements, placing the ocean at the heart of the sustainable development agenda and opening avenues for the Commission for further collaboration thereby fulfilling its mission in the best possible way. The Assembly in particular commended the Chair for his success in increasing the recognition and visibility of the IOC and the stronger positioning of the IOC in the UN system. The Assembly

recognized the importance of these efforts for the development of the UN Decade of Ocean Science for Sustainable Development.

17. The following Member States chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report: [Kenya](#) and [United Kingdom](#).

3.2 REPORT BY THE EXECUTIVE SECRETARY ON THE WORK  
ACCOMPLISHED SINCE THE FIFTY-FIRST SESSION  
OF THE EXECUTIVE COUNCIL AND ON BUDGET IMPLEMENTATION  
(JULY 2018–MAY 2019)

18. The Executive Secretary introduced this item using a PowerPoint presentation. He reminded the Assembly that the end of the year 2017 was very special for the Commission with the endorsement by the UN General Assembly at its 72nd session of the IOC's proposal to proclaim the years 2021–2030 the United Nations Decade of Ocean Science for Sustainable Development (the Decade). The IOC has now less than two years to work with Members States, the UN, all partners and stakeholders to develop an implementation plan for the Decade. This is a once-in-a-life-time opportunity for all to achieve a breakthrough in the capacity of oceanography to serve people and the planet. Steadily, a very promising image of the Decade emerges including a number of proactively designed revolutionary developments in ocean observations, sciences and services, matched by their large-scale uptake in all activities related to increased but sustainable use of the ocean space and resources.

19. Significant progress was made in the development of the methodology to support Member States' implementation of and reporting on SDG Indicator 14.3.1 and Target 14.a, for which the IOC has been assigned the custodianship role. Based on the work of the IOC-coordinated Global Ocean Acidification Observing Network (GOA-ON) and the IOC's first *Global Ocean Science Report*, both indicator and target have been upgraded to Tier 2 status. After more than four years of international collaboration, coordinated by the IOC, the South China Sea region now has its own dedicated Tsunami Advisory Centre. The Palu tsunami in September, as well as the Sunda Strait tsunami in December 2018, caused significant loss of lives and property damage. Post-tsunami field investigations by the International Tsunami Survey Team, assisted by the IOC at the request of Indonesia, were conducted.

20. Through three flagship events at the Sustainable Blue Economy conference organized by Kenya and Canada, 26–28 November 2018 in Nairobi, the IOC put forward its experience in supporting nations in the implementation of maritime spatial planning. As part of its awareness raising strategy with regard to gender equality, the side event 'Making waves: Women in Ocean Science' was organized with the support of Canada at the High-Level Scientific Conference 'From COP21 towards the UN Decade of Ocean Science for Sustainable Development'. The event focused on the role of women in ocean science, in improving global ocean knowledge and in supporting informed and inclusive decision-making.

21. Among other key achievements, the Executive Secretary highlighted the progress made in the preparation of the 2nd edition of the IOC's *Global Ocean Science Report*, including the joint efforts of the IOC and the OECD to advance on the valuation of the societal benefits from ocean science and services. He attracted the attention of Member States to the IOC-SCOR draft policy brief on multiple ocean stressors *Ocean under Stress: A changing ocean at all locations* ([IOC/INF-1367](#) Prov.) and its potential significant contribution in informing Strategic Objective 2 of the UN Decade of Ocean Science for Sustainable Development, which focuses on the science of multiple ocean stressors as a basis for ecosystem-based management. He also welcomed the IIOE-2 Steering Committee's resolution at its third annual meeting of 12–13 March 2019 to continue the IIOE-2 to at least 2025, which will allow a strong and tangible contribution, at both regional and global levels, to the UN Decade of Ocean Science for Sustainable Development 2021–2030.

22. Having stressed the main IOC achievements and successes as well as the issues during the reporting period, he then provided a detailed update on each of the six IOC functions, including the work of the regional and technical subsidiary bodies of the Commission, and relevant UNESCO Category 2 Centres.
23. The Executive Secretary also updated the Assembly on status of negotiations with Australia of the formal seat agreement for the Perth Programme Office and the ICG/IOTWMS Secretariat, hosted by the Australian Bureau of Meteorology.
24. With regard to the Commission's financial situation, he confirmed that the Secretariat has been implementing the workplans in accordance with the budgetary allocations and resource mobilization targets approved by the IOC Executive Council's Resolution EC-LI.2 as presented in document IOC/EC-LI/2 Annex 2 and Addendum.
25. Overall, the Executive Secretary identified as the main challenge for the Commission's small Secretariat the dual task to raise not only extrabudgetary resources necessary to maintain its core operational programmes, but also significant additional resources to lead and coordinate the Decade preparation phase. A new approach to fund-raising and outreach, based on highlighting the societal benefits of the IOC's work and demonstrating the return on investment in ocean science and observation is being developed. In this context, the Executive Secretary highlighted the key role of outreach and communication, both to the Commission's core constituencies but also to the society at large, and the increased need to invest in this area in the context of a truly inclusive and transformative approach to the Decade.
26. The representatives of 28 Member States and 1 observer organization took the floor.
27. The Assembly was unanimous in thanking the Executive Secretary and his team for a very complete and comprehensive report, which clearly summarizes the extensive work. Sound science organized by Member States and coordinated by the Secretariat led to increased credibility and visibility in major international frameworks and fora of which the IOC, as a community, can be proud. The attribution to the IOC of the coordinating role for the UN Decade of Ocean Science for Sustainable Development 2021–2030 is a clear vote of confidence in the IOC's ability to deliver. All speakers highlighted the key leadership role of the Chair and the Officers of the Commission in this success.
28. In the opinion of most speakers, the IOC has a critical role to play in the development of SDG 14 indicators, and its efforts in advancing the two indicators for which it is a custodian are quite remarkable, despite limited financial resources. In the context of biodiversity beyond national jurisdiction (BBNJ), the Commission's contribution on capacity development and transfer of marine technology was noted as particularly important. The Assembly stressed the need for more operational services and exchange of data, with a particular focus on real-time data exchange.
29. The Assembly reiterated that the Decade is an unprecedented opportunity to realise critical societal goals and mobilize stakeholders and resources. New platforms and activities are emerging in many Member States and several speakers provided concrete examples of national and regional commitments and investments, while also stating their enthusiasm to step up in their engagement and support. The Assembly also reiterated that this will require full mobilization of national expertise, as well as strengthening of the IOC regional networks, with priority given to Africa and the most vulnerable communities. To achieve this, forward planning, in particular on issues of human resources, will be required. The Pan-African conference on Ocean Sciences for Sustainable Development in Egypt (2020) would be one such opportunity to consolidate baseline scientific information and identify priorities moving forward, creating synergies with the objectives and approaches of the African Union. IOC's strength in bringing together stakeholders should be expanded to better involve young scientists and youth in general.

30. Several Member States welcomed the continuation of the Second International Indian Ocean Expedition (IIOE-2) until 2025, decided by its Steering Committee, as an important contribution to the first half of the UN Decade of Ocean Science for Sustainable Development.
31. The Assembly acknowledged the Second United Nations Ocean Conference in Lisbon (June 2020), co-organized by Portugal and Kenya, as an essential milestone in moving towards stronger ocean science serving sustainability.
32. Several Member States' interventions expressed concern regarding the low level of non-earmarked voluntary contributions and stressed that an increase of such support would be a testimony of confidence in our collective work and allow addressing the most critical gaps and needs.
33. In his closing remarks, the Executive Secretary thanked the Member States for their constructive comments and suggestions for improvement. He assured the Assembly that all of them were fully taken on board by the Secretariat. He further stressed the importance of further joint efforts, by the Secretariat and by the Member States, to make the next editions of the *Global Ocean Science Report* more comprehensive and representative so that it can deploy its full potential in helping develop our work in capacity development and transfer of marine technology in an informed way. He also highlighted the potential role of Maritime Spatial Planning in addressing many issues related to economic development of coastal nations.
34. The following Member States and one organization chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report: [Australia](#), [China](#), [Colombia](#), [Cote d'Ivoire](#), [India](#), [Ireland](#), [Japan](#), [Kenya](#), [Norway](#), [Philippines](#), [Republic of Korea](#), [South Africa](#), [Thailand](#), [United Kingdom](#), [USA](#), and [WMO](#).

Decision IOC-XXX/3.2

**Report of the Executive Secretary**

The Assembly,

Having examined documents IOC-XXX/2 Annex 1 & 2, IOC/INF-1366, 1367, 1368, 1351 Part 3, 1370 and 1382,

Takes note of the report of the Executive Secretary on the work accomplished since the 29th session of the Assembly (July 2017–May 2019), including the report on 2018 budget implementation and the overview of the 2019 budget;

Welcomes the progress made with the preparation of the second edition of the Global Ocean Science Report (GOSR) since the 51<sup>st</sup> session of the IOC Executive Council (IOC/INF-1366);

Invites the IOC Secretariat to present the second edition of the GOSR at the 53<sup>rd</sup> session of the IOC Executive Council in 2020;

Calls upon the IOC Secretariat and OECD to further expand cooperation related to activities on the scientific approaches of valuation of ocean sources and services, and the contribution of ocean science to sustain these;

Welcomes the draft IOC-SCOR policy brief on multiple ocean stressors (IOC/INF-1367) and its potential significant contribution in informing Strategic Objective 2 of the UN Decade of Ocean Science for Sustainable Development, which focuses on the science of multiple ocean stressors as a basis for ecosystem-based management;

Encourages the IOC Secretariat to continue technical cooperation with the Scientific Committee on Ocean Research (SCOR) Working Group 149 in the area of changing ocean biological systems in a multiple-driver world;

Acknowledges the continuous support by Member States to the IOC Secretariat with respect to the SDG indicator development and data collection, specifically, with respect to 14.1.1, 14.2.1, 14.3.1 and 14.a.1 (IOC/INF-1368);

Acknowledges with appreciation the SDG-IAEG decision to reclassify SDG Indicator 14.3.1 from Tier 3 to Tier 2, which means that the indicator is conceptually clear, has an internationally established methodology and standards are available, but data are not regularly produced by countries; and encourages the IOC expert

groups on ocean acidification to further pursue their work towards the ultimate reclassification of SDG Indicator 14.3.1 to Tier 1;

Invites the IOC Secretariat to establish and continue the regular data collection for Indicators 14.3.1 and 14.a.1 and report the progress to the IOC Executive Council at its 53<sup>rd</sup> session in 2020;

Acknowledges further the progress made by the Second International Indian Ocean Expedition (IIOE-2) in reference to its alignment with both the IIOE-2 Science Plan and Implementation Strategy (IOC/INF-1351 Part 3);

Notes the request of IIOE-2 Steering Committee, adopted at its third annual meeting of 12–13 March 2019, to the Expedition Sponsors to continue to support the IIOE-2 to at least 2025 in recognition of its many current and prospective projects that will reach well into the UN Decade of Ocean Science for Sustainable Development 2021–2030;

Further notes that a continued IIOE-2 would also contribute tangibly and strongly at both regional and global levels to the Decade;

Invites the IOC Secretariat to continue to support the IIOE-2 through continuing its role on and for the IIOE-2 Steering Committee and to facilitate the alignment of the IIOE-2's extended tenure with the goals and objectives of the Decade and report back to the IOC Executive Council at its 53<sup>rd</sup> session in 2020;

Accepts the proposal by the IOC Secretariat to extend the Terms of Reference of the Perth Programme Office as endorsed in the annex to Resolution XXVII-1 to June 2021.

### 3.3 REPORTS BY THE CHAIRS OF THE IOC SUB-COMMISSIONS AND REGIONAL COMMITTEES

#### 3.3.1 IOC Sub-Commission for the Western Pacific: 12th Session of WESTPAC, Manila, Philippines, 2–5 April 2019

35. Dr Vo Si Tuan, Chair of the IOC Sub-Commission for the Western Pacific (WESTPAC) presented the key achievements over the last intersessional period and key results of the 12th WESTPAC intergovernmental session (2–5 April 2019, Manila, the Philippines).
36. He highlighted that a total of 2012 (41% female) marine scientists, governmental officials and resource managers directly took part in a variety of WESTPAC activities in 2017–2018, including through its triennial WESTPAC International Marine Science Conference, biennial intergovernmental session, two regional observing systems; fourteen research projects/programmes/working groups, and a regional network of Training and Research Centres (RTRCs) on marine science.
37. Highlights over the last intersessional period include: organization of the largest gathering in the region for marine scientists (WESTPAC International Marine Science Conference), the development and launching of a new version of the SEAGOOS Ocean Forecasting System; the conduct of a feasibility study on the 2nd Cooperative Study of Kuroshio and its adjacent regions (CSK-2); the transfer of molecular techniques for marine biodiversity conservation and resource management; joint research on marine toxins with the first paper published from South-East Asia on ciguatera toxin confirmed case; the strengthening of regional research and monitoring network on the ecological impacts of ocean acidification on coral reefs; the development of microplastic research and monitoring network and synergy with the ASEAN's effort in combating marine debris.
38. The WESTPAC Chair expressed his appreciation to Member States for their high level of engagement in the implementation of the IOC Capacity Development Strategy (2015–2021) at the regional level, in particular, for the regular training and research opportunities offered by the Regional Training and Research Center on Ocean Dynamics and Climate (RTRC-ODC) at the First Institute of Oceanography, State Oceanographic Administration of China, and Regional Training and Research Center on Marine Biodiversity and Ecosystem Health (RTRC-MarBEST) at the Indonesian Institutes of Sciences, Indonesia.

39. Dr Vo Si Tuan further presented the key results of the 12th WESTPAC intergovernmental session (2–5 April 2019, Manila, the Philippines). The 12th session was attended by close to 100 delegates from sixteen countries and representatives from international programmes/organizations within and outside the region. The session served as a timely starting point for the Sub-Commission to prepare for the UN Decade of Ocean Science. He informed the Assembly that WESTPAC would actively engage in and contribute to the Decade, through advocating for it and communicating with various stakeholders; organizing and hosting regional and global workshops for the UN Decade; contributing capacity building opportunities and transferring marine technology, for instance via its regional network of Training and Research Centres (RTRCs); developing and strengthening Centres of Excellence in marine sciences to serve the Decade’s objectives; developing, coordinating and aligning international programmes/activities to meet the UN Decade’s objectives; and forging triennial WESTPAC International Marine Science Conferences as an essential regional platform to ensure a timely response to, and examine the outputs of the UN Decade.
40. He drew the attention of the Assembly to the Regional Consultative and Planning Workshop for the North Pacific and Western Pacific Marginal Seas, which the Sub-Commission will organize in Tokyo on 31 July–2 August 2019 in close cooperation with the North Pacific Marine Science Organization (PICES) and other partners in the region. He thanked the Government of Japan for its generous support to this important event. The regional workshop provides a valuable forum for international, interdisciplinary and multi-stakeholder dialogues to contribute to the preparation phase of the Decade.
41. Dr Vo Si Tuan reported that the Sub-Commission would continuously attach great importance to capacity development in the UN Decade of Ocean Science, and employ inclusive, adaptive and self-driven approaches to capacity development with guiding principles to focus on countries’ needs, to foster North-South and South-South collaboration, and to link trainings to the attainment of research goals addressing critical development challenges in the region. He highlighted that the initiative of the “IOC Regional Network of Training and Research Centers on Marine Science in the Western Pacific and adjacent regions” has been recognized by countries in the region as a best practice for capacity development and transfer of marine technology in the region. He further informed the Assembly that there were three new RTRCs being established to serve the demands of countries in the region, respectively on: reef management and restoration at the Marine Science Institute, University of Philippines Diliman; marine toxin and food security at the Institute of Oceanography, Vietnam Academy of Science and Technology; and plastic marine debris and microplastics at the East China Normal University. He recalled the side event which took place on 27 June 2019 on the “development of an IOC Regional Network of Training and Research Centres on Marine Science in the Western Pacific”, as a firm commitment of IOC Member States in the region to the UN Decade of Ocean Science.
42. He informed the meeting that a total of six Recommendations were adopted at the 12th WESTPAC session, covering the engagement of WESTPAC into: the UN Decade of Ocean Science; the conduct of a feasibility study on the 2nd Cooperative Study on Kuroshio and its adjacent regions; the IOC Regional Network of Training and Research Centers on Marine Science in the Western Pacific; the 12th WESTPAC International Marine Science Conference 2020; the 13th WESTPAC Intergovernmental session 2021; and its Programme and Budget for the next intersessional period, which will serve mainly as guidance on the activities that Member States would like to jointly promote and seek funding from various sources in support of their implementation.
43. Dr Vo Si Tuan expressed his great appreciation to all Member States for their contribution, either in-kind or in-cash, to the development of a variety of WESTPAC programmes and activities, in particular, the Government of the Philippines for having hosted the 12th WESTPAC session, the Government of Indonesia for its kind offer to host the 11th WESTPAC International Marine Science Conference 2020, and to the Governments of Indonesia and Bangladesh for their strong willingness to host the 13th WESTPAC session in 2021.



44. He invited all delegates and partners to the UN Decade Regional Workshop in Tokyo, Japan, and the 11th WESTPAC International Marine Science Conference 2020 in Jakarta, Indonesia. Notwithstanding, the Sub-Commission expressed its concern over the incompatibility of the current size of the WESTPAC Office and the scope of IOC activities in the region. The incompatibility of the current size of the secretariat compared to the unprecedented demands is the main risk for positioning IOC in the region as the lead for ocean research.
45. The representatives of eight Member States and GEBCO took the floor.
46. The Assembly stressed the essential role of WESTPAC in the preparations and development of the UN Decade of Ocean Science in the region, and the importance of the RTRCs initiative to contribute to capacity development and transfer of marine technology among Member States, particularly in the context of the UN Decade of Ocean Science. Strong commitments were made by Member States to WESTPAC, which, *inter alia*, included: Thailand will continue hosting and supporting the operation of the WESTPAC Office; Indonesia will provide quality regular trainings at the RTRC-MarBEST and host the 11th WESTPAC International Marine Science Conference in 2020; the Philippines will offer regular training and research opportunities at the RTRC on reef management and restoration; Republic of Korea will intensify its efforts in marine biodiversity conservation; China will continue to provide regular trainings and research opportunities at RTRC-ODC, conduct of joint research and hosting of WESTPAC workshops; and Japan will continue to make financial contributions to WESTPAC in support of its programme implementation.
47. The following Member States and one programme chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report: [China](#), [India](#), [Indonesia](#), [Japan](#), [Philippines](#), [Republic of Korea](#), [Thailand](#), and [GEBCO](#).

Decision IOC-XXX/3.3.1

**IOC Sub-Commission for the Western Pacific**

The Assembly,

Having considered the executive summary report of the 12th Session of the IOC Sub-Commission for the Western Pacific, Manila, the Philippines, 2–5 April 2019 (IOC/WESTPAC-XII/3s),

Expresses its deep appreciation to:

- The Government of Thailand, through its Department of Marine and Coastal Resources, for the provision of office space and facilities for the WESTPAC Office; and its National Commission for UNESCO for the financial support to the WESTPAC activities on ocean acidification monitoring, microplastic research, scientific diving and dinoflagellate sampling and processing;
- The Government of the Philippines, through its Department of Foreign Affairs, National Commission for UNESCO, the University of the Philippines and its Marine Science Institute for hosting the 12th Intergovernmental session of the Sub-Commission (Manila, the Philippines, 2–5 April 2019);
- The Government of Japan for hosting and co-organizing the Regional Planning Workshop for the North Pacific and Western Pacific marginal seas towards the UN Decade of Ocean Science (Tokyo, Japan, 31 July–2 August 2019);
- The Government of China, through its Ministry of Natural Resources and First Institute of Oceanography for hosting the Regional Training and Research Centre on Ocean Dynamics and Climate, with annual trainings since 2011 that have attracted a total of 359 young scientists from 43 countries;
- The Government of Indonesia, through its Indonesian Institute of Sciences, for hosting the Regional Training and Research Center on Marine Biodiversity and Ecosystem Health with annual trainings provided since 2016;
- Member States for their either in-cash or in-kind support, such as China via its voluntary contribution to the IOC Special Account, Japan via the UNESCO/Japanese Funds-in-Trust, and the Republic of Korea via the UNESCO/Korean Funds-in-Trust. A significant in-kind support was also provided by China, Thailand, Indonesia, Japan, Republic of Korea, Malaysia, the Philippines, USA and Viet Nam for various WESTPAC programmes and activities;

Taking into account the pivotal role of the WESTPAC Office in IOC's achievements in the region over the past decade and in the preparations and implementation of the UN Decade of Ocean Science for Sustainable Development (2021–2030), with concerns over the increasing difficulty in maintaining IOC's visibility and leadership in the region as a result of the incompatibility of the current size of the WESTPAC Office and the scope of IOC activities in the region,

Requests the Executive Secretary IOC to reinforce the Sub-Commissions' Secretariat;

Invites all Member States, and relevant international organizations/programmes to participate in the 11<sup>th</sup> WESTPAC International Marine Science Conference 2020 (Jakarta, Indonesia, 25–28 August 2020);

Accepts the report of WESTPAC-XII and the recommendations therein, including the workplan of the Sub-Commission for May 2019–April 2021;

Agrees that the regular budget for these activities will be identified as part of the overall IOC Programme and Budget Resolution XXX-3.

### **3.3.2 IOC Sub-Commission for the Caribbean and Adjacent Regions: 15th Session of IOCARIBE, Oranjestad, Aruba, 6–10 May 2019**

48. The IOCARIBE Chair, Mr Arnulfo Sanchez (Panama), reported on the progress achieved in IOCARIBE focal programmes in 2017–2019: Harmful Algae Blooms in the Caribbean and Adjacent Regions (HAB-ANCA), IODE and related Ocean Data and Information Network for the IOCARIBE and South America Regions (ODINCARSA); the Caribbean Marine Atlas Phase 2 (CMA2); IOCARIBE-GOOS; ICAM and MSP; "CLME+: Catalyzing implementation of the Strategic Action Programme (SAP) for the Sustainable Management of shared Living Marine Resources in the Caribbean and North Brazil Shelf Large Marine Ecosystems"; implementation of the IOCARIBE Medium-Term Strategic Science Plan (2017–2026); the advances of the International Bathymetric Chart of the Caribbean Sea and the Gulf of Mexico (IBCCA); and capacity-development implementation plan, including the work and activities carried out in the Ocean Teacher Global Academy Centre Invemar (Colombia); and the decisions and recommendations on projects and activities planned to respond to Ocean Literacy and Ocean Acidification in the IOCARIBE region.
49. Mr Sanchez stressed the importance of prioritising IOCARIBE programme and project implementation responding to Member State needs in the region, and to proactively engage the scientific and academic communities, universities and research institutions, and civil society as collaborators in and beneficiaries of IOCARIBE programme development.
50. He recognized the importance of and the need to support and be engaged with the UN Decade of Ocean Science for Sustainable Development (2021–2030), and highlighted the importance of the consultative process through global and regional workshops and thanked Mexico and Brazil who are planning to host the UN Decade regional workshops in IOCARIBE region in 2019.
51. While reporting on the implementation of the CLME+ Project; and of the Caribbean Marine Atlas phase 2 (CMA2), he recognized their contribution in increasing Member States' capacities in relation to ecosystem-based management and encouraged Member States to support the establishment of a permanent coordination mechanism. Furthermore, he reported on the Sub-Commission decision to remain actively engaged in the UN World Ocean Assessment, and to promote IOCARIBE Member States' participation in it.
52. Mr Sanchez stressed the importance of re-organising IOCARIBE-GOOS coordination and networking role to respond to Member States' regional priorities and re-invigorate it by continuing working with the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (CARIBE-EWS), the "CIFDP-C Coastal Inundation Forecasting Demonstration Project in the Caribbean" and more importantly by partnering with existing ocean observing initiatives and GOOS Regional Alliances in the Atlantic Ocean, especially with the proposed All-Atlantic Ocean Observing System (AtlantOS Program).

53. He referred to the progress achieved in the development of the Sargassum and Oil Spills Information and Forecasting System for the Wider Caribbean as a tool to minimize the impact of Sargassum rafts on its coastlines and promoting best practices for managing/utilizing any sargassum; as well as to address oil spills that are a critical issue in this region with a high traffic shipping lanes; and recognized the collaboration between IOCARIBE-GOOS, GEO Blue Planet and other partners for the development of the system.
54. Mr Sanchez highlighted and stressed the importance of IOCARIBE-GOOS establishment of a pilot project on improvement of Hurricane Observing Forecasting Capacity jointly with national institutions and universities, including NOAA, its AOML, Meteorological Institute, the Marine Sciences Institute of Cuba, Texas A&M University, Rutgers, the State University of New Jersey, Dominican Republic National Office for Meteorology (ONAMET) and National Authority of Marine Affairs (ANAMAR).
55. He also noted plans for implementing the CIFDP-C in other countries of the region, after a successful implementation of the pilot in Hispaniola Island (Dominican Republic and Haiti) in 2018.
56. Mr Sanchez referred to HAB-ANCA work and main recommendations as these relate: to enhancing regional participation in, and the implementation of the IOC Ciguatera Strategy; to fostering regional collaboration, and to carrying out its Action Plan, 2019–2021, including preparation of a project focused on Ciguatera-causing organisms, toxins, contaminated seafood and the epidemiology that will include guidance to reduce the risks associated with benthic HABs in the IOCARIBE region.
57. He recognized the importance of Marine Spatial Planning (MSP) and coastal science and ocean literacy in developing a science-based IOCARIBE programme to support critical capacity development and decision-making in the region, and incorporate ocean literacy curricula in formal education, and to develop a national and regional strategy for ocean literacy.
58. Noting the concern of IOCARIBE Member States in understanding the extent of the ocean acidification (OA) impact on marine ecosystems and the need for observations and research to understand ecosystem response, Mr Sanchez referred to the coordination with UN Environment, Caribbean Environment Programme (CEP), and other partners to implement ocean acidification monitoring and mitigation projects as part of the Latin American Ocean Acidification Network (LAOCA)—a regional network of the Global Ocean Acidification Observation Network (GOA-ON)—in member countries, and the searching of a collaboration to expand funding opportunities in order to create an operational ocean acidification observing system.
59. Mr Sanchez reported on the successful completion of the Caribbean Marine Atlas phase 2 (CMA2) and highlighted the Atlas facilities used by other IOCARIBE programmes, in particular CLME+, IOCARIBE-GOOS, and Sargassum and Oil Spills Forecasting and Information System. He referred to the development of the Clearing House Mechanism (CHM/TMT) LAC Prototype and to the possibility of implementing this prototype in other regions through IOC sub-commissions.
60. The representatives of nine Member States and GEBCO took the floor.
61. The Assembly congratulated the newly elected IOCARIBE Officers, Mr Arnulfo Sanchez (Panama) Chairperson, and the Vice-chairpersons Mr Marck Oduber (Aruba), Mr Francisco Brizuela (Mexico), and Mr Arthur Paterson (USA).
62. The Assembly recognized the efforts carried out by IOCARIBE in capacity development and institutional strengthening, the contribution of Ocean Teacher Global Academy training Centre in Colombia, and the focus on Ciguatera in parallel with the IOC IPHAB Ciguatera Strategy. Member States noted the progress achieved in the development of Sargassum and Oil Spills Forecasting and Information System and stressed the importance of having an operational system. The

Assembly then highlighted the need to coordinate the various efforts made by countries in the region addressing the issue of sargassum landings.

63. The Assembly welcomed the IOCARIBE-GOOS establishment of a pilot project on improvement of Hurricane Observing Forecasting Capacity jointly with national research institutions, government agencies, private industry and universities.
64. Member States stressed the importance of recognising the high vulnerability of IOCARIBE SIDS and the challenges they are facing to access development funds as they are considered middle-income countries.
65. Member States stressed the need to improve cooperation and communication across sub-commissions for an enhanced interregional cooperation and partnership, especially with the UN, NGOs and the private industry.
66. Member States recognized the importance of regional workshops as a consultation mechanism to identify priorities and possible contributions to the UN Decade, and expressed their commitment to take part in them. The Assembly expressed appreciation to Brazil and other countries who are planning hosting regional workshops and encouraged coordination in the organizing and planning process.
67. The following Member States and programme chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report: [Colombia](#), [United Kingdom](#) and [GEBCO](#).

Decision IOC-XXX/3.3.2

**IOC Sub-commission for the Caribbean and Adjacent Region**

The Assembly,

Having considered the Executive Summary Report of the 15<sup>th</sup> session of the IOC Sub-Commission for the Caribbean and Adjacent Region (IOCARIBE), Oranjestad, Aruba, 6–10 May 2019 (IOC/SC-IOCARIBE-XV/3s),

Accepts the report of IOCARIBE-XV and the recommendations therein;

Recognizes the high vulnerability of SIDS in the IOCARIBE region and underlines the need to identify their national capacity gaps to be addressed in order to enable their effective participation in the activities of IOCARIBE and United Nations Decade of Ocean Science for Sustainable Development work plans, and the effective implementation of the UNESCO's Action Plan for SIDS;

Expresses its deep appreciation to:

- the Government of Colombia for continued hosting of the Secretariat and for its support by seconding experts working as IOCARIBE staff;
- the Government of Flanders (Kingdom of Belgium) for their continuous support to IOCARIBE programmes;
- the Governments of Barbados, Mexico, Panama, and the Republic of Korea for their support to IOCARIBE programmes;
- the Government of Aruba (Kingdom of the Netherlands) for its support to and hosting of IOCARIBE-XV;
- All other IOCARIBE Member States for their financial and in-kind support provided to IOCARIBE programme activities implementation;

Agrees that the regular budget for these activities will be identified as part of the overall IOC Programme and Budget Resolution XXX-3.

### 3.3.3 IOC Sub-Commission for Africa and the Adjacent Island States: 5th Session of IOCAFRICA, Nairobi, Kenya, 25–27 March 2019

68. The IOCAFRICA Chair, Prof. Mohamed Said (Egypt), presented an overview of the activities implemented by the Sub-Commission during the intersessional period 2017–2019, and the major outcomes of the Fifth session of the IOCAFRICA, which was held in Nairobi, Kenya on 25–27 March 2019.
69. He reported that capacity development continued to be a key area of focus for the Sub-Commission, with the Ocean Teacher Global Academy (OTGA) regional training centres in Africa providing training to more than 100 trainees from 20 African Member States on a wide range of topics, including: Research Data Management, Marine Biodiversity and Biogeography, Application of Remote Sensing and GIS for Marine and Coastal Zone Management, and Hydrodynamic and Environmental Modelling. IOCAFRICA also provided support to enable experts from the region to participate in training courses organized by IOC outside the region.
70. IOCAFRICA and the South African Department of Environmental Affairs (DEA) organized two regional cruises on board the South African oceanographic research vessel, the *SA Agulhas II* in the framework of the Second International Indian Ocean Expedition in October/November 2017 and June/July 2018. The vessel undertook surveys in the waters off Comoros, Madagascar, Mozambique, South Africa and Tanzania.
71. The Sub-Commission finalized the implementation of the project on Responses of Biological Productivity and Fisheries to Changes in Atmospheric and Oceanographic Conditions in the Upwelling Region associated with the East African Coastal Current”, implemented jointly with the Western Indian Ocean Marine Science Association (WIOMSA). The third phase of the project on “Enhancing oceanography capacities in Canary Current Large Marine Ecosystem (CCLME) Western Africa countries, funded by the Spanish Agency for International Development Cooperation (AECID) was launched in 2018. IOCAFRICA is also leading the development of a regional framework to support the Western Indian Ocean Island States of Comoros, Madagascar, Mauritius, and Seychelles to respond to transboundary Challenges and Opportunities Resulting from Climate Change.
72. The development of the African Coastal and Marine Atlas continued with the migration of the contents of African Coastal and Marine Atlas from SmartAtlas to Geonode at a workshop in Swakopmund, Namibia on 12–16 March 2018. The development of the African node for the Ocean Data portal is ongoing, and the information collected on Indian Ocean cruises and datasets from 1965 to current data have already been incorporated in the portal.
73. IOCAFRICA also focused on the development of capacities for Marine Spatial Planning, with four workshops on Marine Spatial Planning organized in Mindelo, Cabo Verde, 5–7 February 2018 (Portuguese), in Dakar, Senegal, 5–7 September 2018 (English), in Mombasa, Kenya, 10–14 September 2018 (English), and in Mauritius, 8–12 October 2018 (French). The workshops, which were organized with various partners, were attended by more than 75 participants from 20 African Member States and enabled participants to develop a common understanding of Marine Spatial Planning in order to support the implementation of sustainable resource use planning.
74. IOCAFRICA continues to explore opportunities for strengthening collaboration with Chinese marine institutions and participated in the third session of the China-Africa Forum on Marine Science and Technology, 28–30 November 2017 in Hangzhou, China.
75. The IOCAFRICA Chair expressed his appreciation to the Member States and partners that had provided support for implementation of activities in the inter-sessional period.
76. Prof. Said informed the Assembly that the Fifth session of IOCAFRICA (25–27 March 2019, Nairobi, Kenya) had adopted four recommendations on: (i) Pan African Conference on Ocean

Sciences for Sustainable Development; (ii) Establishment of IOCAFRICA Strategic Planning group; (iii) Priority for the revival and reactivation of GOOS-AFRICA; and (iv) IOCAFRICA programme of work 2019–2021.

77. He highlighted some of the activities proposed during the session, including: (i) undertaking a new survey on the capacity availability and requirements for ocean science in the region; (ii) the establishment of a regional hub for CHM/TMT; (iii) strengthening linkages and collaboration between universities and research institutions in the region and between them and institutions from outside the region; (iv) establishment and strengthening of regional training centres; (v) organization of training courses and workshops on priority topics; (vi) reviving and restructuring GOOS-AFRICA so that it can support IOCAFRICA in responding to the ocean observations requirements of Member States; and (vii) the development of a proposal for a follow-up to the Ocean Data and Information Network for Africa (ODINAFRICA) project.
78. Prof. Said recognized the limited regular programme resources available for implementation of these programmes and urged Member States to increase extra-budgetary funding to enable the sub-commission to implement its programme and strengthen capacities for marine science and technology in the region.
79. He emphasized in particular the importance of the planned Pan-African Conference on Ocean Sciences for Sustainable Development (October 2020, Egypt) as a platform to re-energize ocean sciences in the region by bringing new players such as the regional economic communities and the private sector.
80. The representatives of 16 Member States took the floor.
81. The Assembly commended the considerable progress that has been made in implementation of the IOCAFRICA work plans, and noted the challenges and limitations faced by the IOCAFRICA secretariat, including staffing and resources.
82. Several Member States made commitments of support for IOCAFRICA which, *inter alia*, include: South Africa to explore the possibility of continuing the oceanographic research cruises aboard the *SA Agulhas II*; Kenya to explore modalities for additional support to the sub-commission; Egypt to organize and host the Pan-African Conference on Ocean Sciences for Sustainable Development; Nigeria to host the sixth session of the sub-commission; Italy to support the participation of African participants in the regional consultation workshop for the UN Decade of Ocean Science for Sustainable Development for Mediterranean Sea region; and Spain to host a regional training centre in the framework of the Ocean Teacher Global Academy at its oceanographic centre in the Canary islands to provide training to Member States of IOCAFRICA in the Canary Current LME region.
83. The Assembly welcomed these commitments and urged other Member States to provide support for the implementation of the programmes of the sub-commission.
84. The Assembly encouraged IOCAFRICA to strengthen its communication with WESTPAC and other regional subsidiary bodies for experience sharing and regional coordination.
85. The following Member States and one programme chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report: [China](#), [Côte d'Ivoire](#), [Kenya](#), [Spain](#), [Tanzania](#), and [GEBCO](#).

Decision IOC-XXX/3.3.3

**IOC Sub-Commission for Africa and the Adjacent Island States**

The Assembly,

Having examined the Executive Summary report of the 5th session of the IOC Sub-Commission for Africa and the Adjacent Island States, Nairobi, Kenya, 25–27 March 2019 (IOCAFRICA-V/3s),

Takes note of the progress made in the implementation of the IOCAFRICA work programme 2017–2019;

Thanks the Member States who have provided support for the development and implementation of programmes of the sub-commission, and especially the Governments of Belgium, China, Kenya, Mozambique, Senegal, South Africa, and Spain;

Accepts the report of IOCAFRICA-V and the recommendations therein, including the work programme for the sub-commission for 2019–2021;

Requests the Executive Secretary to provide support for the organization of the Pan-African Conference on Ocean Science for Sustainable Development (Sharm El Sheikh, Egypt, 19–22 October 2020);

Requests further the Executive Secretary to organize a meeting to agree a common approach towards effective implementation of GOOS activities around the African continent;

Agrees that the regular budget for these activities will be identified as part of the overall IOC Programme Budget Resolution XXX-3.

### **3.3.4 IOC Regional Committee for the Central Indian Ocean: 7th Session of IOCINDIO, Hyderabad, India, 25–26 April 2019**

86. The IOCINDIO Chair, Dr M. A. Atmanand presented an overview of the activities implemented during the intersessional period (2017–2019) by the regional committee. He highlighted the major outcomes of the 7th session of IOCINDIO hosted by the Government of India at the newly established UNESCO Category-2 International Training Centre on Operational Oceanography, (ITCOOcean), at the Indian Centre for Ocean Information Services (INCOIS) in Hyderabad, India, 31 May–1 June 2019. His report was rooted in the IOC functions as the fundamental pillars of the IOCINDIO workplan since IOCINDIO-VI. Based on the successful implementation of the priority programmes of IOCINDIO that actively contributed to international cooperation, he stated that IOCINDIO is back on track and that its revitalization comes at a right time considering that IIOE-2 has achieved good progress and that the UN Decade of Ocean Science for Sustainable Development was being actively prepared.
87. At its 7th session, IOCINDIO reviewed the activities conducted since IOCINDIO-VI (Kuwait City, 24–25 May 2017). A set of project proposals was refined, completed and endorsed as the workplan for 2020–2021 giving priority status to a set of project proposals related to coastal vulnerability and capacity development in the IOCINDIO region.
88. Regarding the United Nations Decade of Ocean Science for Sustainable Development, IOCINDIO expressed its full support and commitment of IOCINDIO Member States, through large-scale mobilisation of partners and stakeholders. He informed the Assembly that the IOCINDIO endorsed the offer of the Government of India to host a regional consultation workshop related to the Indian Ocean in the context of the UN Decade of Ocean Science for Sustainable Development in India. IOCINDIO further noted with appreciation the membership of its Chairperson, Dr M. A. Atmanand, in the Executive Planning Group of the Decade and commended his efforts in support to the preparatory phase of the Decade.
89. Dr M. A. Atmanand also informed the Assembly that the IOCINDIO Scientific, Technical and Institutional Innovations Workshop for National and Regional Framework on Coastal Vulnerability Assessment and Monitoring for Sea-Level Rise and Storm Surges in the Indian Ocean Region was organized in connection with the IOCINDIO-VII session. The implementation of the regional project proposal on Coastal Vulnerability will be an unprecedented joint initiative in the region and a milestone of the IOCINDIO achievements during the reporting period. The workshop attracted a great number of accomplished senior scientists as well as young professionals and students both from the IOCINDIO region, IOCAFRICA and WESTPAC (9 countries and several institutions such as the World Bank, NOAA, IPE Global Limited, Odisha State Programme (India), Kenya Marine Fisheries Research Institute were represented). The main result of the workshop is the Regional

Coastal Vulnerability Framework (RCVF) towards climate change impacts, adaptation and resilience for IOCINDIO Coastal areas (CARI-Coast) that aims at establishing a reference baseline to facilitate harmonization and standardization of methods in the region. IOCINDIO-VII endorsed the organization of a follow-up leadership workshop with the view to bring together leading experts from the region and outside to review progress with requisite technical guidelines and advices.

90. The IOCINDIO Chair commended the support of a number of Member States, notably, India, Indonesia, Kuwait, as well as the financial support of the United Kingdom towards IOCINDIO activities.
91. Dr M. A. Atmanand commended the reinforced cooperation with IIOE-2. He recalled that it was at the joint IIOE-2/IOCINDIO workshops in the context of both International Indian Ocean Science Conferences (Jakarta, 20 March 2018 and Port Elisabeth, South Africa, 13 March 2019) that IOCINDIO stakeholders proceeded on one hand with the selection of priority actions for implementation during the ongoing biennium (2017–2019) and on the other hand refined the arrangements for IOCINDIO-VII and the related workshop on coastal vulnerability with a wider perspective including contributions from major overseas partners such as NOAA and IIOE-2 partners.
92. He recalled that while activities contained in the IOCINDIO workplan remained relevant to Member States, prioritization will be required considering the limited availability of financial resources and the fact that IOCINDIO, as an IOC regional committee, does not have a permanent decentralised secretariat as other IOC sub-commissions (IOCAFRICA, IOCARIBE and WESTPAC).
93. Regarding Capacity Development, the IOCINDIO Chair stressed the key role played by the two UNESCO Category 2 Centres located in the region, namely, the Regional Education and Research Centre on Oceanography for West Asia at the Iranian National Institute for Oceanography and Atmospheric Science in Teheran, Islamic Republic of Iran and the International Training Centre on Operational Oceanography, at the Indian Centre for Ocean Information Services in Hyderabad, India (see IOC/INF-1370).
94. He further indicated that under the IOCINDIO Capacity Development project proposal entitled IOCINDIO Networking Research Infrastructures, Facilities and Human Resources, dedicated institutions in the region initiated the establishment of a database of existing ocean science research infrastructures, facilities and human resources with a development of relevant website in progress.
95. The IOCINDIO Chair informed the Assembly that the Committee contributed also to the second of the two regional workshops under the auspices of the United Nations Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects for the Indian Ocean (including the Arabian Sea and the Bay of Bengal), the Red Sea and Gulf of Aden and the ROPME/RECOFI Area), Doha, 26 November–1 December 2018.
96. The Representatives of 14 Member States and GEBCO took the floor. Several Member States commended the progress achieved in such a short time period after the reactivation of the Committee.
97. The Assembly expressed its support to the Committee's recommendation to transform IOCINDIO into an IOC Sub-commission, in accordance with the IOC recognised procedure for establishing such governing bodies. The IOC Executive Secretary stressed the necessity for a serious approach to this transformation, indicating that it should be sent to the next Executive Council for consideration and a recommendation to the 31<sup>st</sup> IOC Assembly to make a decision.
98. The Representative of GEBCO drew the attention of the Assembly on the fact that the Indian Ocean is one of the poorly mapped region due to the lack of regional cooperation in ocean bathymetry. He invited IOCINDIO Officers to consider collaboration towards joint activities to close this gap.



99. The following Member States and one programme chose to provide records of their plenary intervention for the informational annex to the meeting report: [Australia](#), [India](#), [Indonesia](#), [United Kingdom](#), [USA](#), [Thailand](#), and [GEBCO](#).

Decision IOC-XXX/3.3.4

**IOC Regional Committee for the Central Indian Ocean**

The Assembly,

Having examined the Executive Summary report of the 7th session of the IOC Regional Committee for the Central Indian Ocean, Hyderabad, India, 31 May–1 June 2019 (IOCINDIO-VII/3s), including its Scientific, Technical and Institutional Innovations Workshop for National and Regional Framework on Coastal Vulnerability Assessment and Monitoring for Sea-Level Rise and Storm Surges in the Indian Ocean Region,

Takes note of the summary report of IOCINDIO-VII including the recommendations therein, the work programme with the project proposals and the working group established during the IOCINDIO-VII workshop with the view to serve as the intersessional working group to support the IOCINDIO Officers and the IOC Secretariat towards the implementation of the work programme;

Further takes note of the proposal by the IOCINDIO-VII to change the status of the regional committee into an IOC Sub-commission;

Requests the IOCINDIO Chair to prepare, with the help of the IOC Secretariat, a proposal for changing the status of IOCINDIO that would contain the mission, the objectives, terms of references, budgetary implications, secretarial arrangements and other necessary provisions;

Decides to include a corresponding agenda item at the 53rd session of the IOC Executive Council in 2020;

Supports the efforts of the regional committee to strengthen its national coordinating bodies for liaison with the IOC and focal points;

Expresses its appreciation to:

- the Government of India, which mobilized national public institutions for hosting the preceding workshop and the IOCINDIO-VII session with in-kind contributions covering the full board accommodation to all participants and local logistics, and for its offer to host the regional workshop related to the Indian Ocean in the context of the UN Decade of Ocean Science for Sustainable Development;
- the two UNESCO Category-2 centres in the region, namely the Regional Education and Research Centre on Oceanography for West Asia at the Iranian National Institute for Oceanography and Atmospheric Science in Tehran, and the International Training Centre on Operational Oceanography, (ITCOOcean) at the Indian Centre for Ocean Information Services (INCOIS) in Hyderabad, India, for supporting capacity building activities and capacity in the region;

Agrees that the regular budget for these activities will be identified as part of the overall IOC Programme Budget Resolution XXX-3.

**3.4 REPORT OF THE IOC ACTIVITIES (2018–2019)  
TO THE FORTIETH GENERAL CONFERENCE OF UNESCO**

100. The Executive Secretary briefly introduced this item, considering that the essence of the information contained in the draft report presented for the consideration of the Assembly has already been covered in his presentation under [item 3.2](#).

Decision IOC-XXX/3.4

**Report on the IOC activities (2018–2019)  
to the Fortieth General Conference of UNESCO**

The Assembly,

Recalling Article 3.2 of the Statutes and Rule of Procedure 49.2,

Having examined document IOC-XXX/6,

Takes note of the report to be presented to the 40<sup>th</sup> session of the General Conference of UNESCO, and

Requests the Executive Secretary to submit the report on IOC activities (2018–2019) to the 40th General Conference of UNESCO as document 40 C/REP.9.

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

##### **4.1 REPORT ON THE PREPARATION OF THE UNITED NATIONS DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT**

101. The IOC Executive Secretary introduced this 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 is focusing on the preparation of the Decade Implementation Plan. IOC led this work in consultation with Member States and all relevant stakeholders. He recalled that the IOC Executive Council last year took note of the 'Roadmap' document (IOC/EC-LI/2 Annex 3 & Corr.) as an initial guide to the steps and processes to develop a Decade Implementation Plan. Dr Ryabinin presented the motivation and aspiration of the Decade, stressing the need for an evolution in the way oceanography was being conducted, also calling for a new social contract for ocean science to respond to societal and environmental challenges. Dr Ryabinin highlighted the importance of changing paradigms in ocean science organisation, stating that fragmentation in research had prevented ocean management systems to make optimal use of science to define sustainability pathways. He highlighted that the Global Planning Meeting in Copenhagen in May 2019 represented a first step in bringing together experts and stakeholders to discuss and identify the science questions to be addressed during the Decade. Dr Ryabinin introduced the six societal outcomes of the Decade, the expected science breakthroughs, the research and development priority areas as well as the four potential pillars of the Decade (a georeferenced Atlas, observations and data system, the science-policy interface and societal applications). He stressed the need for technological innovations as well as an economic valuation of the ocean to drive the development of transformative partnerships under the Decade.
102. Julian Barbière, Head of the Marine Policy and Regional Coordination Section and IOC Focal Point for the Decade, provided additional details on the preparatory phase and its consultative process. The IOC Secretariat acted upon the decision of the Executive Council at its 51<sup>st</sup> session and established an [Executive Planning Group \(EPG\)](#) consisting of 19 high-level experts to advise the IOC Secretariat. The Group was formed in November 2018 and held its first meeting on 17–19 December 2018 to brainstorm on scientific, governance, communication, and engagement elements. A second meeting is foreseen at the end of 2019 or early 2020, and a number of tasks have been assigned and/or completed including: the provision of inputs to the Roadmap, the development of guidelines for the regional consultation workshops, guidance for the organisation of the Global Planning Meeting in 2019, the development of a high level science plan, the definition of criteria for endorsement of Decade activities, the development of a business case for investing in ocean science, and the development of a model for the governance of the Decade implementation phase.
103. Mr Barbière detailed the timeline and milestones until 2020, recalling that following the First Global Planning Meeting in Copenhagen in May 2019, discussions would continue through a series of regional and thematic workshops that would add value to the identified research and development priority areas, as well as identify some projects to be scaled up. Several workshops are foreseen between July 2019 and January 2020. The Global Planning Meeting will then be reconvened prior to the June 2020 UN Ocean Conference so that it integrates inputs into a first version of the Implementation Plan that will be reviewed by IOC and UN Member States and updated in the course of the Decade. Mr Barbière focused on the criteria of endorsement of the Decade's activities that would ensure the transformative dimension of the Decade. He also presented the engagement strategy with the different stakeholders (science community, private sector, foundations, UN partners) and targeted audiences and priority such as youth, early career professionals, and gender. He highlighted the recognition of the Decade at the policy level through the recent G7 and G20/Science20 statements, as well as discussion platform provided by the UN Informal Consultative

Process at its 20th meeting (10–14 June 2019, UN) dedicated to ocean science and the UN Decade. In terms of engaging other UN entities in the Decade, Mr Barbière highlighted a number of bilateral consultations initiated with ISA, IMO, FAO, WMO, UNFCCC, and UN Environment, as well as the decision of UN-Oceans to establish a contact group to facilitate inputs to the UN Decade process.

104. Mr Barbière informed the participants that thanks to extra-budgetary support, a communication strategy was being prepared and that communication materials had been developed to deliver the messages of the Decade. He also announced the launch of the new Decade website ([oceandecade.org](http://oceandecade.org)). Mr Barbière acknowledged the financial support received for the Preparatory Phase, amounting to USD 990.000, and presented an estimated breakdown for the period 2019–2020. He stressed the need to strengthen the IOC staffing and encouraged IOC Member States to support these efforts. He noted that the Commission relied primarily on extra-budgetary funds for its work on the Decade. In this respect, the continuation of this coordination role beyond 2020 ought to be carefully assessed in light of resources available both at the programmatic and staffing levels. He reaffirmed that the contribution of Member States and partners would be essential to successfully start the implementation of the Decade. As highlighted in the Roadmap document, Member States were encouraged to establish mechanisms to stimulate engagement of national stakeholders in the UN Decade. This also includes establishment of Decade support offices that could underpin the implementation of thematic and/or regional aspects of the Decade in liaison with IOC acting as global coordinator. With regard to the latter, the Assembly was invited to consider the draft guidance for the establishment of Decade support offices and national coordination structures (Implementation phase) as proposed in the addendum to IOC-XXX/2 Annex 3: *Post-2020 Coordination and Implementation Mechanisms*. Mr Barbière concluded by presenting the timeline of the second half of 2019 and 2020, highlighting the need to identify some projects to catalyze partnerships and to drive commitments at the forthcoming 2<sup>nd</sup> UN Ocean Conference in 2020 to be co-hosted by the Governments of Kenya and Portugal.
105. H.E. Mr Peter Thomson, UN Special Envoy on the Ocean exposed the plans for the organisation of the 2nd UN Ocean Conference in Lisbon, on 2–6 June 2020. He congratulated the IOC Chairperson, the Executive Planning Group and the Secretariat for their efforts in initiating and preparing the Decade implementation plan. Mr Thomson recalled that the UN Ocean Conference would be a global game-changer for ocean action, which will need to rely on scale-up ocean science to be successful. The focus of the Conference will be on the progress from science to action. Highlighting possible synergies, Mr Thomson stated the UN Conference would provide an opportunity for IOC to present the action plan for the Decade and to forge partnerships. He encouraged IOC Member States to play a key role in these future partnerships and to step up with budgetary resources, national planning and full engagement with the Decade, starting with increasing national contributions to the IOC's budget. He highlighted that ocean observation and data will be key for the UN entities to deliver on their mandate and encouraged them to support IOC in the Decade co-design. Having participated to the First Global Planning meeting, Mr Thomson expressed his confidence in IOC to deliver on its mandate and prepare the Decade plan of action. He also highlighted the key role that Pacific Islands could play in observation and research and their willingness to be at the front line support for the Decade. He concluded by stressing that only good ocean science could enable decision-makers to draft sustainable pathways and make trade-off between the different management options, stressing that their choice was now between actions and apathetic inaction.
106. In a video message, WMO Secretary-General Prof. Petteri Taalas expressed WMO full commitment to the success of the Decade.
107. The representatives of 23 Member States took the floor, as well as those from SCOR and FAO.
108. The Assembly welcomed the progress report and the steps taken by the Secretariat and the Executive Planning Group (EPG) to proceed with the initial planning of the Decade, as well as the efforts devoted to engaging institutional partners. Some Member States requested more information

on the EPG work plan (tasks and timeline) and welcomed the launch of the new Decade website that will provide a platform to share information with all stakeholders.

109. Member States recalled the importance to devise effective engagement and communication strategies to ensure that as many stakeholders as possible can take part in the Decade. In particular it requires delivering simple and targeted messages to those who may not feel concerned. They also stressed the importance of engaging and targeting youth and more particularly young women in the work of the Decade.
110. Germany announced that it would host a kick-off event in Berlin in the first quarter of 2021, stating that this multi-stakeholder event would offer an opportunity to facilitate the visibility and impact of IOC in the Decade but also provide a platform for stakeholders to present their commitment to the Decade.
111. Several Member States reported on activities undertaken to raise awareness and to mainstream the Decade in their respective national ocean policy framework.
112. Japan recalled that it provided support to the preparation of the Decade (to the IOC Headquarters and WESTPAC in particular) and that it would host the Regional Planning Workshop for the North Pacific and Western Pacific Marginal Seas in support of the Decade in Tokyo, on 31 July–2 August, organized together with WESTPAC and PICES. Japan recalled the importance to achieve free and open access of ocean data and information in the framework of international cooperation built for the Decade in line with the IOC oceanographic data and information exchange policy.
113. Some Member States called for early guidance regarding the endorsement of the Decade's projects to be able to identify and promote innovative partnerships, including with the private sector, before the start of the Decade.
114. Kenya recalled that the UN Ocean Conference that it will co-organize with Portugal in 2020 will represent an opportunity to galvanize support to the Decade. Kenya and Portugal will also organize a side event on the margin of the 40th UNESCO General Conference on 14 November 2019, focusing on the blue economy and the Decade.
115. Portugal expressed support for the text of the draft resolution and announced the establishment of a national office for the Decade under the scope of the Ministry of the Sea. At the Executive Council in 2018, Portugal had also offered to host the second Global Planning Meeting.
116. Brazil announced that it would host a regional workshop, in Rio de Janeiro on 25–27 November 2019 and that African Member States would be invited to participate in this regional consultation. This workshop will be coordinated with the Caribbean and North Atlantic regional workshops.
117. Canada announced that it would host a regional workshop in Halifax in January 2020 and would engage a wide range of stakeholders. It was recalled that Canada had announced at the Sustainable Blue Economy Conference last November in Kenya that it also offered to host a Decade office to support the coordination and implementation.
118. India recalled that it offered to host a regional workshop for the Indian Ocean at the last session of the IOCINDIO Committee (May 2019).
119. SCOR suggested that the second International Indian Ocean Expedition, co-sponsored by IOC, SCOR, and IO-GOOS, be considered as a component project under the UN Decade.
120. FAO expressed its full commitment to the Decade and highlighted the importance of building and reinforcing partnerships. Delegates were informed of the possible synergies between FAO's initiatives and the Decade such as the EAF-Nansen Programme (funded by Norway) which supports

the implementation of the ecosystem approach to fisheries management and the upcoming International Year of Artisanal Fisheries and Aquaculture that FAO will be coordinating in 2022 to achieve a world without hunger.

121. 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](#), [Brazil](#), [Chile](#), [China](#), [Colombia](#), [Cote d'Ivoire](#), [Germany](#), [India](#), [Japan](#), [Kenya](#), [Norway](#), [Philippines](#), [Portugal](#), [Republic of Korea](#), [South Africa](#), [Tanzania](#), [United Kingdom](#), [USA](#), [Viet Nam](#), and [SCOR](#).

122. The Assembly adopted [Resolution XXX-1](#) below submitted by Norway and the Republic of Korea.

#### Resolution XXX-1

### **Progress Report on the Preparation of the United Nations Decade of Ocean Science for Sustainable Development**

The Intergovernmental Oceanographic Commission,

**Recalling** Resolution XXIX-1 proposing the establishment of an International (UN) Decade of Ocean Science for Sustainable Development and requesting the IOC Executive Secretary to convey this resolution to the United Nations General Assembly (UNGA) for consideration at its 72nd Session,

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

**Further recalling** the invitation from 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 UN Secretary-General for his report on oceans and the law of the sea,

**Considering** [Resolution EC-LI.1](#) that *inter alia* took note of the revised and current version of the Roadmap document (IOC/EC-LI/2 Annex 3) and decided to establish an Executive Planning Group (EPG) under the coordination of the IOC Executive Secretary,

**Having examined** documents IOC-XXX/2 Annex 3 – *Progress of the implementation plan of the Decade Roadmap*, and Addendum – *Post-2020 Coordination and Implementation Mechanisms*,

**Having further considered** the Report of the First EPG Meeting (17–19 December 2018, UNESCO, Paris) and the outcomes of the First Global Planning Meeting (13–15 May 2019, Copenhagen, Denmark), respectively The Ocean Decade Series, 1 & 2; and proposed modification to the Decade Roadmap (IOC/INF-1371),

**Takes note** of the progress achieved during the intersessional period, and in particular, the outcomes of the First EPG meeting and First Global Planning Meeting, and the report on the implementation of the current version of the Decade Roadmap and its proposed modifications as presented in documents IOC-XXX/2 Annex 3 and IOC/INF-1371;

**Thanks** the EPG for its work in support of the preparation of the Implementation Plan and **requests** that it continues its work until the presentation of the Implementation Plan to the UNGA for consideration during its 75th Session in September 2020;

**Requests** the IOC Executive Secretary to:

- (i) report on the implementation of the current version of the Decade Roadmap at the 53rd Session of the IOC Executive Council in 2020;
- (ii) further develop the governance arrangements for the implementation phase (2021–2030) based on the inputs received on documents IOC-XXX/2 Annex 3 and Addendum;
- (iii) make the draft implementation plan available and invite its review by Member States;
- (iv) report to the IOC Executive Council at its 53rd Session, on comments received and plans for finalising the implementation plan, prior to its submission to the UNGA;

**Invites** the IOC subsidiary bodies to engage in the work of the Decade, in particular through the regional consultation workshops, and identify potential contributions during the next intersessional period;

**Further invites** UN specialized agencies, programmes, funds and bodies, UN Member States, international scientific and academic organizations, non-governmental organizations and other stakeholders to support the Decade, contribute to its preparation and execution by crafting science-based solutions and partnerships;

**Urges** Member States and partners to:

- (i) provide voluntary financial contributions to the IOC for the preparation of the Decade as well as in-kind support such as staff secondments to the Secretariat;
- (ii) host and/or fund regional and global consultation workshops, thematic meetings, and communication activities;

**Thanks** the Governments of the Republic of Korea, Japan, the Kingdom of Belgium (Government of Flanders), Norway, and the United Kingdom of Great Britain & Northern Ireland for their financial contribution to the preparatory phase of the Decade;

**Further thanks** the Governments of Brazil, Canada, Denmark, France, India, Italy, Japan, and Mexico as well as the Secretariats of the North Pacific Marine Science Organization (PICES), the Permanent Commission for the South Pacific (CPPS), the Pacific Community (SPC), the UN Global Compact, Suez Environment, and the Carlsberg Foundation, for their contribution to the organization of regional and global workshops during the preparation phase of the Decade, as well as Germany, for offering to host the kick-off conference of the Decade.

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

123. The Executive Secretary presented the efforts made by the IOC Secretariat in the intersessional period to inform IOC expert networks and groups about the developments related to the Decade. These efforts aimed to collect input to the science plan of the Decade, with a view to stimulate discussions, including at the first Planning Meeting in Copenhagen in May 2019. Contributions from IOC expert networks also assisted in the alignment and cross-fertilization of IOC programmes and activities with the societal and strategic objectives of the Decade. This synergy-oriented exercise also allows mobilization of the expertise and optimization of efforts of the IOC Secretariat in coordinating the Decade preparations.
124. The representatives of two Member States and one organization took the floor. They confirmed the importance of discriminating between the coordinating role of the IOC and its substantive contribution vis-à-vis the Decade. It was suggested that efforts should focus on science-based solutions in support of the objectives of the Decade. WMO referred to the relevance of joint efforts between the WMO and the IOC in support of the Decade, such as the World Climate Research Programme.
125. [Republic of Korea](#) and [WMO](#) chose to provide records of their plenary intervention for the informational annex to the meeting report.

#### Decision IOC-XXX/4.2

#### **Enhanced coherence, impact and future orientations of the IOC in support of the UN Decade of Ocean Science for Sustainable Development (2021–2030) and the 2030 Agenda**

The Assembly,

Taking into account that the IOC is expected to contribute to the UN Decade of Ocean Science for Sustainable Development (2021–2030) beyond its role in preparing an Implementation Plan for the Decade, including through the mobilization and direct efforts of relevant IOC programmes and expert networks,

Commending the inputs to the scoping of the high-level science plan of the Decade received from relevant IOC expert networks and scientific organizations collaborating with IOC,

Recalling a need for continuous alignment and cross-fertilization of IOC programmes and activities with the societal and strategic objectives of the Decade as they are refined through the planning phase,

Calls upon the IOC Member States and the Executive Secretary to continue to seek alignment between the objectives of the Decade and IOC programmes and activities, with a special focus on those that deal with critical gaps in scientific knowledge, understanding of multiple ocean stressors of relevance to ecosystem-based management, prediction of the ocean state, adaptation to climate change, development of solutions for ocean health and the protection of the marine environment, warning of ocean hazards threatening lives, as well as capacity development;

Encourages the Secretariat to enter into collaborative programmatic arrangements with partner organizations in the design and implementation of joint activities in support of the science plan of the Decade following its development by the Executive Planning Group of the Decade;

Urges Member States and partner organizations to provide voluntary financial contributions in anticipation of the IOC's substantive activities in support of the Decade and its science plan, including through in-kind support such as staff secondments to the IOC Secretariat;

Requests the Executive Secretary to report to the IOC Executive Council at its 53<sup>rd</sup> session in 2020 on the status and modalities of IOC's programmatic contribution to the Decade.

## **5. UNITED NATIONS PARTNERSHIPS**

### **5.1 COOPERATION WITH WMO**

126. Dr Sarah Grimes, Acting Chief of the Marine Meteorology and Ocean Affairs Division of the World Meteorological Organization (WMO), introduced decisions by the 18th World Meteorological Congress (3–14 June 2019), on behalf of Prof. Petteri Taalas, Secretary-General of WMO, whose travel was interrupted by a heat wave. The decisions include adoption of a WMO Strategic Plan and reform of WMO constituent bodies, in order to achieve more effectiveness and efficiency of the use of the resources of WMO Members, with a minimal level of bureaucracy and without disrupting partnerships. She emphasized that the WMO Strategic Plan took an Earth Systems approach to observations and forecasting, and that ocean observations, data, forecasting systems and research, and therefore a great part of the work of the IOC, were important in achieving WMO objectives.
127. Mr Ariel Troisi, Vice-chairperson of IOC (Group III), recalled IOC Decision EC-LI.5.1 which created a Joint WMO-IOC Consultation Group on the reform of JCOMM, which he co-chaired along with Dr Louis Uccellini (Permanent Representative of the USA with WMO). He noted that weather, water, ocean, and climate linkages require us to foster interdisciplinary and collaborative work. In particular, more comprehensive models of the whole Earth system are needed, including coupling between the ocean and atmosphere, to advance scientific understanding, prediction, and services. The IOC and the WMO must position themselves to address these future challenges and opportunities that will require greater collaboration between them.
128. The Joint WMO-IOC Consultation Group worked on a tight timeline and with excellent synergies between the two organizations. It proposes the creation of a Joint WMO-IOC Collaborative Board, which will maximize opportunities to co-design, co-develop and implement joint scientific and technical work, across oceanography and meteorology, which ultimately will improve the provision of information and services for societal benefit. The Board will have the mandate to provide strategic advice to the governing bodies of the IOC and the WMO focussing on joint collaborative strategies, advise on joint work to achieve relevant objectives, and prepare coordinated draft resolutions and decisions for final decision by the IOC and the WMO governing bodies.
129. The Consultation Group also made recommendations about the continuation of the cooperative work developed under JCOMM in the domains of observations, data management, forecasting systems and services. Members of the Joint WMO-IOC Collaborative Board are proposed to be designated by the IOC Chairperson and WMO President, in order to ensure an overall balance and representation across IOC and WMO activities and geographic regions. The

Board will be co-led by an IOC Vice-Chairperson and a WMO Vice-President. All recommendations of the Board will be subject to final decision by IOC and WMO governing bodies.

130. Mr Troisi noted that as the WMO had already adopted a parallel version of this resolution, and that since it concerns a joint body, any changes would also need to be adopted by the WMO President on behalf the WMO Executive Council.
131. Following the recommendation expressed at a joint meeting of the IOC Officers and WMO Bureau in 2018, the Secretariats of the two organizations have been working on a Draft WMO-IOC Memorandum of Understanding for cooperation. In this context, during the UN-Oceans meeting, held at WMO Headquarters in February 2019, the WMO Secretary-General and the IOC Executive Secretary signed the Letter of Intent included in IOC-XXX/Inf.3.
132. The Draft MOU presented to the Assembly in the same document, in line with the IOC status as a body with functional autonomy within UNESCO, underwent an extensive review by the relevant services of both organizations. In accordance with Article XI.1 of UNESCO's Constitution, which requires that formal arrangements with specialized intergovernmental organizations and agencies be subject to the approval of UNESCO's Executive Board, the Draft MOU will be presented to the autumn 2019 session of the Board, prior to signature (207 EX/35).
133. The representatives of eight Member States and the IODE took the floor.
134. Germany presented the Draft Resolution as co-submitter along with Argentina, emphasizing the advantages of the new arrangements: intensified cooperation between oceanography and meteorology, faster decision timescales with yearly meetings of the Joint WMO-IOC Collaborative Board, and increased Member State control with final decisions being made by WMO and IOC governing bodies.
135. Member States congratulated the Joint WMO-IOC Consultation Group for its work, and supported the creation of the Joint WMO-IOC Collaborative Board. They emphasized the importance of cooperative partnership in the Earth System approach, welcomed a focus on societal delivery, and considered that previously-raised concerns about the reform were addressed. Many Member States identified the transition period as critical, asking for open and active communication and consultation.
136. 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](#), [Brazil](#), [Côte d'Ivoire](#), [Germany](#), [Japan](#), [Spain](#), [United Kingdom](#), and [USA](#).
137. The Assembly adopted one decision and Resolution XXX-2 below submitted by Argentina and Germany.

Decision IOC-XXX/5.1

**Cooperation with WMO**

The Assembly,

Taking note of the Draft WMO-IOC Memorandum of Understanding (IOC-XXX/Inf.3),

Requests the Executive Secretary to complete preparations for its joint signature with WMO.

Resolution XXX-2

**JOINT WMO-IOC Collaborative Board**

The Intergovernmental Oceanographic Commission,

**Recalling:**

- (i) WMO Resolution 14 (Cg-XIII) – Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM),



- (ii) IOC Resolution XX-12 – Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM),

**Considering** WMO Resolution 7 (Cg-18), which entails the disbandment of the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM) in the context of a reform of WMO governing structures,

**Further considering** the parallel WMO Resolution 9 (Cg-18),

**Considering also** the expanded collaboration between WMO and IOC in marine meteorology, oceanography and climatology, including in services, observation and information management, research and capacity building,

**Considering further** the evolving needs of a coordinating mechanism between WMO and IOC to support such collaborative activities,

**Having examined** the recommendations of the Joint WMO-IOC Consultation Group on the Reform of JCOMM established by WMO Decision 58 (EC-70) and IOC Decision EC-LI/5.1,

**Expresses appreciation** to the Co-Chairs and the members of the Joint WMO-IOC Consultation Group on the Reform of JCOMM for their work;

**Decides** to:

- (i) incorporate appropriate JCOMM functions and activities on observation and operational ocean forecasting systems into the IOC-WMO-UN Environment-ISC Global Ocean Observing System (GOOS), with functional connections to the WMO Commission for Observation, Infrastructure and Information Systems (COIIS);
- (ii) incorporate appropriate JCOMM functions and activities on data and information management into the International Oceanographic Data and Information Exchange (IODE), with a close connection to the work of the WMO COIIS;
- (iii) incorporate appropriate JCOMM functions and activities on services into the WMO Commission for Services and Applications, with a close connection to relevant IOC activities in early warning and services;
- (iv) establish the Joint WMO-IOC Collaborative Board, as a high-level coordination mechanism with broader engagement of the key relevant bodies of the WMO and IOC, with the Terms of Reference as given in the Annex to this resolution;

**Decides also** that for the first intersessional period through April 2020, the Joint WMO-IOC Collaborative Board will be co-chaired by the current Co-Chairs of the Joint WMO-IOC Consultation Group on the Reform of JCOMM, with the technical advice of the current JCOMM co-presidents, noting that these co-chairs would have flexibility to adjust the length of initial appointment terms defined in the Terms of Reference, in order to stagger future rotation of members;

**Decides further** to review, in coordination with WMO governing bodies, the performance of the Joint WMO-IOC Collaborative Board, with an initial review in four years and presentation to the IOC Assembly at its 32<sup>nd</sup> session in 2023;

**Requests** the Joint WMO-IOC Collaborative Board to:

- (i) facilitate the continued work of all JCOMM functions and activities by recommending connections to appropriate working structures on both sides;
- (ii) make recommendations on evolving the governance of GOOS, in consultation with all co-sponsors, to further develop the partnership and functional connections between GOOS and WMO Integrated Global Observing System (WIGOS);
- (iii) prepare, in consultation with WMO and IOC technical, scientific and regional bodies, a comprehensive and coordinated WMO-IOC Collaborative Strategy, based on existing sectoral strategies, and submit it in 2021 to the governing bodies of WMO and IOC for adoption;

**Encourages** WMO Members and IOC Member States to coordinate national responses to the advice of the Joint WMO-IOC Collaborative Board brought to WMO and IOC Governing Bodies;

**Requests** the IOC Executive Secretary to:

- (i) define, in consultation with the WMO Secretary-General, the working arrangements for the sponsorship of current JCOMM bodies and for the Joint WMO-IOC Collaborative Board and report on implementation to the IOC Executive Council at its 53rd session in 2020;
- (ii) evaluate, in consultation with the WMO Secretary-General, the financial and secretariat support requirements for the Joint WMO-IOC Collaborative Board;

**Agrees** that the budget for these activities will be identified within the overall IOC Programme and Budget resolution adopted at this session (IOC Resolution XXX-3);

**Decides** to disband the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology upon completion of a transition period ending in April 2020, as defined in WMO Resolution 36 (EC-70).

#### Annex to Resolution XXX-2

### **Terms of Reference of the Joint WMO-IOC Collaborative Board**

#### Purpose statement

The Joint WMO-IOC Collaborative Board will maximize opportunities to co-design, co-develop and implement joint scientific and technical work, across oceanography and meteorology, that ultimately will improve the provision of information and services for societal benefit.

It will suggest initiatives to improve end-to-end links in the value chain from observations, through data management, to forecasting systems and Earth system prediction, to services and end user engagement; and enhance connections with research programmes to promote innovation.

By collaborating across both the oceanographic and meteorological communities, the Collaborative Board will provide strategic advice on programme co-design, implementation, and governance in light of relevant long-term goals and objectives. The Collaborative Board will influence how the WMO and IOC jointly enable the delivery of relevant meteorological and oceanographic information and services on the open ocean, in coastal zones and in high latitudes. In addition, while respecting governance, it will provide guidance and advice around technical and scientific issues to optimize the complementarity of activities, including through generating common projects.

#### Mandate

- (a) To coordinate, through a quadrennial WMO-IOC collaborative strategy, the collaborative development, integration and implementation of the activities related to oceanographic and meteorological observation, data and information management, services, modelling and forecasting systems as well as research and capacity development carried out by WMO and IOC,
- (b) To provide the WMO and IOC governing bodies with strategic advice on joint work between WMO and IOC to achieve relevant objectives, including proposing new actions, as required, e.g. by preparing coordinated draft resolutions and/or decisions for both the WMO and IOC governing bodies,
- (c) To review work plans and provide technical and scientific recommendations for WMO and IOC subsidiary bodies and programmes, including proposing cross-cutting projects, and
- (d) To engage in liaison or consultation required with relevant intergovernmental and international stakeholders.

#### Membership

The membership of the Collaborative Board shall be constituted by:

- (a) Ten representatives of WMO and IOC scientific and technical bodies and programmes, including co-sponsored entities:
  - (i) Five designated by the WMO President, representing the leadership of activities in observing system, data processing and management, forecasting systems, services and applications, and research; from a meteorological perspective,
  - (ii) Five designated by the IOC Chairperson, representing the leadership of activities in observing system, data and information management, forecasting systems, early warning and services, and research; from an oceanographic perspective;
- (b) At large members of the WMO Executive Council and representatives of IOC Member States, taking into account overall geographical balance:
  - (i) Three members of the WMO Executive Council designated by the WMO President,

- (ii) Three representatives of IOC Member States designated by the IOC Chairperson in consultation with the IOC Officers;
- (c) Two co-chairs:
  - (i) a WMO Vice-President, designated by the WMO President, and
  - (ii) an IOC Vice-Chairperson, designated by the IOC Chairperson.

#### Working procedures

The co-chairs shall hold their office for two years, with the possibility to be re-appointed for a second term.

Other members shall hold their office for four years, or based on the duration of their term as leader in a WMO, IOC, or joint activity.

The co-chairs shall represent the Collaborative Board in the sessions of the WMO and IOC governing bodies.

In principle, the Collaborative Board shall meet in person every year, in order to prepare recommendations for WMO and IOC governing bodies. Intersessional work should be carried out by correspondence or virtual means.

Members of the Collaborative Board will work collaboratively across and within their respective constituent bodies and activities on WMO and IOC observations, data, forecasting systems, services, and research activities, to achieve the objectives stated in the Collaborative Board's mandate.

The Collaborative Board may establish time-bound substructures for the discharge of specific tasks during an intersessional period. Such temporary substructures shall be discontinued at the end of every intersessional period, or may be re-established.

Chairs of other relevant WMO and IOC regional structures, working groups, panels and expert teams, as well as individual experts, may be invited by either co-chair in consultation with the other to attend meetings of the Collaborative Board as required by the agenda.

Representatives from other United Nations or international organizations may be invited as observers to the Collaborative Board as deemed appropriate by either co-chair in consultation with the other.

## 5.2 IOC CONTRIBUTION TO THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC)

138. The Executive Secretary introduced developments related to the on-going collaboration between IOC and the UNFCCC. IOC is an active and leading contributor to the process of informing the sessions of the Conference of UNFCCC Parties (COP) about the role of the ocean in climate change, including opportunities for scientific and technical cooperation in support of the Convention. Flagship events include the Ocean Day of the Conference. These activities are conducted in coordination with the Global Ocean Forum, the Ocean and Climate Platform and other partners. In addition, IOC contributes to the Blue Carbon Partnership, which is directly relevant to nationally determined contributions (NDCs) of the Parties to the Paris Agreement. Those are increasingly reflective of the contribution of blue carbon to mitigation of climate change. Furthermore, IOC takes part in the work of the Convention's Subsidiary Body for Scientific and Technological Advice (SBSTA), including its Research Dialogues, notably on the need for research and observations in order to reduce the uncertainty in the ocean CO<sub>2</sub> sink estimate and its variability on time-scales, for example through the consortium on ocean carbon research coordinated by the IOC.

139. These efforts have contributed to reflect the role of the world ocean in the climate system in the preamble of the Paris Agreement. The COP process has unfolded in such a way that some Parties to the Convention and its Paris Agreement are currently discussing actively ocean-related issues in the context of the climate change international regime. These developments call for a reinforced IOC programme in ocean climate and the effects of climate change on the world ocean, as well as synergistic ties between the Commission and the UNFCCC and its Paris Agreement. Reference was made to the IOC contribution to the pool of authors of the [IPCC Special Report on Oceans and Cryosphere in a Changing Climate](#) (SROCC) and its forthcoming launch in Monaco on 24 September 2019. Finally, the Executive Secretary referred to the forthcoming 25th session of the Conference of the Parties of the UNFCCC led by Chile in December this year, preceded by a pre-

COP in Costa Rica in November, in light of the aspirations by many Parties that COP 25 contribute significantly to highlighting the contribution of oceans to mitigation of and adaptation to climate change; and that IOC will contribute its best to make COP-25<sup>1</sup> a success.

140. The representative of the UN Climate Change Secretariat, Ms Joanna Post, presented the framework for IOC and UNFCCC collaboration as a way to illustrate the contribution of the ocean to the climate system and its relation to climate change mitigation and adaptation. She stated that ocean matters are very relevant to the UNFCCC and to several articles in the Paris Agreement. She described a value-chain approach to capitalize on the ocean-climate nexus, namely systematic observations (GCOS and GOOS, also involving the satellite community), research, the work of the IPCC, and the climate change policy and decision-making process, i.e. the SBSTA and the COP.
141. Ms Post illustrated the Ambition Cycle of the Paris Agreement, leading to the Global Stocktake exercise, the first of which is to be completed in 2023 and which includes ocean related indicators. Ocean science and observations contribute to the Nairobi Work Programme on impacts, vulnerability and adaptation to climate change, and also to the loss and damage area of work of the Convention. She also referred to the UN Climate Change Summit 2019, to be convened by the UN Secretary-General (New York, 21–23 September 2019). A number of events are planned between present and COP-25. She informed the delegates that SBSTA-50 decided that an Earth Information Day will be part of every session of COP from COP-25 and on. At COP-25, a SBSTA-IPCC special event will be organized as well as a UN Oceans Decade event focusing on the UN Decade of Ocean Science for Sustainable Development.
142. The representatives of nine Member States and of WMO took the floor. Member States strongly supported the on-going cooperation between IOC and the UNFCCC in light of the importance of the nexus between ocean and climate and the relevance and timeliness of the scientific and inputs of the Commission to the Convention and its Paris Agreement. Member States called for the active participation of IOC in COP-25 and the preparatory meetings. Further synergies between IOC and the IPCC were also encouraged.
143. The following Member States chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report: [Chile](#), [Colombia](#), [Costa Rica](#), [United Kingdom](#), and [WMO](#).

Decision IOC-XXX/5.2

**IOC Contribution to the United Nations Framework  
Convention on Climate Change (UNFCCC)**

The Assembly,

Recalling the central role of the world ocean in the regulation of climate and in the mitigation of, and adaptation to, climate change, as reflected in the Paris Agreement,

Recalling also that climate change is called by the United Nations Secretary General as one of the major threats to humanity,

Having considered the report of the IOC Secretariat on collaboration between the Commission and the UNFCCC process (IOC/INF-1374),

Reiterates that the Commission is in virtue of its mandate and expertise well placed to provide technical assistance in ocean-related scientific, observational and technical aspects of climate change and advocate for their importance in terms of addressing the climate change threat;

Further recalling also the synergies between IOC expert groups, such as the IOC Working Group on Integrated Ocean Carbon Research, and the scientific and technical debates at the UNFCCC, including, the Research Dialogues under the auspices of the Convention's Subsidiary Body on Scientific and Technological Advice,

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<sup>1</sup> On 1<sup>st</sup> November 2019, the Bureau of the COP has accepted the proposal from the Government of Chile, as incoming Presidency, to hold COP 25 in Madrid from 2 to 13 December 2019.

Invites the Executive Secretary to continue and reinforce cooperation with the Intergovernmental Panel on Climate Change and to explore further opportunities for joint technical work in support of the IPCC Assessment Reports and relevant IPCC special reports;

Decides that IOC shall be represented at the 25<sup>th</sup> session of the Conference of the Parties to the UNFCCC (Madrid, 2–13 December 2019), by taking an active part in ocean-related dialogues, including at Earth Information Day, in support of the Conference as well as in related preparatory meetings leading to COP 25, such as the Pre-COP in Costa Rica;

Expresses its belief that the UN Decade of Ocean Science for Sustainable Development will bring together the scientific communities working on climate change and ocean science and encourages Member States and the Executive Planning Group for the Decade to provide guidance on how the scoping process of the Decade can take into due account needs related to the science of climate change and opportunities of knowledge-sharing, specifically by reflecting these considerations in the implementation and the science plans of the Decade.

## 6. OCEAN RESEARCH

### 6.1 HARMFUL ALGAL BLOOMS: 14TH SESSION OF IPHAB, UNESCO, PARIS, 20–26 APRIL 2019

144. Mr Henrik Enevoldsen, Head of the IOC Science and Communication Centre on Harmful Algae, presented the main outputs of the 14th session of the IOC Intergovernmental Panel on Harmful Algal Blooms (IPHAB). The Panel took eight decisions and endorsed two recommendations for the consideration of the Assembly. The decisions concern (i) the establishment of the Task Team on the Early Detection, Warning and Forecasting of HAB Events; (ii) Regional HAB Programme Development taking into account the difference of support for the various groups and networks depending on whether they are affiliated to a regional IOC subsidiary body or not; (iii) the continuation of the Task Team on the development of a periodic Global Harmful Algal Bloom Status Report with new terms of reference; (iv) the continuation of the Task Team on a Global Inter-Agency Ciguatera Strategy for Improved Research and Management with new terms of reference; (v) the continuation of the Task Team on Harmful Algae and Desalination of Seawater with new terms of reference; (vi) the continuation of the Task Team on Biotxin Monitoring, Management and Regulations with new terms of reference; (vii) the continuation of the Task Team on Algal Taxonomy with unchanged terms of reference; and (viii) the continuation of the Task Team on Harmful Algae and Fish Kills with unchanged terms of reference.
145. He also informed the Assembly that upon negotiations, FAO, IAEA, IOC and WHO agreed to sign a Memorandum of Understanding on Ciguatera Poisoning. The document, presented to the Assembly as IOC-XXX/Inf.4, in line with the IOC status as a body with functional autonomy within UNESCO, has undergone an extensive review by the relevant services of these organizations. In accordance with Article XI.1 of UNESCO's Constitution, which requires that formal arrangements with specialized intergovernmental organizations and agencies be subject to the approval of UNESCO's Executive Board, the Draft MOU will be presented to the fall 2019 session of the Board, prior to signature (207 EX/36).
146. The representatives of 18 Member States took the floor.
147. The Assembly responded with strong support to the IPHAB Work Plan for 2020–2021 and several examples were given of how HABs continue to affect national economies and public health and how the HAB issue is an integral element in Marine Spatial Planning and Blue Economy. The Assembly welcomed the IOC-IAEA-FAO-WHO interagency Memorandum of Understanding on Ciguatera and acknowledged it as important to a needed increased focus on the issue. The Assembly acknowledged the importance of the work on delivering the Global HAB Status Report through IODE and OBIS.
148. Several Member States informed about the challenges posed by mass occurrences of Sargassum, and the Assembly welcomed the GlobalHAB-GESAMP initiative on Sargassum. The

Assembly stressed the value of the regional HAB groups, and the importance of involving regional experts in the global programme activities. Several Member States expressed their commitment to stay actively involved in, and provide support for, regional IOC HAB groups.

149. Spain expressed its commitment to investigate how it can contribute to implementing capacity development in HAB. China expressed its wish to continue to support the work under TrendsPO on Climate Change and Global Trends of Phytoplankton in the Oceans.

150. The following Member States chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report: [Chile](#), [China](#), [Costa Rica](#), [France](#), [Ireland](#), [Japan](#), [Mexico](#), [Philippines](#), [Republic of Korea](#), [Spain](#), [Thailand](#), and [United Kingdom](#).

Decision IOC-XXX/6.1

**Harmful Algal Blooms**

The Assembly,

Having considered the Executive Summary Report of the 14th session of the IOC Intergovernmental Panel on Harmful Algal Blooms (IPHAB), its 8 Decisions and 2 Recommendations and the workplan for 2020–2021 adopted at the session (IOC/IPHAB-XIV/3s);

Endorses the Executive Summary Report of IPHAB-XIV and the recommendations contained therein (IOC/IPHAB-XIV/3s);

Agrees to the HAB workplan for 2020–2021 (Recommendation IPHAB-XIV.1) and to consider it in the overall IOC Programme and Budget resolution XXX-3.

Requests the Executive Secretary to complete preparations for the signature of the FAO-WHO-IAEA-IOC Memorandum of Understanding of Ciguatera Poisoning.

**6.2 REPORT OF THE WMO-IOC-ISC WORLD CLIMATE RESEARCH PROGRAMME (WCRP)**

151. Mr Salvatore Aricò, Head of the Ocean Science Section, presented developments related to the World Climate Research Programme and the role of IOC therein. Since the conclusion of the independent review of WCRP, a WCRP Strategic Plan has been developed and an associated Implementation Plan is being developed. Inter alia, these will be instrumental in informing the potential contributions by the climate change science community to the objectives of the UN Decade of Ocean Science for Sustainable Development. From the point of view of the institutional role of IOC, as a co-sponsor of WCRP, in consultation with the other co-sponsors—WMO and International Science Council—it was proposed that the tripartite co-sponsoring agreement be renewed in 2020 to provide a continuing institutional framework for the existence and implementation of WCRP. He informed delegates that the Chair of the WCRP Joint Scientific Committee, Dr Detlef Stammer, had prepared a document summarizing the Strategic Plan 2019–2028 (IOC/INF-1375 rev.), which also refers to societal outcomes to which WCRP is to contribute.

152. The representatives of two Member States and of WMO took the floor. [China](#) and [WMO](#) chose to provide a record of their plenary intervention on this agenda item for the informational annex to the meeting report.

Decision IOC-XXX/6.2

**WMO-IOC-ISC World Climate Research Programme (WCRP)**

The Assembly,

Taking into account developments related to WCRP, including the finalized WCRP Strategic Plan 2019–2029,

Stressing the centrality of the ocean and the related role of IOC and of the scientific constituency represented by the Commission in climate research,

Reiterating the importance of the continuum that goes from bedrock climate science to sustained observations, data and information products, and assessments,

Noting with appreciation the continuing strong cooperation between IOC, WMO and ISC in their capacity as co-sponsors of WCRP,

Takes note of the timeline and modalities for the development of the WCRP Implementation Plan associated with the Strategic Plan and of the timeline for the finalization of a renewed co-sponsoring agreement between WMO, IOC and ISC;

Encourages scientists participating in WCRP to take an interest in the UN Decade of Ocean Science for Sustainable Development and specifically in how the Decade can leverage further relevant foci of the WCRP Strategic and Implementation Plans;

Requests the Executive Secretary to monitor the alignment of the WCRP Strategic Plan 2019–2029 with work priorities of the IOC, including engagement with the UN Decade of Ocean Science for Sustainable Development;

Encourages IOC Member States to mobilize extrabudgetary resources in support of the IOC contribution to WCRP.

## **7. OBSERVING SYSTEMS AND DATA MANAGEMENT**

### **7.1 OBSERVING SYSTEMS**

#### **7.1.1. GOOS: Strategy, Implementation, and Governance**

153. Dr Toste Tanhua, co-chair of the GOOS Steering Committee (SC), introduced this item.

154. He recalled that a draft Global Ocean Observing System 2030 Strategy (IOC/EC-LI/2 Annex 8) was presented to the IOC Executive Council at its 51st session in 2018, and Member States were asked to provide comments on it through [IOC Circular Letter 2726](#) (8 August 2018). The revised strategy, now presented for final approval as IOC-XXX/2 Annex 4, has a broad vision for a fully integrated global ocean observing system that delivers the essential information needed for our sustainable development, safety, wellbeing and prosperity. The strategy details a more focused mission to lead the ocean observing community and create the partnerships to grow GOOS. Eleven Strategic Objectives provide guidance on priorities for the work of GOOS at global and regional levels, and in interactions with national ocean observing activities.

155. GOOS continues to develop an Implementation Plan (IOC/INF-1376) against the strategic objectives, which will be an evolving document focused on GOOS programme and partner actions. In accordance with IOC Resolution XXVI-8 (2011), this draft implementation plan is presented for approval as the GOOS workplan for 2020–2021, and is focused on priority strategic objectives.

156. Building on existing close links between GOOS and the JCOMM Observations Coordination Group, GOOS stands ready to incorporate appropriate JCOMM functions and activities on observation and operational ocean forecasting systems. In the context of the reform of WMO constituent bodies including JCOMM (item 5.1) and an ocean observing community-wide reflection on the organization of ocean observations at global, regional, and national levels at the OceanObs'19 Conference (16–20 September 2019, Honolulu, USA), and recognizing the challenges in achieving the ambitious strategic objectives outlined in the GOOS 2030 Strategy, the GOOS Steering Committee is preparing to engage in a broader reflection on the governance of GOOS with its co-sponsors, to be brought to future IOC governing body meetings for decision.

157. Dr Tanhua noted two GOOS-related projects: the EC H2020 funded the proposed All-Atlantic Ocean Observing System (AtlantOS) and the Tropical Pacific Observing System in 2020 (TPOS 2020) project. AtlantOS has contributed to the development of a vision for an All-Atlantic Ocean Observing System as a contribution to GOOS, and is seeking to develop mechanisms to engage with Member State agencies and organizations around the Atlantic Basin. The TPOS 2020 Second Report (GOOS reports, 234) focused on design recommendations, engaging with funders and

implementers, and trailing new technology for tropical Pacific observations, with the primary goals of improving climate outlook and forecasts, as well as detecting climate change and its consequences.

158. Dr Tanhua then highlighted three resolutions adopted by the 18th World Meteorological Congress. The first, which is focused on GOOS, approves the GOOS 2030 Strategy, subject to its parallel approval by this Assembly; decides to contribute to implementation of the strategy; and supports establishment of a node of a distributed GOOS Office located within the WMO Secretariat. It also supports the recommendations of the Second Report of TPOS 2020. The second resolution reaffirms the importance of marine meteorological observations, including those in Exclusive Economic Zones (EEZs), used operationally by WMO Members to provide services in support of safety of navigation and the protection of life and property in coastal and offshore areas, and clarifies the legal regime under which the Voluntary Operating Ship Scheme and surface observing platforms operate. The third notes a 20-year history of work by the IOC to develop a cooperative framework regarding the sharing of ocean data in EEZs (IOC Resolutions XX-6 and EC-XLI.4, and IOC Decision EC-LI.4.8); recognizes that WMO's operational forecast models and services increasingly rely on sustained global data streams of subsurface observations; and decides to identify the requirements for subsurface ocean variables to improve the quality of these forecasts and services, work closely with IOC in order to explore mechanisms that make the highest-impact subsurface ocean data freely available, and build the capacity of all WMO Members to use the resulting forecast systems and services. He also noted work by the JCOMM Observations Coordination Group and GOOS that surveyed ocean observing networks on the impediments they faced in taking observations within EEZs in full compliance with the provisions of UNCLOS.
159. The representatives of 20 Member States and of WMO took the floor.
160. All Member States and the WMO strongly supported the ambitious Global Ocean Observing System 2030 Strategy. It was viewed as major achievement and necessary to better coordinate and govern ocean observing over the next decade, as well as providing an important guide for national activity. A stronger GOOS, which would serve the international community, was anticipated. The accompanying Implementation Plan also received strong support.
161. Member States noted national activities in support of the GOOS 2030 Strategy, through all of the current GOOS components. Several Member States noted intentions to expand their commitments to the work of GOOS, in support of the Strategy.
162. Member States emphasized:
- the Strategy's aim to connect end-to-end along the value chain, a potential launch pad for further investment,
  - that a key challenge to address will be improving the resilience of key elements of GOOS, as well as expanding its scope to embrace a wider range of variables and the coast,
  - the value of inclusivity, encompassing gender, indigenous peoples and young people, and
  - the importance of connection to industry.
163. Member States could see clear links between the GOOS 2030 Strategy and the UN Decade of Ocean Science for Sustainable Development, with a suggestion that ocean observing and Decade work should be coordinated at a national level.
164. Australia and Argentina noted that the GOOS 2030 Strategy, along with new responsibilities for GOOS following the disbandment of JCOMM, will require urgent attention to how GOOS is resourced, with the need to develop a business case.



165. WMO reaffirmed its co-sponsorship of GOOS and the important contribution of sustained ocean observations to achieving WMO Strategic Objective 2.1, which is about optimizing the acquisition of Earth system observation data through the WMO Integrated Global Observing System (WIGOS). It was also noted that WMO engagement with ocean observing from community from local to national and global was important.
166. The work of TPOS 2020 and AtlantOS projects was commended and strongly encouraged by Member States. Several Member States noted the potential confusion between a specific European Commission funded and limited-lifetime project, AtlantOS, and the proposed All-Atlantic Ocean Observing System as a contribution to GOOS, also being called AtlantOS. They stressed the importance of clear and appropriate governance of the latter. It was suggested that the GOOS projects could be viewed as the first pilots under the GOOS 2030 Strategy. The second review of the sustainable ocean observation system for the Indian Ocean (IndOOS-2) and plan for observing system development in the Indian Ocean were also noted.
167. The following Member States 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](#), [China](#), [Côte d'Ivoire](#), [France](#), [India](#), [Japan](#), [Republic of Korea](#), [South Africa](#), [United Kingdom](#), [USA](#), and [WMO](#).

Decision IOC-XXX/7.1.1

**The Global Ocean Observing System**

The Assembly,

Noting the 18th World Meteorological Congress Resolution 6.1(3)/4 which approved the GOOS 2030 Strategy, subject to its parallel approval by this Assembly, supports establishment of a node of a distributed GOOS Office located within WMO, and asks WMO Members to take the TPOS 2020 report and its recommendations into account when planning their contribution to the Tropical Pacific Observing System;

Further noting IOC Resolution XXX-2, which proposes GOOS taking on primary sponsorship of present observing programme area and operational ocean forecast system bodies in JCOMM, after a transition period and JCOMM disbandment in 2020,

**I.  
GOOS 2030 Strategy**

Having examined IOC-XXX/2 Annex 4,

Accepts the Global Ocean Observing System 2030 Strategy;

Calls on other sponsors of GOOS—the World Meteorological Organization, United Nations Environment, and the International Science Council—to consider how they will help implement the strategy; and

Urges Member States to take actions to facilitate its implementation;

**II.  
GOOS Workplan**

Noting the broad ambition of the GOOS 2030 Strategy,

Further noting IOC's recognized role as lead agency for GOOS, and the fundamental role of observations in supporting IOC's Medium-Term Strategy and the developing of the UN Decade of Ocean Science for Sustainable Development,

Having examined the initial GOOS Implementation Plan (IOC/INF-1376),

Accepts with appreciation the initial Implementation Plan as the GOOS Workplan for the coming intersessional period;

Notes the resourcing requirements that are laid out in the initial Implementation Plan, and that only a fraction of these can be supported from draft IOC Programme and Budget allocation for GOOS;

Further notes the need to incorporate appropriate JCOMM decisions and processes regarding observations into GOOS during the transition period leading up to the disbandment of JCOMM;

Expresses its appreciation for the in-kind contributions of Member States that have enabled the development of a distributed GOOS Office;

Welcomes the proposed establishment of a node of the GOOS Office hosted by WMO, and of a G7-GOOS coordination centre to be hosted by the IOC;

Urges Member States to support GOOS through contributions to the IOC Special Account for GOOS, secondments of staff members to the GOOS Office, in-kind support such as hosting meetings or workshops with participant funding, the establishment of GOOS support offices, the funding of GOOS projects, or other means as agreed by the GOOS Steering Committee (SC);

### III.

#### Legacy of Basin-scale observing projects

Noting the vision of the All-Atlantic Ocean Observing System (the AtlantOS<sup>2</sup> Program) and the TPOS 2020 Second Report (GOOS Reports, 234),

Further noting the OceanObs'19 conference that is going to take place in Hawaii from 16 to 20 September 2019,

Notes ocean observing system review activities in the Indian Ocean (INDOOS) and Tropical Atlantic Ocean (TAOS);

Calls on Member States to take the TPOS 2020 Second Report and its recommendations into account when planning their contribution to the Tropical Pacific Observing System;

Calls on interested Member States to engage in the development of the All-Atlantic Ocean Observing System (the AtlantOS Program) as a contribution to GOOS;

Requests the GOOS Steering Committee to consider the legacy of GOOS projects in future proposals to IOC and co-sponsors on the evolution of GOOS;

### IV.

#### GOOS SC Regional Membership

Recalling the GOOS-SC regional membership appointment defined in IOC Resolution XXVI-8, and further recalling IOC Circular Letter 2762 requesting nominations of experts for appointment by Member State Electoral Groups,

Notes the appointment by each of the Member State Electoral Groups of a regional expert member of the GOOS-SC for 2020–2021:

- Elaine McDonagh, United Kingdom (Group I)
- Konstantin Lebedev, Russian Federation (Group II)
- Alvaro Santiago Scardilli, Argentina (Group III)
- Tony Worby, Australia (Group IV)
- Desiderius Masalu, Tanzania (Group V)

#### 7.1.2. WMO-ISC-IOC-UNEP Global Climate Observing System (GCOS) Workplan

168. Dr Carolin Richter, Director of the WMO-ISC-IOC-UNEP Global Climate Observing System (GCOS), introduced a status report and workplan for GCOS (IOC/INF-1377). This GCOS workplan is based on meeting the needs of climate scientists and the assessments produced by the Intergovernmental Panel on Climate Change (IPCC), adaptation planners, and policymakers like those in the UN Framework Convention on Climate Change (UNFCCC).

169. In order to meet these needs, GCOS works towards climate observations being enhanced and continued into the future to provide the empirical evidence needed to understand and predict the evolution of the climate, to guide mitigation and adaptation measures, to assess risks and enable attribution of climatic events to underlying causes, and to underpin climate services. GCOS will need to encourage integrated observations of the physical, chemical and biological properties and processes across the atmospheric, oceanic and terrestrial domains, in order to more fully monitor the Earth's water and carbon cycles and energy. GCOS as an integrator focused on climate,

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<sup>2</sup> Please see the narrative report IOC-XXX/3 (para. 166) for Member State comments on the use of this name.

depends on strong atmospheric, oceanic and terrestrial observing systems, and therefore on GOOS, with which it shares an expert panel.

170. GCOS operates through a cycle of specifying needs; providing support; observations (performed by independent systems and networks); monitoring performance of observations; and back to specifying needs. In the past, this sequence has been unfolding on a roughly 10-year cycle (with an update mid-way). From now on, GCOS will aim to synchronise this cycle on the dates of the Paris Agreement's Global Stocktake, the first of which is in 2023.
171. Dr Richter welcomed the support of IOC Member States in the global observing system for climate, and the specific activities undertaken by GOOS and its expert panels. She called for continued assistance in reviewing GCOS proposed implementation actions, in promoting the inter-comparison and assessment of datasets, in supporting efforts to sustain *in situ* observing networks for climate, and in its direct support to GCOS.
172. The representatives of two Member States and of WMO took the floor. The [Republic of Korea](#) and [WMO](#) chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report.

Decision IOC-XXX/7.1.2

**WMO-ISC-IOC-UNEP Global Climate  
Observing System (GCOS) Work Plan**

The Assembly,

Having examined the proposed Global Climate Observing System (GCOS) status report and workplan (IOC/INF-1377);

Accepts the GCOS workplan;

Calls on the other sponsors of GCOS—the World Meteorological Organization, the United Nations Environment, and the International Science Council—to finalize and consider how they will help implement a GCOS Strategy, as well as this workplan; and

Urges Member States to take actions to facilitate its implementation.

**7.1.3. Joint WMO-IOC Technical Commission for Oceanography  
and Marine Meteorology (JCOMM)**

173. Prof. Nadia Pinardi, Co-President of JCOMM, introduced this item.
174. The JCOMM Management Committee at its 15th meeting (31 October–3 November 2018, Paris) made a series of recommendations on the future cooperation between oceanography and meteorology and between the IOC and the WMO that were then taken up by the Joint WMO-IOC Consultation Group on the Future of JCOMM. Dr Pinardi emphasized the opportunities created by the new proposed structure adopted under item 5.1.
175. Recalling Decision 19 (JCOMM-5) "Joint World Meteorological Organization and Intergovernmental Oceanographic Commission Strategy for Marine Meteorological and Oceanographic Data Management (2018–2021)", which authorized the JCOMM Co-Presidents to recommend that an updated draft Strategy (JCOMM Technical Report No. 40, Revision 5) be adopted by the WMO and IOC governing bodies, and the outcomes of the 25th session of the IODE (item 7.2.1), Prof. Pinardi introduced the vision and mechanism of the joint strategy. The vision is assuring the collection, processing, integration, dissemination and archiving of as much as possible fit-for-purpose relevant data of known quality, to deliver to current demands for integrated oceanographic and marine meteorological information to the research and operational communities.
176. Prof. Pinardi presented the results of a review of the JCOMM *in situ* Observation Programmes Support Centre (JCOMMOPS). The Review found that JCOMMOPS has generated a high level of

interest and support from its stakeholders, all of whom view JCOMMOPS as important to the success of their own activities. As a direct consequence, expectations across the various stakeholders are on the increase. Overall, the cumulative demand for JCOMMOPS services far exceeds its current capacity. Key findings of the review are as follows: given the strategic directions of both WMO through WIGOS and IOC through GOOS, there is a clear and growing need for an *in situ* Observing Programmes Support Centre. It requires a system-level focus, rather than a sum-of-networks approach. The distinctive role of JCOMMOPS does however need to be more clearly defined. The expectations of various stakeholders, and the JCOMMOPS team itself, need to be more actively managed and matched to available resources. Stable funding and staffing of the small core JCOMMOPS team needs to be secured in the long term. The financial situation is urgent as JCOMMOPS expenditure continues to exceed revenue, and its trust-fund balances are close to being exhausted. Skills of the JCOMMOPS team need to be matched to a clearly defined scope.

177. The representatives of 7 Member States, WMO, and IODE took the floor.
178. The cooperation between the oceanographic and meteorological communities that JCOMM has accomplished was applauded, and Member States noted their support for new Joint WMO-IOC Collaborative Board, to enhance cooperation and coordination in the implementation of a fully integrated marine observing, data management and services system.
179. Member States also supported the Joint Data Management Strategy, and the need for this to be developed with IODE and the relevant bodies of WMO. WMO confirmed that the Strategy was approved by the 18th World Meteorological Congress, subject to parallel approval of the IOC Assembly.
180. Member States noted the increasing role of JCOMMOPS as an observing community resources, and called for improved sustainability of this vital component. France, as the host country for JCOMMOPS, noted that it would like to extend the role of JCOMMOPS. WMO expressed continued support to JCOMMOPS, and that it is taking steps to establish JCOMMOPS also as a WMO Office based in France.
181. The following Member States and one organization chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report: [China](#), [France](#), and [WMO](#).

Decision IOC-XXX/7.1.3

**Joint WMO-IOC Technical Commission for Oceanography  
and Marine Meteorology (JCOMM)**

The Assembly,

**I.**

**Joint WMO and IOC Strategy for Marine Meteorological  
and Oceanographic Data Management (2018–2021)**

Having examined JCOMM Technical Report No. 40 Rev. 5—Joint WMO and IOC Strategy for Marine Meteorological and Oceanographic Data Management (2018–2021),

Noting the IOC Medium-Term Strategy 2014–2021 and the IOC Strategic Plan for Data and Information Management (2017–2021),

Further noting the decision of IODE at its 25<sup>th</sup> session (19–22 February 2019, Tokyo) to endorse the Joint Strategy, inviting JCOMM to submit it to the IOC Assembly at its 30<sup>th</sup> session,

Recalling the parallel WMO Resolution 6.1(3)/1 adopted at the 18th World Meteorological Congress, which proposed renaming the Joint Strategy to “*Joint World Meteorological Organization (WMO) and Intergovernmental Oceanographic Commission (IOC) of UNESCO Strategy for Marine Meteorological and Oceanographic Data Management (2018–2021)*”, and to update it to reflect Congress Decisions with regard to the WMO Constituent Body Reform,

Concurs with the changes proposed by the World Meteorological Congress;

Adopts the Joint WMO and IOC Strategy for Marine Meteorological and Oceanographic Data Management (2018–2021); and

Requests the Joint WMO-IOC Collaborative Board to: (i) take steps, in liaison with IODE and the WMO Infrastructure Commission, for updating the Joint Strategy according to the WMO Strategic Plan for 2020–2023, and have it submitted to IODE-XXVI and EC-73 (2021) for approval; and (ii) develop an implementation plan responding to the Joint Strategy, with support of IODE and the WMO Infrastructure Commission;

## II. JCOMMOPS

Having examined the JCOMMOPS Review 2018 (JCOMM TR-93) and its key findings and recommendations,

Commends the work of the review panel;

Notes in particular the recommendation that: "JCOMMOPS core services at the system-level (vs network-level) should be clearly defined and adequately funded on a programmatic basis through the intergovernmental systems, i.e. WMO and IOC. The core services need to serve the needs expressed by these bodies, through WIGOS and GOOS";

Welcomes the proposed creation by WMO of a regular programme funded post for JCOMMOPS Lead;

Decides to consider the financial implications of the review recommendations in the context of the overall IOC Programme and Budget;

Urges Member States to investigate how they could strengthen their support to JCOMMOPS and assist in making the funding of JCOMMOPS more stable and sustainable.

### 7.2 DATA MANAGEMENT

#### **7.2.1 International Oceanographic Data and Information Exchange: 25th Session of IODE, Tokyo, Japan, 18–22 February 2019**

182. Dr Sergey Belov, IODE Co-Chair, introduced this item and informed the Assembly on the outcome of the 25th session of the IODE Committee and draft decisions submitted to the Assembly regarding the revision of the IOC Oceanographic Data Exchange policy, and the establishment of the IOC Ocean Best Practices System project.
183. During its 25th session the Committee focused its attention mainly on the possible contribution of IODE to the United Nations Decade of Ocean Science for Sustainable Development (2021–2030). The Decade was also the main theme of the Scientific Conference held on 18–19 February 2019, which was attended by 150 participants from 40 countries. The conference concluded with the recommendation that it is critical for IODE to be further strengthened and expanded for it is to play an essential role in supporting the flow from data to information to knowledge. The oceanographic community needs to build a global ocean forecasting system delivering society relevant services, by focusing on managing the data streams of essential ocean variables, both in the climate, operational services and ocean health space. To realize this, IODE and GOOS will need to continue their strong partnership and engage with regional bodies and stakeholders including the private sector. Important steps have been taken by the development of a prototype global Ocean Data and Information System (ODIS).
184. The Committee welcomed the continued growth of the IODE network that now includes 67 National Oceanographic Data Centres (NODCs) (3 added), 29 Associate Data Units (ADUs) (9 added) and 3 Associate Information Units (AIUs). Within the framework of the IODE Quality Management Framework implementation, an additional 6 NODCs had successfully applied for accreditation: BODC (United Kingdom), Flanders Marine Institute – VMDC (Belgium), INOS (Malaysia), JODC (Japan), KODC (Republic of Korea), Marine Institute (Ireland).
185. The Committee continued the reform of IODE towards ensuring that all NODCs, ADUs and AIUs comply with the IODE Quality Management Framework (QMF) and adopted a decision on the establishment of an inter-sessional working group on the review of NODC health status within the IODE network. The Committee also adopted a decision to further improve the management of IODE.

In addition, taking into account that the current IOC Strategic Plan for Data and Information Management will expire in 2021, the Committee adopted a decision to establish an inter-sessional working group to revise the Plan.

186. The Committee welcomed the increasing IODE cooperation with IOC Ocean Science (GOSR, HAEDAT, Ocean acidification), GOOS biology, Marine Policy and Regions, and its contribution to SDG indicator reporting and the SPINCAM project. Several of these make use of OceanExpert, OBIS and the OceanTeacher Global Academy. In addition, cooperation has started between GOOS and IODE on the Ocean Best Practices System project. The Committee welcomed the existing cooperation and called on other IOC programmes to collaborate with IODE for their ocean data and information management requirements.
187. Regarding the reform of WMO and the future of JCOMM, the Committee, referring to the ongoing development of WMO WIS 2.0 and IOC ODIS, remarked that many changes are taking place, which challenges the long-term strategic planning regarding collaboration between WMO and IOC/IODE. The Committee entrusted the IODE Management Group to reflect the comments by the Committee in the discussions of the Joint WMO-IOC Consultation Group on the reform of JCOMM. The Committee recommended: (i) continued collaboration between IOC and WMO regarding data management and capacity development activities; (ii) to assure that activities related to interoperability of IOC ODIS and WMO WIS 2.0, both under development, will be maintained in the proposed future structure of JCOMM; and (iii) that IOC Member States promote the IODE OceanExpert database as a joint pool of experts within IOC and invite WMO to contribute to it. Regarding cooperation of IODE in the JCOMM Marine Climate Data System (MCDS), the IODE Committee invited JCOMM to jointly elaborate on MCDS structural elements, such as DACs, noting that they could be functional elements of IODE. The IODE Committee urged the Joint WMO-IOC Consultation Group on the Reform of JCOMM to take into consideration the MCDS when discussing the future of JCOMM.
188. The IODE Committee welcomed the vision, mission, outcomes and activities outlined in the draft Joint WMO and IOC Strategy for Marine Meteorological and Oceanographic Data Management for the period 2018 to 2021 (JCOMM Technical Report No. 40, Rev. 5). It decided to: (i) assist JCOMM to develop the implementation Plan responding to the Data Management Strategy and to collaborate in the implementation of the Strategy; (ii) promote the Strategy and its implementation within IODE projects, activities and members; (iii) assist DMPA to review and update the strategy and the implementation plan as necessary; (iv) endorse the Strategy; and invited JCOMM to submit it to the 30th session of the IOC Assembly (2019) for approval.
189. The IODE Committee welcomed the progress achieved by the Ocean Biogeographic Information System (OBIS) and specifically in supporting the development of scientific applications and global and regional assessments, through projects such as OBIS-Event-Data and DIPS-4 Ocean Assessments. The Committee stressed the importance to create a regular programme post for the OBIS data manager to secure the continuation of OBIS beyond 2019 and invited the Government of Flanders (Kingdom of Belgium) through the FUST, as well as other Member States and donor agencies, to consider providing financial support to OBIS (and its community network) to ensure OBIS can facilitate the co-development of a data and analytics platform for policy relevant applications, involving relevant partners, as well as to create specific training packages in collaboration with the OceanTeacher Global Academy.
190. The Committee welcomed the positive results obtained by the (OceanTeacher Global Academy) Regional Training Centres and the growing collaboration with other IOC programmes using the OTGA. However, the Committee noted that other IOC Programmes making use of OTGA should also contribute to the related Secretariat tasks. The Committee invited IOC regional subsidiary bodies to jointly, with OTGA, plan and implement courses through the RTCs in their region. The Committee thanked the Government of Flanders (Kingdom of Belgium) for the substantial support provided to the OTGA project. The Committee welcomed the planned submission of a new proposal to FUST.

191. The IODE Committee, (i) considering the need to derive the greatest benefit from the observations collected and information from the UN Decade of Ocean Science for Sustainable Development; (ii) considering the complexity and use of international observing systems during the UN Decade without overarching data and information access and use, recommended to the IOC to include, as part of preparatory process, the formulation of common guidelines/principles on flow, discovery, access, and re/use of data collected during the decade. The IODE Committee offered its assistance in this regard. The Committee also established an inter-sessional working group to propose a strategy on ocean data and information stewardship for the UN Decade.
192. The representatives of 17 Member States and 2 organizations/programmes took the floor.
193. The Assembly thanked the outgoing IODE Co-Chairs, Ms Cynthia Chandler (USA) and Prof. Yutaka Michida (Japan) for their leadership of IODE during the past four years, and welcomed the new IODE Co-Chairs Dr Sergey Belov (Russian Federation) and Mr Taco de Bruin (The Netherlands).
194. The Assembly urged the IODE to continue active collaboration with the WMO through the new Joint WMO-IOC Collaborative Board, in particular with regard to achieving the goals of, updating and implementing the Joint WMO-IOC Strategy for Marine Meteorological and Ocean Data Management (see item 7.1.3), but also continuing the work carried out under the (now former) Data Management Programme Area (DMPA).
195. Several Member States expressed their appreciation to IODE for its active capacity development programme activities including the OceanTeacher Global Academy and establishment of OTGA regional training centres, noting that these had contributed substantially to building the necessary national capacity in ocean data and information management.
196. The Assembly expressed its appreciation to the Government of Flanders (Kingdom of Belgium) for the considerable support provided to IODE in the past and for the decision to continue support through FUST. The Assembly further expressed its appreciation to the Russian Federation for its support through the hosting of the Partnership Centre for the IODE Ocean Data Portal in Obninsk and the Government of Japan for providing an intern. Similarly, Member States were invited to provide interns or seconded staff to IODE.
197. The Assembly proposed that the IOC planning process for the UN Decade convene a broad meeting on all data issues, involving IOC's IODE but also other organizations and related programmes, to address the full breadth of data issues and needs related to the UN Decade. The Decade provides an opportunity to set a course of consistency and universal availability of ocean data, from those who observe, those who are stewards, and those who need to use the data. In this regard, it was noted that WMO was planning a similar meeting. The Assembly recommended looking into collaboration on both events.
198. The Assembly noted that data management forms the basis of all the work undertaken in the ocean space, but urged IODE to focus more on product development to deepen the impact of the UN Decade.
199. Several Member States offered expertise to assist with the implementation of the IODE-XXV work plan, and in particular with IODE activities related to the UN Decade.
200. Belgium informed the Assembly that the Government of Flanders had decided to build the "InnovOcean Campus" as a campus for ocean-related innovation. It is envisaged that the IOC Project Office for IODE will move to the new facilities in 2022. Belgium further informed the Assembly that the Government of Flanders had decided to renew Flanders-UNESCO Trust Fund for Science for another five years and has invited UNESCO Science programme and IOC to submit new proposals by September 2019 (for implementation starting 2020).

201. 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: [Australia](#), [Belgium](#), [China](#), [Colombia](#), [France](#), [India](#), [Japan](#), [Republic of Korea](#), [South Africa](#), [United Kingdom](#), [USA](#), [WMO](#), and [GEBCO](#).

Decision IOC-XXX/7.2.1

**IOC Committee on International Oceanographic Data  
and Information Exchange**

The Assembly,

**I**

**25<sup>th</sup> Session of IODE, 18–22 February 2019, Tokyo, Japan**

Having examined the Executive Summary and Report of the 25th session of the IOC Committee on International Oceanographic Data and Information Exchange (IODE-XXV) (18–22 February 2019, Tokyo, Japan), the recommendations and the decisions contained therein (IOC/IODE-XXV/3s),

Agrees to the IODE Workplan for 2019–2020 (Recommendation IODE-XXV.7.3) and to consider it in the overall IOC Programme and Budget Resolution XXX-3;

Endorses the report of the 25th session of the IOC Committee on International Oceanographic Data and Information Exchange and the recommendations contained therein;

**II**

**Revision of the IOC Oceanographic Data Exchange Policy**

Recalling Assembly Resolution XXII-6 entitled 'IOC Oceanographic Data Exchange Policy',

Recognizing the need for free and open access to oceanographic data for the global common good,

Noting the World Data System (WDS) has superseded the World Data Centres (WDC),

Further noting the Ocean Biogeographic Information System (OBIS) is a global open-access data and information clearing-house on ocean biodiversity for science, conservation and sustainable development,

Decides to revise Clause 5 of the Annex to Resolution XXII-6 (IOC Oceanographic Data Exchange Policy) to the revision attached in Annex 1 of this decision;

Invites all Member States to contribute oceanographic data to the IODE network of data centres, the Ocean Biogeographic Information System (OBIS), and the World Ocean Database or the World Data System;

**III**

**Establishment of the IOC Ocean Best Practices System Project (OBPS)**

Recalling Recommendation IODE-XXII.19 for the establishment of the IODE Clearing House Service for Data/Information Management Practices Project, which replaced the JCOMM Catalogue of Best Practices,

Recognizing that:

- (i) the dissemination and use of rigorously tested best practice methods in ocean observing promote and facilitate activity within and across disciplinary boundaries of ocean science,
- (ii) IODE has successfully established a permanent repository offering the scientific community a platform to publish their ocean-related best practices and find practices of others using innovative search and access technology, a peer review journal publishing outlet and community forum, and a training resource leveraging community capabilities,
- (iii) IOC and JCOMM have established close, efficient and effective collaboration in ocean best practices,

Noting that the Ocean Best Practices System Repository (OBPS-R) of best practices will support all IOC programmes and contribute to the UN Decade of Ocean Science for Sustainable Development and UN Sustainable Development Goals by providing a permanent curated archive of best practices in ocean sciences,

Noting further that within the context of the project, a best practice is defined<sup>3</sup> as a methodology that has repeatedly produced superior results relative to other methodologies with the same objective; to be fully

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<sup>3</sup> Following a review of the literature by OBPWG, a definition of best practices was agreed by consensus of ocean observing community participants at the Evolving and Sustaining Ocean Best Practices Workshop in November 2017 See: Simpson, P., Pearlman, F. and Pearlman J. (eds) (2018) *Evolving and Sustaining*



elevated to a best practice, a promising method will have been adopted and employed by multiple organizations,

Noting also that best practices can be in many forms including standard operating procedures, manuals, etc.,

Decides to:

- (i) establish the IOC Ocean Best Practices System (OBPS) as a joint IODE-GOOS project with the terms of reference as attached in Annex 2 to this decision;
- (ii) establish the IOC Steering Group for the Ocean Best Practices System (OBPS) project with the terms of reference as attached in Annex 3 to this decision;

Urges Member States to actively participate in the OBPS project by submitting relevant community practices on ocean observation, data management, products and services, and by promoting the use of practices contained in the OBPS at the national, regional and global level;

Invites relevant stakeholders to contribute community practices and collaborate with the OBPS.

Annex 1 to IOC-XXX, Dec. 7.2.1

**Clause 5 of the Annex to Resolution XXII-6 (IOC Oceanographic Data Exchange Policy):  
Use of IODE system**

Member States shall, to the best practicable degree, use data centres linked to the World Data System (WDS) and IODE's NODCs, such as the World Ocean Database (WOD) and the Ocean Biogeographic Information System (OBIS), as long-term repositories for oceanographic data and associated metadata.

Annex 2 to IOC-XXX, Dec. 7.2.1

**Terms of Reference of the IOC Ocean Best Practices System Project (OBPS)**

Objectives: The objectives of this project are to:

- (i) Increase efficiency, reproducibility and interoperability of the entire ocean observing value chain by providing the community with a unified, sustained and readily accessible knowledge base of interdisciplinary best practices;
- (ii) Provide coordinated and sustained global access to best practices in ocean observing to foster innovation and excellence by developing a system and engaging ocean observing communities in a joint and coordinated effort in producing, reviewing and sustaining best practice documents.

Annex 3 to IOC-XXX, Dec. 7.2.1

**Terms of Reference of the IOC Steering Group for the Ocean Best Practices System (SG-OBPS)**

Objectives: The SG-OBPS will have the following Terms of Reference:

- (i) Propose the vision, strategy, work plan and timetable for the Ocean Best Practices System Project;
- (ii) Advise on technical aspects such as user interface, back office, etc. to the project technical task team;
- (iii) Report to the IOC and to other partners on the progress of the Ocean Best Practices System Project;
- (iv) Provide guidance to the project manager and project technical manager;
- (v) Identify funding sources to further develop the OBPS.

Membership: The Steering Group will be composed, *inter alia*, of:

- (i) Representatives from IOC Programmes and JCOMM;
- (ii) Project Manager/Chief Editor;
- (iii) Project Technical Manager;
- (iv) Invited Experts from the ocean observing community;
- (v) Representatives of the IODE and GOOS Secretariats.

## 7.2.2 Draft Concept for an Ocean Data and Information System (ODIS)

202. Mr Taco de Bruin (The Netherlands), IODE Co-Chair, introduced this item referring to Document IOC-XXX/2 Annex 6. He recalled that IODE at its 24th session in 2016 adopted Decision IODE-XXIV.4 by which it established the Inter-sessional Working Group to develop a concept paper for the Ocean Data and Information System, with deadlines in June 2017 for a brief introductory to the IOC Assembly in 2017 and February 2019 for submission of the Concept Paper to the 25th session of IODE.
203. IODE-XXV reviewed and approved Document IOC/IODE-XXV/5.2 as the revised concept paper. It furthermore adopted Recommendation IODE-XXV.5.2.1 (Establishment of the IOC Ocean Data and Information System Catalogue of Sources Project – ODISCat) as well as Decision IODE-XXV.5.2.3 (Establishment of the Inter-Sessional Working Group to develop the Implementation Plan and cost-benefit analysis for the IOC Ocean Data and Information System).
204. Mr de Bruin introduced the ODIS concept statement as follows: “The IOC Ocean Data and Information System (ODIS) will be a framework in which existing ocean data and information systems, products and services will be promoted and where connections between these systems will be promoted and possibly developed by relevant stakeholders”. IODE will work with existing stakeholders, linked and not linked to the IOC, to improve the accessibility and interoperability of existing data and information, and to contribute to the development of a global ocean data and information system, to be referred to as the IOC Ocean Data and Information System, leveraging established solutions where possible. The IOC ODIS will target scientists, government agencies/policy-makers, IOC global and regional programmes, IODE National Oceanographic Data Centres, Associate Data Units, Associate Information Units, UN agencies, IGOSs, and Industrial and commercial enterprises.
205. The cost benefit analysis reveals that the most realistic option for implementing ODIS will be the stepwise development of ODIS leveraging existing infrastructures (ODISstep). This option will build on the proposed ODIS Repository of Sources (ODISCat). The stepwise approach will aim at identifying and bringing together communities that each have existing activities related to one or more of the 16 content/source types that are currently covered by ODISCat. As such ODIS will be able, to a large extent, to build upon existing investments, infrastructure and expertise already committed (including private sector) to developing products and services related to the 16 content/source types. It is important to note that this option will leverage work already in progress in the ocean community, rather than imposing new requirements or tasks. This is in keeping with the emerging paradigm of distributed but interoperable informatics, in aid of robustness and sustainability. A prototype of ODISCat has been developed over the period 2018–2019 and the system has been launched on 1 February 2019 (<https://catalogue.odis.org>). Mr de Bruin noted that, using ODISCat as a basis, additional products and services can be developed for most of the content (knowledge) types described in ODISCat. Mr de Bruin referred to Recommendation IODE-XXV.5.2.1 (Establishment of the IOC Data and Information System Catalogue of Sources Project (ODISCat)) submitted to the Assembly under Agenda Item 7.2.1.
206. Mr de Bruin noted that collaboration with the IT industry may provide assistance with the development of ODIS. This could, and should, be deeper than simply making use of infrastructure and the donation of development time. IODE is not the global technical leader in search and discovery of data and information but is in an excellent position to coordinate linkage between existing, community-built infrastructures and private industry. ODIS could make use of the lightweight standards promoted by commercial search engines for the structured representation of discovery metadata and the emerging encodings for data themselves. Mr de Bruin noted that, even though IOC ODIS is being designed in the most efficient and modular way leveraging existing resources, it is fair to inform the Assembly at this stage of the process that the envisaged full functionality of IOC ODIS cannot be achieved without adequate resources both in manpower as well as in additional funding.

207. Mr de Bruin concluded by stating that the first steps towards an IOC Ocean Data and Information System (ODIS) had now been made and invited the Assembly to consider the next steps.
208. The representatives of 8 Member States and 1 organization took the floor. The Assembly expressed its strong support for the proposed development of the IOC Ocean Data and Information System (ODIS) and welcomed the prototype ODIS Catalogue of Sources (ODISCat).
209. The Assembly stressed the need to develop ODIS with involvement from the widest possible range of stakeholders, ensuring active participation from IOC Member States but also from other UN agencies, NGOs, national and regional programmes and projects, as well as the private sector.
210. The Assembly noted that the IOC ODIS would form a solid and scalable basis for a UN Decade data system.
211. The Executive Secretary, while thanking Member States for the wide support of the proposed development of ODIS, called on Member States to assist IOC through providing staff, financial and in-kind support to enable the development of ODIS.
212. The representative of the WMO welcomed the development of ODIS and expressed his Organization's desire to actively collaborate and participate.
213. 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](#), [France](#), [Republic of Korea](#), [United Kingdom](#), and [WMO](#).

Decision IOC-XXX/7.2.2

**IOC Ocean Data and Information System (ODIS)**

The Assembly,

Recalling Decision IODE-XXIV.4 on the Ocean Data and Information System,

Recognizing that a major component of the ocean data and information system landscape is not linked to the IOC and the need to collaborate with those communities/systems in order to achieve improved accessibility, unrestricted use and interoperability of data and information,

Recalling that the IOC decided that IODE will work with existing stakeholders, linked and not linked to the IOC, to improve the accessibility and interoperability of existing data and information, and to contribute to the development of a global ocean data and information system, to be referred to as the IOC Ocean Data and Information System, leveraging established solutions where possible, including existing IODE systems and others,

Noting with appreciation that IODE has developed a prototype ODIS Catalogue of Sources and that the IODE Committee, at its 25<sup>th</sup> session, recommended the establishment of the IOC Ocean Data and Information System Catalogue of Sources Project (ODISCat),

Having examined Document IOC/XXX/2 Annex 6,

Endorses the ODIS Concept, Implementation Plan and Cost Benefit Analysis;

Invites the IODE Committee to prepare a fully detailed and costed project proposal for the IOC Ocean Data and Information System (ODIS) for submission to the IOC Executive Council at its 53<sup>rd</sup> session in 2020.

**8. EARLY WARNING AND SERVICES**

**8.1 REGIONAL TSUNAMI WARNING SYSTEMS**

**8.1.1 Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System: 28th Session of ICG/PTWS, Montelimar, Nicaragua, 2–5 April 2019**

214. Dr Wilfried Strauch (Nicaragua), Chair of the Intergovernmental Coordination Group for the

Pacific Tsunami Warning and Mitigation System (ICG/PTWS), introduced this item. He reported on recent progress of the ICG/PTWS, including (i) full transition to Enhanced Products from North West Pacific Tsunami Advisory Center (NWPTAC) as from 28 February 2019, (ii) proposed starting of full operations of the South China Sea Tsunami Advisory Center (SCSTAC) on 5 November 2019 and (iii) trial operations for the Central America Tsunami Advisory Center (CATAC) as from August 2019.

215. He then reported on other results of the 28th session of the Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System (ICG/PTWS-XXVIII), Barcelo Montelimar, Nicaragua, 2–5 April 2019. He noted that the Japan International Cooperation Agency (JICA) and the European Union Directorate-General for European Civil Protection and Humanitarian Aid Operations (DIPECHO) provided support towards the Central America Tsunami Advisory Center (CATAC) and tsunami preparedness in Central America. He also highlighted training activities of the International Tsunami Information Center (ITIC) including the ITP-Hawaii course in Chile in August 2018.

216. Mr Strauch reported that ICG/PTWS decided to establish a Working Group 2 task team to propose minimum competency levels for National Tsunami Warning Centre (NTWC) operations staff, and another Working Group 2 task team to propose an optimal multi-instrument sensor network that integrates existing and emerging techniques and sensor technologies, for tsunami detection and characterization. He also noted the decision to organize and conduct the exercise Pacific Wave 2020 (PacWave20) in the months September to November 2020, to be conducted as a series of regional exercises organized through the regional working groups of PTWS.

217. The representatives of 25 Member States and 2 Observers took the floor. Several Member States mentioned the need to work on non-seismic generated tsunamis, to identify potential non-seismic sources around the world and identify suitable technologies to detect and provide timely warning services for these events. The following Member States chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report: [Chile](#) and [Colombia](#).

### **8.1.2 Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System: 12th Session of ICG/IOTWMS, Kish Island, Iran (I.R.), 9–12 March 2019**

218. Prof. Dwikorita Karnawati, Chair of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS) reported on the key intersessional activities of the ICG/IOTWMS since it last reported to the Assembly. She informed that the 12th session of the ICG/IOTWMS was held in Kish Island, Islamic Republic of Iran on 9–12 March 2019, back to back with the Expert Consultation on Scientific Tsunami Hazard Assessment of the Makran Subduction Zone held on 8 March 2019. She highlighted the results of IOWave18 exercise (4–5 September 2018) indicating that all 24 active Member States participated in the exercise involving evacuation of about 116,000 people from 11 Member States, in addition to India and Oman piloting the Indian Ocean Tsunami Ready programme. Capacity development initiatives in the intersessional period included 3 regional trainings on Tsunami Evacuation Maps, Plans and Procedures (TEMPP) involving 22 Member States, 2 regional workshops on Standard Operating Procedures (SOPs) for Tsunami Warning and Emergency Response involving 21 Member States, a workshop on Indian Ocean Tsunami Ready and a post-IOWave18 lesson-learned workshop. A survey on Capacity Development of Tsunami Preparedness was completed with 21 Member States submitting inputs to an online survey, leading to the preparation of the IOTWMS Status Report.

219. The Palu and Sunda Strait tsunamis of 28 September and 22 December 2018 caused significant loss of lives in Indonesia, emphasising the urgent need to update hazard assessments, strengthen early warning systems and enhance public awareness and response especially for tsunamis caused by atypical and near-field sources. Towards this, Prof. Karnawati informed the Assembly that the ICG/IOTWMS set up new inter-sessional Task Teams to work on “Tsunami Preparedness for a near-field Tsunami Hazard” and “Scientific Tsunami Hazard Assessment of the

Makran Subduction Zone". An International Conference on lessons learnt from Palu and Sunda Strait tsunamis will take place on 26–28 September 2019 in Jakarta, Indonesia. Other plans for the next inter-sessional period include conduct of an IOWave20 exercise, regional trainings on Standard Operating Procedures (SOPs), national-level trainings on Tsunami Evacuation Maps, Plans and Procedures (TEMPP) and implementing the UNESCAP project on "Strengthening Tsunami Early Warning in the North West Indian Ocean region through Regional Collaboration".

220. The representatives of 4 Member States took the floor. They complimented the work of the ICG/IOTWMS and the Secretariat. The Member States pledged their continued commitment to the IOTWMS by supporting observing networks, data sharing, facilitating capacity development activities, enhancement of TSP services, etc. [India](#) and [Kenya](#) chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report.

#### **8.1.3 Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions: 14th Session of the ICG/CARIBE-EWS, Honduras, Punta Leona, Costa Rica, 8–11 April 2019**

221. Mr Gérard Métayer (Haiti), Vice-chair of the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS), on behalf of the Chairperson Dr Silvia Chacon (Costa Rica), introduced this item. He highlighted the results of the Caribe Wave 19 exercise that mobilized over 775,000 people on 14 March 2019 and, for the first time, these exercises included a volcanic scenario.

222. Mr Métayer reported on other results of the 14th session of the ICG/CARIBE-EWS-XIV, Punta Leona, Costa Rica, 8–11 April 2019, including the planning of the CARIBEWAVE 20 exercise for Thursday 19 March 2020, which will consist of the following two scenarios: a tele-seismic source off the coast of Portugal and a source near Jamaica. A third scenario might be defined at the Nicaragua rise.

223. He noted that for the ICG/CARIBE-EWS the development of tsunami evacuation maps is a priority. He indicated that high-resolution bathymetry is an important requirement to produce those maps and is a strong need in the region.

224. The representatives of 25 Member States and 2 Observers took the floor. Several Member States highlighted in their interventions the Tsunami Ready pilot program of the ICG/CARIBE-EWS and one Member State applauded the initiative of the IOC to encourage at-risk communities to build their capacity to be "Tsunami Ready", though underlining that completing the programme and being awarded the Tsunami Ready recognition is not the same as certifying readiness. [Costa Rica](#) and the [United Kingdom](#) chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report.

#### **8.1.4 Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas: 13th Session of ICG/NEAMTWS, UNESCO, Paris, 26–28 November 2018**

225. Mr Gerassimos Papadopoulos, Chair of the ICG/NEAMTWS, introduced this item. He informed the Assembly about recent developments in NEAMTWS including the application of National Tsunami Warning Center of Portugal for accreditation to become a Tsunami Service Provider (TSP) in 2019. The accreditation process has started. He also informed the Assembly about the plans for the next regional tsunami exercise (NEAMWave 20) to be organised and conducted during the fourth quarter of 2020.

226. Mr Papadopoulos highlighted that over the last four years several tsunamis have been recorded in the Mediterranean region, e.g. Lithakia (26 October 2018), Aegean Sea (21 July 2017),

Alboran Sea (25 January 2016) and Ionian Sea (17 November 2015). Although moderate in size, these events highlighted the tsunami threat and challenges in the NEAM region in light of increasing coastal activities, including growing tourism and blue economy activities, and the need to further improve the Tsunami Warning and Mitigation System, in particular for local tsunamis with short travel time. There continue to be gaps in the seismic and sea level network notably in North Africa. Some countries have difficulties sharing observations due to national policy. The implication is sub-optimal performance of the regional tsunami warning systems.

227. He noted the national efforts to increase awareness on tsunami hazards and preparedness in 2018 in line with, and as contributions to, the World Tsunami Awareness Day, 5 November. Mr Papadopoulos highlighted the continued effort in organising workshops in North-African countries to support the further development of national tsunami early warning and mitigation capacities.

228. He also highlighted the commissioned study of the proposed new strategy for revitalising the NEAM Tsunami Information Centre (NEAMTIC). The first phase of the strategy (i.e. updating the NEAMTIC web-page) is now being implemented. He stressed that the future of NEAMTIC is dependent on the commitment of the ICG/NEAMTWS Member States. Without such commitment, NEAMTIC will not be able to develop and evolve into a centre that provides training and awareness as is it the case in the other regional Tsunami Information Centres.

229. The representatives of 25 Member States and 2 observers (WMO, GEBCO) took the floor. The following Member States chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report: [France](#), [Portugal](#), and the [United Kingdom](#).

## 8.2 GLOBAL COORDINATION OF WARNING AND MITIGATION SYSTEMS FOR OCEAN HAZARDS

### 8.2.1 Working Group on Tsunamis and Other Hazards Related to Sea-Level Warning and Mitigation Systems: 12th Meeting of TOWS-WG, UNESCO, Paris, 21–22 February 2019

230. Mr Alexander Postnov, Chair of the Working Group on Tsunamis and Other Hazards Related to Sea-Level Warning and Mitigation Systems (TOWS-WG) introduced this item. He highlighted progress for the four ICGs He reported on the decisions and recommendations of the 12th meeting of TOWS-WG.

231. The representatives of 25 Member States and two observers (WMO, GEBCO) took the floor. The Assembly expressed its condolence to Indonesia for the considerable loss of lives and damage caused by the Palu and Donggale Tsunami of 28 September 2018 and the Sundai Strait Tsunami of 22 December 2018.

232. The Assembly expressed its strong support to the IOC Tsunami programme and its elements including, but not limited to, coordination, training, organisation of Tsunami exercises and facilitating hazard assessment.

233. Many Member States highlighted and detailed their national investments and activities towards building tsunami resilience.

234. Some Member States highlighted the particular challenges towards near field Tsunamis and the need for building and financing Tsunami Warning System capacity and strengthening awareness, education and preparedness.

235. Several Member States highlighted the need to address non-seismic tsunami threats and recommended that tsunami warning systems evolve to address these threats.

236. Several Member States highlighted the opportunities to strengthen the national/ international Tsunami activities in light of the upcoming United Nations Decade of Ocean Science for Sustainable Development (2021–2030).
237. In relation to their efforts to develop Multi-hazard Early Warning Systems, WMO expressed its willingness to participate in Tsunami Warning Service training and exercises in order to further optimise transmission of tsunami bulletins via the WMO Information System/GTS to relevant authorities and follow up on transmission issues.
238. GEBCO highlighted the importance of bathymetry data in order to enhance Tsunami modelling products and highlighted the SeaBed 2030 efforts to this end.
239. The following Member States, one organization and one programme chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report: [Australia](#), [France](#), [Japan](#), [Kenya](#), [WMO](#) and [GEBCO](#).

Decision IOC-XXX/8.2

**Tsunami and Other Coastal Hazards Warning Systems**

The Assembly,

Having considered the executive summary reports of the recent sessions of the Intergovernmental Coordination Groups for: the Pacific Ocean Tsunami Warning and Mitigation System (ICG/PTWS-XXVIII), the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS-XII), the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS-XIV), the North-Eastern Atlantic, the Mediterranean and Connected Seas Tsunami Warning and Mitigation System (ICG/NEAMTWS-XV), and the report of the Working Group on Tsunamis and Other Hazards Related to Sea-Level Warning and Mitigation Systems (TOWS-WG-XII),

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

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

- three exercises carried out (IOWave18, PacWave18, CARIBEWAVE 19) and regular communication tests performed, and with CARIBEWAVE 19 including a volcanic scenario for the first time,
- recovery and reconstruction of observation networks in the Caribbean following recent hurricanes,
- CARIBE-EWS Implementation Plan for 2018–2023 adopted,
- methodological guidelines “How to prepare, conduct, and evaluate a community-based tsunami response exercise” has been completed and is available in French, Spanish and English and under consideration of ICG/CARIBE-EWS for final publication,
- two communities in the Caribbean and Adjacent Regions (St. Patrick, Grenada, and Fort Liberté, Haiti) achieved UNESCO-IOC Tsunami Ready recognition, India and Oman testing Tsunami Ready, and growing interest for piloting Tsunami Ready expressed in NEAMTWS,
- Instituto Português do Mar e da Atmosfera (IPMA, Portugal) seeking accreditation as a Tsunami Service Provider in NEAMTWS,
- South China Sea Tsunami Advisory Centre (SCSTAC) intent to go to full operation, North West Pacific Tsunami Advisory Center (NWPTAC) to have made a full changeover to Enhanced Products at end of February 2019 and the Central American Tsunami Advisory Center (CATAC) plans to start trial operation,
- ITIC Training activities including the ITP-Hawaii course in Chile in August 2018 for the first time,
- European Commission’s support towards projects contributing to NEAMTWS, UNESCAP funding for Strengthening Tsunami Early Warning in the North West Indian Ocean Region, JICA and DIPECHO’s support for CATAC and Tsunami Ready and preparedness in Central America, new funding from DIPECHO and USAID/OFDA towards piloting Tsunami Ready programme in the Caribbean and Central America,
- PTWS completion of its Key Performance Indicators Framework,

- progress in sharing the results of tsunami exercises and communication tests with World Meteorological Organization (WMO) and the improvements in alert message delivery rates for IOTWMS,
- completion and submission of a Community White Paper "Ocean Observations Required to Minimize Uncertainty in Global Tsunami Forecasts, Warnings, and Emergency Response" to the OceanObs19 Conference;

## I

### **Pacific Tsunami Warning and Mitigation System (PTWS)**

Notes the establishment of a Working Group 2 Task Team to propose minimum competency levels for National Tsunami Warning Centre (NTWC) operations staff;

Notes the establishment of a Working Group 2 Task Team to propose an optimal multi-instrument sensor network that integrates existing and emerging techniques and sensor technologies, for tsunami detection and characterization;

Welcomes the decision to organize and conduct the exercise Pacific Wave 2020 (PacWave 20) in the months September to November 2020 and that it will be conducted as a series of regional exercises organized through the PTWS regional working groups;

Further welcomes the decision to develop a draft PTWS Medium-Term Strategy 2022–2029 for discussion by the PTWS Steering Committee in 2020, and approval by the ICG/PTWS-XXIX in 2021;

Recommends Member States with GNSS data to investigate the means of sharing this data in real time, with a view towards, and benefits of, improved tsunami impact forecasts for coastlines particularly for near-field events;

Decides to commence the full operation of SCSTAC on 5 November 2019, to be announced by the IOC Secretariat to WG-SCS Member States through an IOC circular letter at least 60 days in advance;

Decides to support the efforts and progress made by Nicaragua in the creation of the Central America Tsunami Advisory Centre (CATAC), as a tsunami service provider (TSP) within the framework of the ICG/PTWS;

Also decides to support the proposal to begin sending trial tsunami messages as of August 2019, based on the progress made in capacity-building for the establishment of the Central America Tsunami Advisory Centre (CATAC) using the official IOC ICG/PTWS list of NTWCs and TWFPs;

## II

### **Indian Ocean Tsunami Warning and Mitigation System (IOTWMS)**

Notes with appreciation the adoption of the IOTWMS Medium-Term Strategy (2019–2024) and conduct of Capacity Assessment of Tsunami Preparedness in IOTWMS Member States;

Notes the technical limitations of warning systems in producing timely and accurate forecasts for tsunamis from near-field and "atypical" sources (e.g. aerial landslides, submarine landslides, volcanoes), especially in light of the Palu and Sunda Strait tsunamis in Indonesia;

Notes with concern the continuing instances of Tsunami Buoy Vandalism in the IOTWMS region;

Notes with appreciation the progress made in bilateral exchange of seismic data among some Member States in the North West Indian Ocean and urges Member States to provide relevant seismic data in real-time to TSPs for accurate determination of tsunami threats;

Welcomes the establishment of two new inter-sessional Task Teams on "Tsunami Preparedness for a near-field Tsunami Hazard" and "Scientific Tsunami Hazard Assessment of the Makran Subduction Zone";

Congratulates IOTWMS Member States for the success of IOWave18 exercise involving 116,000 participants and the piloting of Indian Ocean Tsunami Ready (IOTR) programme by India and Oman, and welcomes the priority to expand IOTR programme in vulnerable communities to enhance community preparedness and response;

Welcomes the decision to organise and conduct Indian Ocean Wave Exercise in 2020 (IOWave20);

## III.

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



Notes that the CARIBEWAVE 19 exercise included a volcano-generated tsunami and it brought to light that effective PTWC procedures for such an event would likely require being alerted to an unexpected tsunami signal on a coastal sea-level gauge;

Further notes that a similar capability at PTWC would also be likely needed to respond to a landslide-induced tsunami;

Recommends that PTWC explore new techniques that would alert its duty staff to the arrival of potential tsunami signals on sea level gauges;

Urges Member States to continue to support the long-term operations of their national and local seismic, sea level, and Global Navigation Satellite System (GNSS) networks including accurate metadata so they can continue to sustain and improve the quality, timeliness and usefulness of the data for the delivery of optimal tsunami services;

Recommends ICG/CARIBE-EWS Working Group 1 to develop a strategy for all Member States who own and operate a Deep-ocean Assessment and Reporting of Tsunami (DART) buoy or DART-like system to ensure that both, data and metadata of these systems, are pro-actively shared by the owner States every time there is a new deployment, re-deployment, or simply on a regular basis to confirm no changes to their national array;

Appreciates Monaco for the funding it provides annually and which has been instrumental to increasing the number of sea-level stations and enhancing the capability of station operators through training; and thanks all Member States and organizations that are providing financial and technical assistance to CARIBE-EWS;

Also appreciates the contribution of the Caribbean Tsunami Information Centre (CTIC) in Barbados and calls on the IOC Secretariat and Member States for their continuous support for CTIC to ensure the sustainability of its functions and activities;

Welcomes the decision to organize and conduct CARIBEWAVE 20 exercise on 19 March 2020;

Notes the progress made and decides to continue to support the efforts of Nicaragua in the establishment of the Central America Tsunami Advisory Centre (CATAC), as a Subregional Tsunami Service Provider (SRTSP) within the framework of the ICG/CARIBE-EWS;

Decides to support the proposal to begin sending trial tsunami messages to the Central American countries within the area of service of the CARIBE-EWS by subscription as of August 2019, using the official list of National Tsunami Warning Centres (NTWCs) and Tsunami Warning Focal Points (TWFPs) of the ICG/CARIBE-EWS;

#### IV.

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

Recognizing the sub-optimal performance of the NEAMTWS due to lack of seismic and sea-level network notably in North Africa and difficulties of Member States in sharing observations due to national policy,

Encourages Member States to increase the number of seismic and sea-level stations available in North Africa and to share data using bilateral agreements whenever possible;

Noting the important future role of NEAM Tsunami Information Centre (NEAMTIC) in providing training and capacity building services,

Invites Member States to contribute to the further development of NEAMTIC through funding and secondments;

Welcomes the decision to organize and conduct the fourth NEAMTWS exercise in 2020 (NEAMWave 20);

#### V.

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

Reiterates the importance of collecting event data strictly in accordance with the International Tsunami Survey Team (ITST) protocols, while continuing to be respectful of the country's needs and requirements;

Encourages timely data and information sharing by the Survey Teams to facilitate immediate submission of a consolidated summary report to the host country to assist with response and recovery planning; and

Requests ICGs to facilitate, in coordination with existing science organizations, special sessions at meetings/workshops to promote sharing of lessons learnt and compilation of all event data;

Encourages Member States to:

- increase and sustain technical and financial support of the tsunami and other coastal hazards warning systems in their respective regions;
- emphasize to national civil protection/disaster management agencies the role they play in strengthening the warning chain to ensure optimal community response; and stress the importance that the agencies participate in regional tsunami governance and technical forums;
- continue to strengthen tsunami awareness and preparedness in communities and among authorities through communication, evacuation planning, tsunami exercises, training, information, and piloting recognition programmes such as Tsunami Ready;
- densify sea-level networks capable of tsunami detection as well as seismic network particularly nearby tsunamigenic sources;
- extend sharing of real time tsunami source and tsunami detection observations;
- collect high resolution coastal bathymetry and extend the data sharing for improved characterization of tsunami and other coastal hazards and risks, and also advocate this through IHO and regional hydrographic commissions;
- register National Tsunami Warning Centres (NTWCs) and Tsunami Warning Focal Points (TWFPs) as alerting authorities in the “WMO Alerting Authority Register” via the WMO National Permanent Representative and in follow-up to a WMO circular letter;

Instructs ICGs to:

- advocate the Fourth edition of World Tsunami Awareness Day (WTAD 2019) among Member States and highlight target [d] of the Sendai Framework that stresses substantial reduction of disaster damage to critical infrastructure and disruption of basic services, with an emphasis on ports, harbours and vertical evacuation;
- consider the PTWS Key Performance Indicator Framework and provide input to a consolidated report for the 13<sup>th</sup> TOWS-WG meeting;
- continue the Tsunami Ready pilot activities with UNESCO-IOC recognition, including conducting surveys on Member State status, interest and feed back in the implementation of Tsunami Ready;
- consider the prospects for building warning systems for tsunami of non-seismic origin;

Accepts the reports from the Task Teams on Disaster Management and Preparedness and Watch Operations and instructs them to continue efforts for monitoring and responding to tsunamis generated by non-seismic sources and possible integration into tsunami watch operations;

Advocates that the UN Decade of Ocean Science for Sustainable Development (2021–2030) adopts an initiative aimed at developing a comprehensive global tsunami hazard assessment including all potential tsunamis, anywhere in the world, regardless of its source; enhancing sensing and analysis strategies to enable the rapid characterization of tsunami sources which are held as fundamental in transforming our ability to forecast and warn of local and/or non-seismic source tsunami threats; and strengthening community preparedness to enable efficient response to tsunamis from all sources;

Extends the tenure of TOWS-WG and its Task Teams on (i) Disaster Management and Preparedness and (ii) Tsunami Watch Operations, with Terms of Reference as given in IOC Resolution XXIV-4 [for TOWS-WG] and IOC/TOWS-WG-VI/3 [Annex II; for TTDMP] and ToRs for TTTWO as given in IOC/TOWS-WG-X Appendix I.

## **9. ASSESSMENT AND INFORMATION FOR POLICY**

### **9.1 REPORT OF THE IHO-IOC GEBCO GUIDING COMMITTEE**

240. VADM (ret.) Shin Tani, Chair of the GEBCO Guiding Committee (GGC), introduced this item.
241. He reported on the activity of the GGC during the intersessional period (2017–2019) based on documents IOC/INF-1381 and GGC35/13 including activities of its sub-committees, status of the Nippon Foundation–GEBCO Seabed 2030 Project (Seabed 2030) and amendment to terms of reference and rules of procedure for the GGC.

242. He also asked Member States to cooperate to advance mapping and accelerate the delivery of GEBCO objectives and general knowledge of the ocean, in particular by: supporting and contributing to Seabed 2030; facilitating GEBCO capacity development and training opportunities; and actively participating in the next assessment to be conducted by the Working Group on User Requirements and Contributions to GEBCO Products.
243. The representatives of 18 Member States and 2 observers took the floor. All Member States and observers highlighted the great value of the GEBCO activities. Many Member States expressed continuous support to GEBCO and declared providing bathymetric data and/or participating in GEBCO committees.
244. Many Member States and observers recognized the importance of high quality bathymetry for many scientific and operational purposes including tsunami warning. Some Member States reaffirmed the importance of assessing user requirements to improve GEBCO products. China announced its intention to provide additional funding support to GEBCO in 2019.
245. The representative of IHO explained the importance of increasing the global bathymetric coverage and noted that a considerable number of government-owned research vessels still transit to their observation area with switched-off sonars. He called on Member States to switch on sounding systems whenever at sea, adjust their tracks towards poorly covered areas of the ocean, and make the resultant data freely and openly available, including their transmission to GEBCO.
246. The following Member States and one organization chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report: [Brazil](#), [China](#), [Colombia](#), [Côte d'Ivoire](#), [France](#), [India](#), [Ireland](#), [Portugal](#), [Republic of Korea](#), [Tanzania](#), [United Kingdom](#), and [WMO](#).

Decision IOC-XXX/9.1

**IHO-IOC GEBCO Guiding Committee**

The Assembly,

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,

Having examined documents IOC/INF-1381 and GGC35/13 that report on the activity of the GGC during the intersessional period (2017–2019),

Recalling Decision EC-LI/4.5 on 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,

Takes note of the report of the GEBCO Guiding Committee Biennial Report for the period 2017–2019;

Recalling Decision IOC-XXVIII/6.2(I) by which it adopted the current terms of reference of the GEBCO Guiding Committee in 2015,

Endorses the amendment to the GEBCO Guiding Committee Terms of Reference and Rules of Procedure proposed by the GGC at its 35<sup>th</sup> meeting and presented in annex to document IOC/INF-1381, in particular paragraph 2.1 (Office bearers) in annex to this decision;

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 on User Requirements and Contributions to GEBCO Products.

Annex to Decision IOC-XXX/9.1

**Amendment to the General Bathymetric Chart of the Ocean (GEBCO) Project –  
Terms of Reference and rules of procedure for the Joint IHO-IOC GEBCO Guiding Committee**

2. Office Bearers

2.1 The Chair and Vice-Chair shall be elected by the Committee from the voting Members of the Committee and normally should be from different parent organizations. The Chair and Vice-Chair are each elected for three-year terms, but not exceeding their current membership of the Committee. They can be re-elected for one additional term by the Committee. The Chair shall conduct the business of the Committee. If the Chair is unable to carry out the duties of the office, the Vice-Chair shall assume the Chair with the same powers and duties. [...]

**10. SUSTAINABLE MANAGEMENT AND GOVERNANCE**

**10.1 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**

247. Mr Ariel Troisi, Vice-Chairperson of IOC, introduced this 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 sessions to be held over a three-year period (2018–2020), with the aim of finalizing the BBNJ legal instrument. Negotiations are to 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.

248. He also reported on the participation of the IOC Officers and secretariat in the first two meetings of the Intergovernmental Conference that took place in September 2018 and March-April 2019 at the UN Headquarters, where IOC co-organized several 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 potential contribution of the Ocean Biogeographic Information System (OBIS) as an effective global platform for the sharing of research data and information, the application of *IOC Criteria and Guidelines on the Transfer of Marine Technology (TMT)* as a guiding principle, and the establishment of a clearing house mechanism to support capacity development and TMT. Regarding the later, as reported under agenda item 11.1, IOC is advancing with the conceptualisation of clearing house mechanism for TMT and CD under the guidance of the IOC Group of Experts on Capacity Development established in 2017.

249. Vice-Chair Troisi also drew the attention of the Assembly that the draft text of the future BBNJ agreement, released at the end of June, and to be considered at the 3rd session of the Intergovernmental Conference (19–30 August 2019), identifies as an option the potential role of IOC to manage the Clearing House Mechanism to be established under such agreement. He also noted that the functions of such CHM remains to be defined by UN Member States through the BBNJ negotiating process.

250. The representatives of 12 Member States took the floor. The Assembly thanked Mr Ariel Troisi for his informative report and expressed appreciation for his active involvement and that of the

other IOC Officers, the Executive Secretary and the Secretariat in the BBNJ process. The number of side events in which IOC has been asked to be involved illustrates the excellent reputation of the Commission in the BBNJ process.

251. The Assembly highlighted the important role of marine scientific research for a successful BBNJ agreement and called for increased sharing of biodiversity and biogeographic data via the Ocean Biogeographic Information System (OBIS), which will be key to ensure science-based decision-making.
252. The Assembly stressed the importance of a legally-binding instrument to manage and preserve our marine livelihood and referred to the expectations of many Member States and international bodies towards the IOC in playing a role in promoting, coordinating and facilitating international cooperation in the areas of Marine Scientific Research, Capacity Development and Marine Technology Transfer as well as in Data and Information Management.
253. The Assembly called for increased support to the IOC secretariat, both in terms of financial and human resources, in order to be able to play this crucial role and also support the BBNJ instrument in further developing and tailoring the prototype of the IOC CHM/TMT, so it can also meet specific BBNJ requirements and support the needs of all States, and in particular Least Developed Countries and Small Island Developing States. This includes the inclusion of traditional knowledge as well as connecting existing databases and portals and finding efficiencies and avoiding redundancies.
254. The following Member States chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report: [Chile](#), [China](#), [Costa Rica](#), [Germany](#), [Ireland](#), [Japan](#), [Mexico](#), [Norway](#), and [United Kingdom](#).

Decision IOC-XXX/10.1

**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 Assembly,

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 resolutions 69/292 and 72/249, which recognize that the BBNJ process and its results 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 organizational stage and in the course of the first two sessions 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;

Further takes note of the draft text of an agreement and the potential role of IOC in managing the future Clearing-House Mechanism to be established under the BBNJ international legally-binding instrument;

Welcoming the work undertaken by the Task Team on Implementation of a TMT/CHM portal of the IOC Group of Experts on Capacity Development in further advancing the concept and feasibility of the TMT/CHM under the IOC, including its forthcoming work in the development of a cost assessment, taking into account future requirements under the BBNJ international legally-binding instrument,

Requests the Executive Secretary, Chairperson or a designated Officer of IOC to represent the Commission in, and respond to requests from, the remaining sessions of the Intergovernmental Conference scheduled for 2019 and 2020;

Invites IOC Member States to continue supporting the role of the Commission through their preparation and statements at forthcoming sessions of the Intergovernmental Conference;

Also requests the Executive Secretary and Officers of IOC to report on developments in this area to the IOC Executive Council at its 53rd session in 2020.

## 10.2 INTEGRATED COASTAL AREA MANAGEMENT PROGRAMME (ICAM) STRATEGY IMPLEMENTATION

255. Mr Alejandro Iglesias-Campos, ICAM Technical Secretary, introduced this item and provided a progress report on the implementation of the ICAM Strategy, covering activities that are being developed in the field of Marine Spatial Planning (MSP), coastal hazards mitigation, large marine ecosystems and decision-support tools for coastal and ocean management. He highlighted the work that IOC is leading in supporting ecosystem-based management practices and the implementation progress of the IOC and European Commission Joint Roadmap to accelerate marine spatial planning processes worldwide defining the priority areas and strategic objectives for cooperation. The five priority areas and subsequent key actions of the roadmap focus on: (i) developing guidance on transboundary MSP; (ii) the implementation of two regional case studies in the West-Mediterranean and the South Pacific; (iii) developing the “blue economy” in the context of the 2030 Agenda enabling ecosystem-based MSP; (iv) pursuing capacity building; and (v) building a mutual understanding for communicating MSP.
256. The representatives of 7 Member States and of UNDP took the floor. Member States expressed support to the IOC Secretariat work on the implementation of the MSPglobal Initiative (2018–2021), funded by the European Maritime and Fisheries Fund of the European Union, with the participation of policy-makers, scientists, citizens and other stakeholders. MSPglobal will improve cross-border and transboundary cooperation where the MSP practices already exist and promote MSP in areas where it is yet to be implemented with the objective to triple the marine area benefiting from MSP by 2030 with regard to the current state of affairs.
257. The ICAM Technical Secretary also reported on the implementation of the European funded project AQUACROSS. The final report and the multilingual storytelling tool of the case study at the Intercontinental Biosphere Reserve of the Mediterranean: Andalusia (Spain) – Morocco on the establishment of green and blue infrastructures was presented.
258. The Technical Secretary recalled that the Government of Flanders (Kingdom of Belgium) continue providing support to the secretariat in the context of the 3rd phase of the SPINCAM project (2017–2019) dedicated to the coastal and marine ecosystem integrated approach for sustainable blue growth in the Southeast Pacific.
259. IOC was commended for its role in providing technical support to the community of Large Marine Ecosystems (LME). The technical Secretariat of LMEs established at IOC facilitates sharing of knowledge related to transboundary management and building of technical capacity. As well it supports South-to-South and North-to-South learning in the context of the LME:LEARN project led by IOC and UNDP and funded by the Global Environmental Facility. Yet the need to ensure the sustainability of the secretariat established in IOC since 2016, in order to continue supporting the LME activities at global and regional scale, was highlighted.
260. The Assembly noted the participation of the secretariat in more than 50 events dedicated to training and dissemination of the objectives of the ICAM Strategy in Africa, America, Asia-Pacific and Europe in 2018–2019. Three thousand people from 98 different countries participated in and benefitted from training materials in Spanish, French, Portuguese and English.

261. The Technical Secretary called on Member States and regional partners to organize more training, especially in Africa, Asia-Pacific and the Atlantic Coast of Latin America, and with the European Commission in the context of MSPglobal project and the MSPforums.
262. The following Member States chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report: [Chile](#), [Côte d'Ivoire](#), [India](#), [Netherlands](#), and [Spain](#).

Decision IOC-XXX/10.2

**Integrated Coastal Area Management Programme (ICAM)  
Strategy Implementation**

The Assembly,

Having examined Documents IOC/INF-1379 and IOC/INF-1380,

Takes note of the progress in implementing IOC Integrated Coastal Area Management (ICAM) Strategy, including activities related to marine spatial planning, Large Marine Ecosystems (LMEs) and sustainable blue economy;

Takes note also of the progress in implementing the IOC and European Commission Joint Roadmap to accelerate Marine/Maritime Spatial Planning processes worldwide and its corresponding commitment to the 1<sup>st</sup> UN Ocean Conference (2017) and Our Ocean Conference (Malta, 2017);

Welcomes the new MSP global initiative (2018–2021) co-financed by the European Fund of Maritime Affairs and Fisheries of the European Union, to be implemented by the Secretariat at global scale, with pilot case studies in the Western Mediterranean and the Southeast Pacific;

Further welcomes the role of IOC in executing the GEF-UNDP IW/LME Learn project and in particular the technical and scientific support it provides to the global LME community;

Encourages IOC science, observation, tsunami and data programmes to further collaborate with the ICAM programme in the operationalization of ecosystem-based management approaches;

Supports the preparation of multilingual internationally accepted guidance on marine spatial planning and the continuing strengthening of capacity development activities jointly organized with national authorities, regional and international partners;

Expresses its deep appreciation to the Kingdom of Belgium (Government of Flanders), the Kingdom of the Netherlands (Ministry of Infrastructure and Water), the Kingdom of Spain (Government of Spain, Government of Andalusia, Tarifa and Facinas), the Kingdom of Morocco (Government of Morocco and Regional Authorities of Tanger, Tetouan, Al-Hoceima) and the Man and Biosphere Programme of UNESCO, the Kingdom of Sweden (Government Offices); the Republic of Turkmenistan (Government of Turkmenistan), the European Commission's Directorate General for Maritime Affairs and Fisheries; and the Secretariat of the Permanent Commission of the South Pacific (CPPS) and its Member States (Chile, Colombia, Ecuador, Peru), the Priority Actions Programme/Regional Activity Centre (PAP/RAC) of the Mediterranean Action Plan, the Global Environment Facility and United Nations Development Programme, for their valuable contributions to the work of IOC in these areas;

Invites Member States to support, through extra-budgetary resources as well as in-kind contributions, the ICAM Strategy and relevant initiatives related to integrated coastal area management, marine spatial planning, sustainable blue economy, coastal hazards mitigation, and development of decision-support tools for management of large marine ecosystems;

Further invites Member States to sustain the role of IOC in providing technical support to the LME project community, including in the next phase of the GEF IW:Learn project (2020–2024).

## **11. CAPACITY DEVELOPMENT**

### **11.1 REPORT OF THE IOC CAPACITY DEVELOPMENT GROUP OF EXPERTS**

263. Vice-Chair Ariel Troisi, Chair of the IOC Group of Experts on Capacity Development, introduced this item. He referred to Documents IOC/INF-1203, IOC/INF-1332 and IOC/GE-CD-TT-

I/3. He recalled that during its 29th session, the IOC Assembly adopted Decision IOC-XXIX/10.1 establishing the IOC Group of Experts on Capacity Development.

264. The main objectives of the Group of Experts are to assist the global and regional programmes with the implementation of capacity development (CD) needs assessments, the development of related workplans, mobilization of resources, and provide advice on relevant methods and tools to deliver CD. The Group also advises the Assembly on implementation of the Transfer of Marine Technology Clearing-House Mechanism (CHM) as requested by the *IOC Criteria and Guidelines on the Transfer of Marine Technology* (IOC/INF-1203), making use, to the extent possible, of existing IOC data and information systems.
265. Mr Troisi informed the Assembly that the first meeting of the Group was held at UNESCO Headquarters, Paris, France on 21–23 March 2018. The meeting was attended by 41 participants including members of the group, representatives of partner projects and organizations, and staff of the IOC Secretariat. The meeting updated the need assessments and gap analyses that had been submitted, in draft form, to the IOC Assembly at its 29th session in 2017. In addition, the meeting split into three regional sub-groups (IOCAFRICA, IOCARIBE, WESTPAC) and one special group on the planned Clearing-House Mechanism (CHM) for the Transfer of Marine Technology (TMT). The three regional sub-groups discussed priority needs, ways how the global programmes can assist the regions, as well as common use of existing IOC methods and tools that can contribute to CD.
266. The Group established two task teams. The Task Team on Implementation of a TMT/CHM portal (TT TMT/CHM) and related activities will seek answers on the questions and issues formulated by the sessional working group on TMT/CHM taking into account the Decade preparations. The Task Team will develop the scoping and need assessment for the CHM, using as much as possible existing information systems and sources. The Task Team to identify CD Requirements of Member States in relation to the IOC CD Strategy (IOC/INF-1332) will take into account the work already done and will focus on needs of SIDS, LDCs and the Member States that are currently not members of any of the IOC regional subsidiary bodies.
267. The task teams decided to develop a joint online survey to collect the necessary information. [IOC Circular Letter 2738](#) issued on 5 October 2018 also invited Member States to designate an IOC National Focal Point for CD to enable more effective communication with the IOC on CD and CHM issues and to assist Member States with the future implementation of the IOC CD Strategy. A total of 49 responses were received (12 from IOCAFRICA, 12 from IOCARIBE, 12 from WESTPAC and 11 from other Member States not included in IOC regional bodies). Only two responses were received from IOCINDIO Member States, so these were not considered representative of the region in the framework of the analysis. Considering the relatively small sample size, results need to be interpreted with some caution. The survey results were reviewed and analysed during a meeting of both task teams, held at UNESCO Headquarters on 13–14 March 2019.
268. Regarding the development of a CHM, all regions reported that such a mechanism would be instrumental to the further development of ocean science capacity in the countries. All regions expressed preference for an online central portal integrating the data and information harvested from regional/sectoral CHM portals. The respondents identified the need for a series of nodes rather than one global central node but using technology that allows interoperability between the nodes. The question on marine technologies that should be covered in the CHM resulted in regional differences. IOCAFRICA and WESTPAC ranked “Equipment for *in situ* and laboratory observations, analysis and experimentation” the highest, while IOCARIBE preferred “Information and data”. The question on the kind of information that should be included in the CHM also showed regional differences: IOCAFRICA listed a “Directory of marine research institutes offering laboratory facilities, equipment and opportunities for research and training” first, while IOCARIBE and WESTPAC ranked first “Universities and other organizations offering study grants and facilities in marine science”.
269. Regarding CD requirements of Member States, the survey revealed the following key results: the question on the most important national CD needs revealed differences between the regions:



IOCAFRICA respondents request first of all “Ocean science sampling equipment and instrumentation” while IOCARIBE and WESTPAC place “Advanced professional development training (specific short courses, technical training, etc.)” and “Qualified ocean science professionals” first. The same applies for IOCARIBE SIDS and WESTPAC SIDS.

270. In terms of developing capacity in human resources, respondents from all three regions recommend “Establishment of an internship/fellowship programme” and “Support for organization of training courses, workshops and summer schools relevant to the IOC mandate”. All regions call for reinforcing budgeting of the regional sub-commissions but also for establishing an effective coordination and communication mechanism between the regional sub-commissions and the global programmes. From all IOC “information portals” all respondents identified <http://www.goosocean.org> as the best known.
271. In the context of priority areas of research and development for the UN Decade of Ocean Science for Sustainable Development 2021–2030, almost all respondents across all regions identified “Capacity development and accelerated technology transfer, training and education, ocean literacy” as top priority.
272. The results obtained by the survey have meanwhile been shared with the IOC regional subsidiary bodies during their 2019 sessions, with the objective of inviting them to take these results into account when drafting their workplans including capacity development. The task teams prepared 11 suggestions/recommendations that were forwarded to the CD group of experts for review and further action. The Group of Experts worked on this by email and formulated a draft decision for consideration of this Assembly.
273. The representatives of 14 Member States and 2 organizations took the floor. The Assembly was informed about the publication of the “Draft text of an agreement under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction” and the mentioning of the possible management by IOC of its Clearing-House mechanism (see Item 10.1).
274. The Assembly congratulated the IOC Group of Experts on Capacity Development, its Chair Mr Ariel Troisi and members of the two tasks teams for the work carried out and results achieved.
275. The Assembly expressed its great appreciation to INVEMAR, Colombia, for the CHM/TMT prototype developed as a working example for the future development of CHM/TMT nodes in other regions.
276. The Assembly welcomed the growing number of Regional Training and Research Centres in the WESTPAC region as well as OceanTeacher Global Academy Regional Training Centres established in 9 countries in 7 regions providing training in a wide range of subjects.
277. Several Member States reported on their national as well as bilateral activities related to capacity development and called for IOC/CD to communicate these widely as they complement and reinforce IOC’s capacity development activities.
278. The representative of Fiji referring to the recommendation to “organize a regional conference on capacity development requirements of the Pacific SIDS involving IOC Member States as well as other stakeholders active in the region” welcomed the initiative as it will assist in identifying the unique needs, priorities and challenges of Member States in the region given their diversity. The representative of Fiji invited IOC to co-organize the conference with the Pacific Community Centre for Ocean Science (PCCOS) given their vast experience and work in this area.
279. The Executive Secretary stressed the unique opportunity offered to the IOC through this new approach to addressing capacity development: the proposed path forward allows addressing the specific and sometimes unique capacity development needs in each region and to address these

through a wide variety of tools and methods including RTRCs, OTGA RTCs and the development of CHM/TMT global and regional nodes. Combined with national, bilateral and other initiatives of its Member States, IOC can change the paradigm of capacity development related to the ocean.

280. The representative of the WMO informed the Assembly of a marine services survey which has identified clear gaps in the marine meteorological capacity of WMO Members and IOC Member States. Regarding the IOC proposal for a Pacific SIDS regional conference, WMO wished to collaborate given its current capacity development activities there. WMO expressed its desire to continue collaboration with IOC on capacity development.

281. 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: [Belgium](#), [China](#), [Colombia](#), [Côte d'Ivoire](#), [Republic of Korea](#), [Tanzania](#), [United Kingdom](#), [Pacific Community](#) and [WMO](#).

#### Decision IOC-XXX/11.1

### **IOC Group of Experts on Capacity Development**

The Assembly,

Recognizing the importance of capacity development as one of the six functions of the IOC Medium-Term Strategy (2014–2021), enabling all Member States to participate in, and benefit from, ocean research and services that are vital to sustainable development and human welfare on the planet,

Recalling the adoption, at its 28th session, of the IOC Capacity Development Strategy (2015–2021),

Recalling further its Decision IOC-XXIX/10.1, establishing the IOC Group of Experts on Capacity Development,

Welcoming the contributions of its Member States to capacity development at the global and regional levels through financial and in-kind contributions,

Welcoming further the implementation, through IOCARIBE (and its CMA2 project), of a regional prototype for the IOC Clearing-House Mechanism for the Transfer of Marine Technology (CHM/TMT),

Stressing the need to share, across programmes and regions, experience and expertise in capacity development, and to coordinate efforts to increase efficiency and maximize impact,

Urges Member States to nominate an "IOC CD focal point" who will be responsible for the coordination of their country's participation in IOC's capacity development activities;

Invites the IOC Group of Experts on Capacity Development to:

- (i) repeat the CD survey at regular intervals (biannually), possibly including CD implementation impact monitoring/metrics, also taking into account other methods such as regional reviews, science conferences, etc.;
- (ii) ensure coordination of the work of the Group of Experts and its task teams with GOSR and CD aspects of the UN Decade of Ocean Science for Sustainable Development;
- (iii) organize a regional conference on capacity development requirements of Pacific SIDS, alongside other meetings occurring within the region involving IOC Member States as well as other stakeholders active in the region and taking into account existing programmes and activities;
- (iv) prepare a detailed and costed proposal for the development of an IOC Clearing-House Mechanism for the Transfer of Marine Technology using a hybrid model of interoperable nodes as well as a central access point, to be developed in a step-wise modular approach, in collaboration with IODE and its Project Office, and taking into account the regional prototype developed as well as evolving requirements, for submission to the IOC Executive Council at its 53<sup>rd</sup> session in 2020; such analysis should include the possibility of expanding the IOC CHM functionalities to serve other requirements such as those emerging from the BBNJ ongoing negotiations.

Calls on IOC's regional subsidiary bodies as well as regional components of global programmes to:

- (i) promote contributions to the CD survey;
- (ii) identify CD efforts of other organizations and seek complementary cooperation;

- (iii) link with other global, regional and national processes and strengthen the relationships with philanthropic, private partnerships and other regional organizations;

Invites Member States to actively contribute to the surveys and contribute to the IOC's Capacity Development activities through financial and/or in-kind contributions.

## 11.2 IOC'S CONTRIBUTION TO OCEAN LITERACY IN 2018–2021: ACTION PLAN

282. Ms Francesca Santoro, programme specialist for ocean literacy, introduced the item. She recalled that increased visibility and awareness is one of the foreseen outputs of the IOC Capacity Development Strategy (2015–2021) and fostering the development of an IOC ocean literacy programme to share experience of communities of practice within and across regions is one of the actions to achieve it. Furthermore, she recalled the increasing role of the IOC in ocean literacy in the framework of the UN Decade of Ocean Science for Sustainable Development.
283. She then referred to Decision IOC/EC-LI.4.9 by which the Executive Council requested the secretariat to develop a plan of action for ocean literacy. She described the main elements of the draft plan that was elaborated in consultation within the secretariat in order to ensure coherence with the IOC activities and programmes. Through international collaboration, exchange of good practices and creation of partnerships, IOC will assist its Member States to reinforce the work on ocean literacy, so that ocean knowledge is fully leveraged to advance ocean sustainability. Ocean literacy is an evolving concept that is being transformed from being a tool for formal education to a tool that can be used at the interface between science, society and policy. Ocean literacy has the potential to convey the message of the importance of ocean science and knowledge for sustainable development to different segments of the society. Actions will be focussed on reinforcing the presence of ocean science in formal education, in collaboration with the UNESCO Education sector, on enhancing the dialogue and the collaboration with different stakeholders, and on enhancing the accessibility to ocean literacy resources. Good practices and tools already existing in different Member States will be taken into account, and the ocean literacy resources to be developed will pay particular attention to different cultural approaches and different target groups, including disadvantaged or under-represented groups.
284. Ms Santoro also presented a progress report on IOC ocean literacy activities, implemented both at global and regional levels, as well as in collaboration with other UNESCO sectors. She informed that through the support of the Government of Sweden it was possible to implement the activities included in the "Ocean Literacy for All" initiative put forward to the 2017 UN Ocean Conference as voluntary commitment. An IOC conference on ocean literacy was held in Venice in December 2017. In addition, the Sea Change project, funded by the European Commission Horizon2020 programme, was successfully completed.
285. The representatives of 15 Member States and 1 organization took the floor. The Assembly congratulated the IOC Secretariat for the work carried out in the implementation of the ocean literacy pilot activities.
286. The importance of ocean literacy was recognized as a way to enhance the public understanding of ocean issues, but also as a way to promote citizens' and stakeholders' actions towards ocean sustainability. Ocean literacy is also seen as an essential tool for the implementation of the UN 2030 Agenda, with particular reference to SDG 14. The UN Decade of Ocean Science for Sustainable Development offers an opportunity to apply innovative approaches for current and future generations to expand their ocean literacy.
287. Several Member States reported on their national ocean literacy activities, including the development of centres dedicated to marine education, the creation of ocean education programmes and projects. In this context, they proposed to consider, as an element of the development of future ocean literacy activities, the gender equality issues, as well as the inclusion of traditional and indigenous knowledge. Furthermore, the importance of promoting further the exchange of good practices among Member States was stressed.

288. In the context of ocean literacy, several Member States recognized the importance of continuing the collaboration between the IOC and other UNESCO sectors, and in particular the Education sector with specific reference to its activities on Education for Sustainable Development.
289. 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: [Colombia](#), [Costa Rica](#), [Japan](#), [Kenya](#), [Portugal](#), [Republic of Korea](#), [Tanzania](#), and [Ocean Frontier Institute](#).

Decision IOC-XXX/11.2

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

The Assembly,

Having considered Document IOC-XXX/2 Annex 7,

Recalling:

- (i) the *IOC Capacity Development Strategy, 2015–2021* in which ocean literacy is identified as a main activity of the strategy output 5: Visibility and awareness increased,
- (ii) 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 the IOC's progress on ocean literacy, and the role it can play in communicating the relevance of IOC's activities for sustainable development, and in the implementation of the UN 2030 Agenda,

Also taking into account the expected role of ocean literacy in the context of the UN Decade of Ocean Science for Sustainable Development,

Decides to distribute the Draft IOC Ocean Literacy Plan of Action, as detailed in Document IOC-XXX/2 Annex 7, to Member States, IOC regional subsidiary bodies as well as global programmes for comments;

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

Requests the Secretariat to collect comments and contributions to the Draft IOC Ocean Literacy Plan of Action from Member States and relevant organizations, through a circular letter, and to submit, for endorsement, its revised version at the 53rd Session of the Executive Council in 2020.

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

### **12.1 FOLLOW-UP TO RESOLUTION EC-LI.2: FINANCE AND REGULATIONS, GOVERNANCE, WORKING METHODS & PROCEDURES – REPORT OF THE CHAIR OF THE INTERSESSIONAL FINANCIAL ADVISORY GROUP**

290. Vice-Chair Ariel H. Troisi, Chair of the Intersessional Financial Advisory Group (IFAG), introduced this item. He updated the Assembly on the work of the group in follow-up to Resolution EC-LI.2, which endorsed the Implementation Plan of the Recommendations of the UNESCO Open-ended Working Group on Governance. He highlighted that the intersessional work focused on the review of the proposed new referencing approach for the IOC governing bodies documentation, in order to make it more user-friendly, as well as on the review of the Draft Guidelines for the IOC Officers, prepared by the secretariat in accordance with the Executive Council's recommendations. Prior to being shared with the IFAG, both documents benefitted from a discussion at the annual meeting of the IOC Officers, 15–17 January 2019. He also informed the Assembly of the correspondence on this issue between the IOC Chairperson and the UNESCO General Conference President, as well as of the IOC Chairperson's participation in the meeting of the UNESCO Working Group on Governance on 27 March 2019, which gave the opportunity to all international/intergovernmental bodies, including IOC, to exchange views and information on their approaches to the implementation of the recommendations.

291. Vice-Chair Ariel H. Troisi reminded the Assembly that the Executive Council at its 51st session in July 2018 also reviewed 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. The Council was satisfied 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'. The Executive Council then recommended that 'the IOC Assembly formally adopt the Revised Financial Regulations for the IOC Special Account as presented in Annex 2 to resolution EC-LI.2 at its 30th session.

292. The decision under this item can be found in section IV of Resolution XXX-3: Financial Matters of the Commission to be found under [item 12.4](#) below.

## 12.2 DRAFT PROGRAMME AND BUDGET FOR 2020–2021 (DRAFT 40 C/5)

293. The Executive Secretary introduced this item. He clarified that the UNESCO Draft Programme and Budget for 2020–2021 is the second part of the quadrennial Programme adopted by the General Conference at its 39th session (39 C/5). It will close the cycle of the Organization's Medium-Term Strategy for 2014–2021 (37 C/4). The working document in front of the Assembly contains the secretariat's proposal for the Draft 40 C/5, with programmatic targets and budget scenarios for the second biennium (2020–2021) of the quadrennial programme (2018–2021), as approved by the IOC Assembly at its 29th session in 2017.

294. In keeping with the decision of the Executive Board of UNESCO at its 205th session, draft document 40 C/5 has been drawn up within an integrated budget framework; it presents four UNESCO and three IOC budget scenarios, as requested by the Member States, based on the appropriated regular programme budget of:

- \$507 million (\$10,276,200 for the IOC),
- \$518 million and \$523.6 million (\$10,776,100 for the IOC),
- \$534.6 million (\$11,075,500 for the IOC).

295. The Executive Secretary then went on to briefly explain the impact of various budgetary scenarios on the work of the Commission.

296. Building on work launched in the current 2018–2019 biennium (39 C/5 approved), the IOC has now less than two years to work with Member States, the UN, partners and stakeholders to develop an implementation plan for the Decade.

297. For the IOC Secretariat, which is quite small, the challenge is now to raise not only extrabudgetary resources necessary to maintain its core operational programmes but also significant additional resources to lead and coordinate the Decade preparation phase. Critical understaffing, already highlighted by the UNESCO External Auditor in 2016, undermines these fundraising efforts and threatens the sustainability of the secretariat.

298. None of the proposed budgetary scenarios adequately address the situation. The critical need to provide at least basic support to all programmatic sections by creating one additional general service staff position, implies an 11% cut to IOC programmatic activities in the 40 C/5 \$518 million (and \$523.6 million) budget scenario. While every effort will be made to offset the impact of this cut through extrabudgetary resource mobilization, one must be conscious that increased reliance on extrabudgetary support brings with it a number of constraints. Even with full alignment of extrabudgetary projects' objectives with the IOC programmatic goals, the project-oriented approach often leads to shifts in focus and does not facilitate harmonious and continuous implementation based on the collectively agreed upon priorities. This is of particular concern for the IOC operational programmes in ocean observations and services and for data and information management, which require stable investment in core system design and maintenance. The reduced resources will also harm the capacity to work regionally, in particular as regards the operationalization of the IOC

Capacity Development Strategy. Lack of sufficient staff at the regional level but also at the central coordination level threatens to transform the IOC's capacity development activities into donor-prioritized and less coordinated efforts.

299. The \$534.6 million scenario allows for some seed funding for the Decade coordination and fund-raising activities, while maintaining the rest of the programme at the same level as in 2018-2019. Without the minimal breathing space allowed by the \$534.6 million scenario only, the secretariat may not be in a position to deliver a Decade plan, which fully reflects the needs of all nations, mainly because it would not be possible to hold thorough consultations in all regions. The \$534.6 million scenario would also allow for the operationalization of a global clearing house mechanism to facilitate the transfer of marine technology, in response to regional needs of developing nations, including LDCs and SIDS. This would be central to the implementation of the IOC Capacity Development Strategy and would allow to respond to various international calls on the IOC to take the lead on this topic (e.g. UNGA, SDG 14, and UNCLOS in the context of the future international legally-binding agreement on the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction, currently under negotiation).

300. As regards the \$507 million scenario, it was prepared based on the re-costed 39 C/5 staff establishment without any change, and with the 19% cut to programme activities distributed across the board. Given the impact of such a cut, should this scenario become a reality, the IOC would need to undertake a major re-prioritization exercise. This would likely require discontinuation or considerable downscaling of certain programmes and cuts in their supporting staff. Core programmes of the IOC would then operate below the sustainability level and may even face closing down. The Assembly's general guidance is sought on the approach to be followed by the secretariat in the face of such a scenario, including as to the validity of the budgeting criteria adopted in Resolution XXVII-2 (C), Annex 2.

301. The representative of one Member State took the floor to request a minor clarification on the staff establishment proposals in various scenarios, to which the Executive Secretary provided a response.

302. The decision under this item can be found in section II of Resolution XXX-3: Financial Matters of the Commission to be found under [item 12.4](#) below.

### 12.3 DRAFT MEDIUM-TERM STRATEGY 2022–2029: PRELIMINARY PROPOSALS BY THE SECRETARIAT

303. The Executive Secretary introduced this item. He highlighted that the first version of the document was tabled during the annual meeting of the IOC Officers, 15–17 January 2019, and the version in front of the Assembly benefitted from the Officers' initial review and inputs. The document was also shared with the Intersessional Financial Advisory Group so as to facilitate the work of the Assembly and its sessional Financial Committee.

304. The Executive Secretary explained that the document builds on the current Medium-Term Strategy 2014–2021, preserving the comprehensive framework of six functions for its implementation, while at the same time attempting to further clarify and sharpen the High-Level Objectives of the Commission. He informed the Assembly of the proposed fifth High-Level Objective on sustainable ocean economy. Also, he stressed the importance of a constructive and inclusive discussion of these preliminary proposals, both in the plenary and in the Financial Committee, with a view of guiding the future work of the secretariat on this key document. He reminded the Assembly that the next draft will be circulated to IFAG in the intersessional period leading to the 53rd session of the Executive Council in 2020 and the final adoption of the IOC Medium-Term Strategy 2022–2029 by the IOC Assembly at its 31st session in 2021.

305. The representatives of 13 Member States took the floor.

306. The Assembly expressed its appreciation to the Officers and the secretariat for their work on the document. It gave its overall endorsement to the approach adopted in this first draft of the Commission's Medium-Term Strategy for 2022–2029, while noting the importance of giving due attention to the use of consensually acceptable terminology.
307. The Assembly positively noted the alignment with many objectives of the UN Decade of Ocean Science for Sustainable Development 2021–2030, prominent place given to gender equality and to Africa and island States as priority beneficiary groups, as well as the intent to work closer to the field.
308. Member States highlighted the need to include social sciences in the IOC's programmatic vision, ensure full coverage of all regions, both through established IOC structures as well as other frameworks, support inter-regional cooperation and enhance communication activities to fully demonstrate the importance of the IOC's work.
309. The Assembly considered that in order to be successful, broad approaches described in the draft need to be backed by a solid action plan to support the thrust to improve delivery on the ground.
310. The Assembly was unanimous in highlighting the importance of continuing the inclusive consultative process, including at regional and at national levels, both through formal consultative mechanisms and by involving as many stakeholders and beneficiary communities as possible.
311. In his brief response to the debate, the Executive Secretary summarized the main points made by Member States and thanked the Assembly for this preliminary feedback. He stressed that defining the priorities of the Commission and the strategy to address them in the most proactive, participative and inclusive manner is the key objective of the Secretariat. He expressed his enthusiasm at the perspective of continuing this fruitful exchange in the intersessional period and invited all Member States to facilitate national consultations and share their vision, concerns and proposals that will guide the further drafting work of the secretariat.
312. The following Member States chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report: [Chile](#), [Côte d'Ivoire](#), [France](#), [Ireland](#), [Japan](#), [Philippines](#), [Russian Federation](#), and [United States](#).
313. The decision under this item can be found in section III of Resolution XXX-3: Financial Matters of the Commission to be found under [item 12.4](#) below.

#### 12.4 REPORT BY THE CHAIRPERSON OF THE FINANCIAL COMMITTEE

314. The Chair of the Financial Committee Ariel H. Troisi reported to the Assembly on the results of the Committee's examination of the items entrusted to it by the plenary in addition to the statutory ones foreseen in the Rule of Procedure 8.1(c). He informed that the Financial Committee's discussions have been extremely constructive and thanked all Member States that participated in the work of the Committee for their commitment and collaboration. He then proceeded to a detailed presentation of the draft resolution prepared by the Financial Committee for consideration by the Assembly.
315. The Chair of the Financial Committee reminded the Assembly that upon extensive discussions at the 29th session of the IOC Assembly (2017) and in the intersessional period leading to the 51st session of the IOC Executive Council (2018), the IOC Executive Council adopted Resolution EC-LI.2 endorsing the Implementation Plan of the Recommendations of the UNESCO open-ended working group on Governance as Annex 1 to the Resolution. The Guidelines for the Officers and the new referencing for IOC governing bodies' documentation that are presented for adoption by this Assembly in the draft resolution prepared by the Financial Committee stem directly from the Executive Council's decisions reflected in the Implementation Plan. The Intersessional Financial Advisory Group will be mandated to continue reflecting on ways to further improve our

working methods and processes and, should the IOC governing bodies so wish, it will be possible to reconsider any of the Implementation Plan recommendations or add new ones moving forward.

316. The representative of 1 Member State took the floor. The Assembly expressed its high appreciation to the Chair of the Financial Committee Ariel H. Troisi for his effective and efficient way of leading the work of the Financial Committee in a truly inclusive and collegial spirit. Once again, this constructive approach allowed the Committee to complete its expanded and challenging mandate in a very limited period of time.
317. The Assembly adopted [Resolution XXX-3](#) below submitted by Australia, Belgium, Brazil, Canada, China, Egypt, Equatorial Guinea, France, Germany, Grenada, India, Japan, Kenya, Norway, Portugal, Republic of Korea, Russian Federation, and United States of America.

Resolution XXX-3

**Financial Matters of the Commission**

The Intergovernmental Oceanographic Commission,

**Having examined** documents:

- (i) [IOC-XXX/2 Annex 2](#) – ‘Report on budget execution 2018 and outline of 2019 budget’,
- (ii) [IOC-XXX/2 Annex 9](#) – ‘Draft Programme and Budget for 2020–2021 (Draft 40 C/5)’,
- (iii) [IOC-XXX/2 Annex 10 Rev.](#) – ‘Draft Medium-Term Strategy for 2022–2029: Preliminary Proposals by the Secretariat’,
- (iv) [IOC-XXX/2 Annex 8](#) – ‘Recommendations on Governance, Working Methods and Procedures of the Commission – Report on progress by the Chair of the Intersessional Financial Advisory Group’,
- (v) [Resolution EC-LI.2](#) – ‘Financial Matters of the Commission’, and in particular Annex 1 ‘Implementation Plan of the Recommendations of the UNESCO Open-ended Working Group on Governance’ and Annex 2 ‘Financial Regulations applicable to the Special Account for the Intergovernmental Oceanographic Commission (IOC) of UNESCO’,

**I**

**Report on budget execution 2018 and outline of the 2019 budget**

**Confirms** that the IOC budget for 2018, as reported on in Part I of IOC-XXX/2 Annex 2, has been executed in accordance with the approved Programme and Budget for 2018–2019 (39 C/5, US\$518 M Expenditure Plan) and the budgetary allocations approved by the IOC Assembly at its 29<sup>th</sup> session (IOC-XXIX/2 Annex 5 Rev.2) through Resolution XXIX-2;

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

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

**Encourages** 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 increase efforts to obtain further voluntary contributions, including from private sector donors and other partners;

**Recommends** that a process is conducted by Intersessional Financial Advisory Group (IFAG) whereby the activities of the IOC are considered in accordance with the principles adopted in Resolution XXVII-2 Annex 2, with a view to evaluate the impact of constrained regular budget and unstable voluntary contributions on IOC’s intergovernmental mandate, commitments, programmes, governance and operating costs;

**Further recommends** that the IFAG prepare a draft report on the process elaborated in the paragraph above for consideration by the IOC Executive Council at its 53<sup>rd</sup> session;

**II**

**Draft Programme and Budget for 2020–2021 (Draft 40 C/5)**



**Welcomes** the continuity in programmatic choices proposed by the IOC Executive Secretary in the four budgetary scenarios presented to the Assembly in document IOC-XXX/2 Annex 9, following the new integrated budgetary framework approach;

**Endorses** the approach to the preparation of the Draft Programme and Budget for 2020–2021 (second biennium of the 2018–2021 quadrennium) proposed in document IOC-XXX/2 Annex 9 as consistent with the quadrennial programme defined in Resolution XXIX-2;

**Recalls** that the IOC Assembly in its Resolution XXIX-2 considered that *'the budgetary allocation proposed for the IOC in the Draft 39 C/5 US\$518 M Expenditure Plan in the amount of US\$10,681,300 is the critical minimum required to allow the functioning of the Commission'*;

**Expresses concern** that the budgetary allocation proposed for the IOC in the Draft 40 C/5 in the lower scenarios based on US\$518 M and US\$523.6 M assessed contributions by UNESCO Member States (regular programme budget) in the amount of US\$10,776,100 is not consistent with the increasing responsibilities of the Commission, in particular with regard to the implementation of the Sustainable Development Goals (SDGs) of the 2030 Agenda and the United Nations Decade of Ocean Science for Sustainable Development (2021–2030), thereafter the Decade;

**Notes** that the need to provide at least basic support to all programmatic sections by creating one additional general service staff position, in the case of the lower scenarios referred to above, will require an 11% cut to IOC programmatic activities;

**Further notes** that the scenario based on US\$534.6 M assessed contributions by UNESCO Member States (US\$11,075,500 for the IOC) allows for some seed funding for the Decade coordination and fund-raising activities, while maintaining the rest of the programme at the same level as in 2018-2019;

**Highlights** the importance of ensuring that the Commission has the necessary resources, both in terms of regular programme budget and voluntary contributions, to fulfill its role in the implementation of the Decade;

**Invites** the Director-General of UNESCO to:

- (i) continue every effort to enhance the resources available to the IOC in the 40 C/5 despite the budgetary challenges faced by the Organization, to enable the Commission to fulfill its increasing mandate and to address current and emerging priorities, including those related to the implementation of the SDGs and the Decade;
- (ii) ensure that the budgetary appropriation for the IOC approved in the 40 C/5 shall not be decreased by transfers of funds to other parts of UNESCO's budget;

**Urges** IOC Member States to:

- (i) continue to advocate to the Director-General of UNESCO and the governing bodies of UNESCO on the importance of the IOC as a body with functional autonomy within UNESCO, focusing in particular on the value that the IOC provides to the Organization and to sustainable development;
- (ii) support the reinforcement of the IOC in the consultation process for the UNESCO Draft Medium-Term Strategy for 2022–2029 and the Draft Programme and Budget for 2022–2025 (Draft 41 C/5);
- (iii) increase their voluntary contributions to support the Commission in the face of the current difficulties, preferably to the IOC Special Account;

**Approves** the budgetary appropriations for 2018–2019 under the IOC Special Account as proposed in IOC-XXX/2 Annex 9 Appendix, in accordance with the Financial Regulations applicable to the Intergovernmental Oceanographic Commission;

**Authorizes** the IOC Executive Secretary to transfer funds between appropriation lines of the IOC Special Account up to the maximum of 15% of each line, when necessary, and to report on all such transfers to the IOC governing bodies, in accordance with the Financial Regulations;

**Requests** the IOC Executive Secretary to:

- (i) provide Member States with an estimate of the necessary budget to effectively operate the IOC at an optimum level, to help identify how and what additional resources might be secured;
- (ii) keep the IOC Officers and Member States updated on the 40 C/5 adoption process, as well as on the preparatory processes related to the UNESCO Draft Medium-Term Strategy for 2022–2029 and Draft Programme and Budget for 2022–2025 (Draft 41 C/5);
- (iii) support the work of the IFAG by providing timely information on the UNESCO programming and budgetary planning process;

**Further requests** the IOC Executive Council, at its 53<sup>rd</sup> session, to start the analysis of the financial implications of the implementation of the Decade, with a view to prepare the Draft Programme and Budget for 2022–2025 (Draft 41 C/5) and in light of the process to be conducted by IFAG in considering the IOC activities in accordance with the principles adopted in Annex 2 of Resolution XXVII-2.

### III Draft Medium-Term Strategy for 2022–2029: Preliminary Proposals by the Secretariat

**Welcomes** the preliminary proposals by the Secretariat for the Commission's Draft Medium-Term Strategy (MTS) for 2022–2029 as contained in document IOC-XXX/2 Annex 10 Rev.;

**Expresses its appreciation to:**

- (i) the IOC Officers for their guidance to the Secretariat at the annual Officers' meeting, 15–17 January 2019;
- (ii) Member States that participated in the work of the IFAG on this matter;

**Recalls** that the Draft Medium-Term Strategy (MTS) for 2022–2029 will be further reviewed by the IOC Executive Council at its 53<sup>rd</sup> session in 2020 and the final version will be endorsed by the IOC Assembly at its 31<sup>st</sup> session in 2021;

**Takes note** of the revised Draft MTS for 2022–2029 as presented in Annex 1 to this resolution;

**Recommends** that the following modifications be considered in developing a revised version of the Draft Medium-Term Strategy for 2022–2029 for review by the IFAG in the intersessional period leading to the 53<sup>rd</sup> session of the IOC Executive Council:

- (i) revise the 'Vision' statement by simplifying the language and add the Decade societal outcomes 'clean ocean... etc.', including visuals;
- (ii) include social and human sciences;
- (iii) provide a visual presentation to clarify the nature/hierarchy of entities/ programmes/ activities mentioned in paragraph 15 of Annex 1 and how they contribute to functions and high level objectives;
- (iv) enhance consistency by applying the format and style of paragraph 18 of Annex 1 to paragraphs 16–20 describing functions' contributions to objectives;
- (v) open the section 'IOC within the UN system' with a paragraph reflecting that the IOC is a body with functional autonomy within UNESCO and enjoys a recognized role in the UN system, in accordance with the IOC Statutes;
- (vi) develop paragraph 28 of Annex 1 to describe the IOC's interaction with UNESCO programmes in order to maximize the comparative advantage of UNESCO's comprehensive interdisciplinary approach to key societal issues;
- (vii) harmonize the length and style of paragraphs 36-39 describing the IOC regional subsidiary bodies;
- (viii) with regard to the section 'Working closer to the field', continue reflecting on ways to enhance communication and engagement with Member States and their initiatives in regions not covered by existing regional subsidiary bodies;
- (ix) further develop the section 'Communication & visibility', including the communication strategy and channels that will map the implementation of the objectives of the MTS to the various target audiences and consider a visual presentation illustrating the above;

**Requests** the IOC Executive Secretary to prepare a revised version of the Draft MTS for 2022–2029 taking into account Member States' views and concerns expressed at this session of the Assembly, for review by IFAG in the intersessional period and the Officers at their annual meeting in early 2020, prior to submitting it for consideration by the IOC Executive Council at its 53<sup>rd</sup> session;

**IV**  
**Follow-up to Resolution EC-LI.2**

**IV.A**  
**Implementation Plan of the Recommendations of the UNESCO**  
**Open-ended Working Group on Governance**

**Notes with satisfaction** the Implementation Plan of the Recommendations of the UNESCO Open-ended Working Group on Governance adopted by the IOC Executive Council at its 51<sup>st</sup> session through Resolution EC-LI.2;

**Welcomes** the follow-up action by the Secretariat and the IFAG in the intersessional period (IOC-XXX/2 Annex 8);

**Expresses its appreciation** to:

- (i) Member States that participated in the work of the IFAG on this matter;
- (ii) IOC Vice-Chair Ariel H. Troisi for his leadership and contribution, which resulted in a high quality document allowing a constructive way forward;
- (iii) IOC Chair Peter M. Haugan for his participation on behalf of the Commission in the UNESCO governance review process;
- (iv) IFAG Technical Secretary, Xenia Yvinec, for the technical support to the work of the Group;

**Adopts** the new referencing of the IOC Governing Bodies' documentation as presented in [Annex 2](#) to this resolution;

**Endorses** the Guidelines on the Responsibilities of the Officers of the Commission as presented in [Annex 3](#) to this resolution;

**Invites** the IFAG to continue reflecting on the best practices to further enhance the efficiency of the IOC Governing Bodies' meetings;

**Requests** the IOC Executive Secretary to report on new developments in this regard, if any, to the IOC Executive Council, at its 53<sup>rd</sup> session in 2020;

**IV.B**  
**Revised Financial Regulations applicable to the Special Account**  
**for the Intergovernmental Oceanographic Commission (IOC) of UNESCO**

**Expresses its appreciation** to the IOC Executive Secretary for the preparation of the Revised Financial Regulations applicable to the Special Account for the IOC, 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 200<sup>th</sup> session in document [200 EX/19](#) and consistent with [201 EX/Decision 24.I](#);

**Notes with satisfaction** that the IOC Executive Council at its 51<sup>st</sup> session considered 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;

**Accepts** the recommendation of the IOC Executive Council to adopt the Revised Financial Regulations applicable to the Special Account for the IOC as presented in Annex 2 to Resolution EC-LI.2, to be endorsed by the UNESCO Executive Board at its 207<sup>th</sup> session in the third quarter of 2019.

**12.5 PREPARATION FOR THE COMMEMORATION**  
**OF THE 60TH ANNIVERSARY OF THE IOC (1960–2020)**

318. The IOC Chair introduced this item. He informed that the matter was discussed by the IOC Officers at their annual meeting at UNESCO Headquarters, 15–17 January 2019. A range of possible activities was discussed.

319. Through [IOC Circular letter 2767](#) dated 25 April 2019, the Secretariat solicited information from Member States on archived documents as well as photos and other visual documents of interest. This could form a basis for an objective compilation and summary of the IOC history in a professional scientific historic publication. The intention is to complete it by the end of 2020 or in early 2021.

320. The representatives of four Member States and WMO took the floor. Member States supported the suggestions and initial ideas for the commemoration of the 60-year anniversary of IOC. Member States stressed the importance of having a documented history. Some participants mentioned their plans for responding to the Circular Letter. Chile suggested that the Ocean Conference in Lisbon on 2–6 June 2020 could provide an opportunity for a side event to mark the IOC's 60-year anniversary. WMO mentioned that Peter Dexter, former Co-president of JCOMM, has been working on a history/memory of JCOMM, which could be developed into a contribution to the commemoration.
321. The Executive Secretary encouraged Member States and regional bodies to consider and inform the secretariat about events that can contribute to a 60-year anniversary portfolio of activities.
322. The Assembly invited the outgoing chairperson in consultation with Officers to offer guidance to the secretariat on the further developments on activities that may contribute to the commemoration of the 60-year anniversary of the IOC.
323. The following Member States and one organization chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report: [Chile](#), [India](#), [Republic of Korea](#), and [WMO](#).

Decision IOC-XXX/12.5

**Preparation for the Commemoration  
of the 60th Anniversary of the IOC (1960–2020)**

The Assembly,

Taking note of the oral report by the Chairperson of IOC,

Encourages Member States to contribute to the IOC History Project by responding to IOC Circular Letter 2767 by 15 September 2019;

Invites Member States and subsidiary bodies to inform the Secretariat about commemoration activities planned and to exchange ideas for national and regional activities.

**12.6 ELECTIONS OF THE OFFICERS OF THE COMMISSION  
AND MEMBERS OF THE EXECUTIVE COUNCIL**

324. Dr Sang-Kyung Byun, Chair of the Nominations Committee, reported on this item. He informed the Assembly that all the nomination forms received as of Friday 28 June 2019 at 18.00 hrs by the Committee were valid and had therefore been forwarded to the Assembly as document IOC-XXX/NOM/WP3.
325. He informed the Assembly that on Tuesday 2 July 2019 prior to the 5th meeting of the Nominations Committee, USA withdrew its candidature for a seat on the Executive Council. The Nomination Committee subsequently communicated that development to the Assembly as document IOC-XXX/NOM/WP4.
326. He further informed the Assembly that: (i) Turkmenistan – belonging to Electoral Group IV and Equatorial Guinea (5 April 2019) belonging to Electoral Group V had joined IOC since the 29th session of the Assembly; (ii) the number of seats on the Executive Council had not changed since the 25th session of the Assembly; and (iii) following the adoption of Resolution XXV-15 concerning the expansion of the quota of seats of Group II, the allocation of seats for Groups I and II, is 10 seats for Group I and 3 seats for Group II; (iv) the quotas of seats for Groups III, IV and V remain unchanged.

### 12.6.1 Election of the Chairperson of the Commission

327. The Assembly noted that there were two candidates for the position of Chair: Mr Ariel Hernán Troisi from Argentina and Mr Ashley S. Johnson from South Africa.
328. The Chair invited one speaker to introduce each candidate in accordance with paragraph 2.10 of Appendix I of the IOC Rules of Procedure. Ms Chafica Haddad (Deputy Permanent Delegate) of Grenada to UNESCO introduced Mr Troisi and Mr Sateesh Chandra Shenoi, Head of the IOC Delegation of India, introduced Mr Johnson.
329. Following a ballot Mr Troisi was elected as Chair.

### 12.6.2 Election of the Vice-Chairpersons of the Commission

330. The Assembly noted that there was only one candidate for each of Electoral Groups I, II, III, IV and V for the positions of Vice-Chair. The following were therefore elected by acclamation:
- Ms Monica Breuch-Moritz (Germany) – Group I
  - Mr Alexander Frolov (Russian Federation) – Group II
  - Mr Frederico Antonio Saraiva Nogueira (Brazil) – Group III
  - Mr Satheesh Chandra Shenoi (India) – Group IV
  - Mr Karim Hilmi (Morocco) – Group V

### 12.6.3 Election of the Members of the Executive Council

331. The Assembly noted that there were 9 candidates for the remaining Member State seats on the Executive Council for Electoral Group I, and that the number of those remaining seats was 9, which was the maximum number of seats assigned to this group. The candidate Member States were therefore declared elected.
332. The Assembly noted that there was 1 candidate (Bulgaria) for the remaining Member State seat on the Executive Council for Electoral Group II, whereas the maximum number of those seats was 2. The candidate Member State was therefore declared elected by acclamation.
333. The Assembly noted that there were 7 candidates for the remaining Member State seats on the Executive Council for Electoral Group III, and that the number of those remaining seats was 7, which was the maximum number of seats assigned to this group. The candidate Member States were therefore declared elected.
334. The Assembly noted that there were 8 candidates for the remaining Member State seats on the Executive Council for Electoral Group IV, and that the number of those remaining seats was 8, which was the maximum number of seats assigned to this group. The candidate Member States were therefore declared elected.
335. The Assembly noted that there were 11 candidates for the remaining Member State seats on the Executive Council for Electoral Group V, and that the number of those remaining seats was 8 and consequently a ballot would be needed for Electoral Group V.
336. After the first ballot to elect the representatives to the Executive Council from Electoral Groups V, the Assembly elected: Côte d'Ivoire, Egypt, Kenya, Kuwait, Madagascar, Oman, Senegal, South Africa to the Executive Council for Electoral Group V.
337. The membership of the Executive Council for the next intersessional period and the 31th session of the Assembly is given in [Annex VI](#) to the present report.
338. Subsequently to the closure of the elections, [Ukraine](#) took the floor and chose to provide record of its plenary intervention on this agenda item for the informational annex to the meeting report as [United States](#) did.

Decision IOC-XXX/12.6

**IOC Elections 2019**

The Assembly,

Elects the members of its Executive Council for the period 2019–2021 as follows:

- Ariel Hernán Troisi (Argentina) as Chairperson, and
- Monika Breuch-Moritz (Germany) as Vice-chairperson for Group I
- Alexander Frolov (Russian Federation) as Vice-chairperson for Group II
- Frederico Antonio Saraiva Nogueira (Brazil) as Vice-chairperson for Group III
- Satheesh Chandra Shenoi (India) as Vice-chairperson for Group IV
- Karim Hilmi (Morocco) as Vice-chairperson for Group V,

And the following Member States by electoral group:

- (i) Canada, France, Germany, Greece, Italy, Portugal, Spain, Sweden, Turkey, United Kingdom of Great Britain and Northern Ireland (Group I)
- (ii) Bulgaria, Russian Federation (Group II)
- (iii) Argentina, Brazil, Chile, Colombia, Grenada, Mexico, Peru, Saint Vincent and the Grenadines, Uruguay (Group III)
- (iv) Australia, China, India, Iran (Islamic Republic of), Japan, Pakistan, Philippines, Republic of Korea, Thailand (Group IV)
- (v) Côte d'Ivoire, Egypt, Kenya, Kuwait, Madagascar, Morocco, Oman, Senegal, South Africa (Group V).

**12.7 31th SESSION OF THE ASSEMBLY AND 53rd  
AND 54th SESSIONS OF THE EXECUTIVE COUNCIL**

339. Dr Ryabinin reminded the Assembly of the recommendations of the 52nd session of the Executive Council, acting as the Steering Committee for this Assembly, on the dates and duration of the 53rd session of the Council in 2020 and duration of the 31st session of the Assembly in 2021.
340. The Executive Secretary also informed the Assembly of the main events/conferences that will need to be taken into account when choosing the dates for the next sessions, and in particular the dates of the WMO Congress.
341. The representative of 1 Member State and WMO took the floor. The importance to avoid conflict with the World Heritage Committee meetings was highlighted to ensure the truly inclusive discussions of the many important items on the agenda of the forthcoming governing bodies' sessions. The WMO representative confirmed that the proposed dates do not conflict with the WMO Congress.

Decision IOC-XXX/12.7

**Dates and Places of next Sessions of the Executive Council and Assembly**

The Assembly,

Recalling the recommendations of the Executive Council at its 52nd session (EC-LII, Dec.4),

Decides to hold:

- (i) The 53<sup>rd</sup> session of the Executive Council for 3.5 days in UNESCO Headquarters, Paris, over the period of 29 June to 3 July 2020,
- (ii) The 31<sup>st</sup> session of the Assembly for a duration of 6.5 plus one Ocean Science Day, at UNESCO Headquarters, over the period from 14 to 25 June 2021, preceded by a one-day session of the Executive Council (54<sup>th</sup> session) acting as the steering committee of the Assembly.

### 13. ADOPTION OF RESOLUTIONS AND SUMMARY REPORT

342. The Chairperson thanked the Rapporteur Ms Suree Satapoomin from Thailand for her excellent work in support of the work of the session.
343. Mr Yutaka Michida, the Chair of the Resolutions Committee, reported to the Assembly on the work of the Resolutions Committee during the session.
344. The IOC Chairperson then invited the Assembly to adopt, in plenary, three resolutions.
345. The representative of 2 Member State took the floor. The Executive Secretary responded by clarifying the approach taken by the IOC in preparing for the Dialogue with Permanent Delegations to UNESCO on the future Medium-Term Strategy 2022–2029 (41 C/4) in the context of Pillar 3 of UNESCO's Strategic Transformation. He confirmed that the meeting devoted to the IOC Draft Medium-Term Strategy will be held on 19 July 2019 and the Secretariat will keep Member States on its outcomes through the open-ended Intersessional Financial Advisory Group, which will be reconstituted for the intersessional period 2019/2020.

#### Decision IOC-XXX/13

#### **Adoption of Resolutions and the Summary Report**

The Assembly,

Having considered the recommendations of the Executive Council at its 52nd session (EC-LII, Dec.3.4(II)) on organization matters,

Adopts the decisions and three resolutions of the session;

Takes note of the draft summary report of the session and the compilation of the decisions adopted during the session (IOC-XXX/Decisions Prov.);

Requests the Executive Secretary to circulate the narrative part of the report to Member States in the four working languages of the Commission by 31 August 2019 at the latest for its adoption by correspondence by 15 October 2019.

### 14. CLOSURE

346. The Assembly met in plenary session during 6.5 days from 26 June to 4 July, considered 42 items on its agenda and approved 30 decisions and 3 resolutions. The plenary meeting was supported by 3 preparatory meetings, 11 meetings of sessional committees and 18 information and side events during the session. The gender ratio of Assembly Member State representatives and all participants, including speakers, was close to 1:2 (female:male).
347. The Chair thanked the Member States, the Officers of the Commission and the Secretariat for their commitment to making this session a true success. Many important issues have been considered and addressed constructively, setting context for effective action moving forward. (See the full text of the intervention in [Annex III-D](#))
348. The Executive Secretary in his concluding remarks described this session of the Assembly as a true milestone. The Commission defined ambitious goals and is fit for the purpose through true commitment and ownership of its Member States. A lot of work is ahead of us, but the way Member States could come together at this Assembly session, makes us all look to the future with enthusiasm and enhanced commitment. He thanked the Chair Professor Peter M. Haugan for his exceptional leadership that inspired both the Member States and the Secretariat. The high standards set by him will guide the next team of Officers in taking the Commission to its future achievements.
349. The Chair of the Commission closed the 30th Session of the Assembly at 11:19 on 4 July 2019.

PART II

RESOLUTIONS AND DECISIONS

RESOLUTIONS

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Resolution XXX-1

**Progress report on the preparation of the United Nations Decade of Ocean science for Sustainable Development**

The Intergovernmental Oceanographic Commission,

**Recalling** Resolution XXIX-1 proposing the establishment of an International (UN) Decade of Ocean Science for Sustainable Development and requesting the IOC Executive Secretary to convey this resolution to the United Nations General Assembly (UNGA) for consideration at its 72nd Session,

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

**Further recalling** the invitation from 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 UN Secretary-General for his report on oceans and the law of the sea,

**Considering** [Resolution EC-LI.1](#) that *inter alia* took note of the revised and current version of the Roadmap document (IOC/EC-LI/2 Annex 3) and decided to establish an Executive Planning Group (EPG) under the coordination of the IOC Executive Secretary,

**Having examined** documents IOC-XXX/2 Annex 3 – Progress of the implementation plan of the Decade Roadmap, and Addendum – Post-2020 Coordination and Implementation Mechanisms,

**Having further considered** the Report of the First EPG Meeting (17–19 December 2018, UNESCO, Paris) and the outcomes of the First Global Planning Meeting (13–15 May 2019, Copenhagen, Denmark), respectively The Ocean Decade Series, 1 & 2; and proposed modification to the Decade Roadmap (IOC/INF-1371),

**Takes note** of the progress achieved during the intersessional period, and in particular, the outcomes of the First EPG meeting and First Global Planning Meeting, and the report on the implementation of the current version of the Decade Roadmap and its proposed modifications as presented in documents IOC-XXX/2 Annex 3 and IOC/INF-1371;

**Thanks** the EPG for its work in support of the preparation of the Implementation Plan and **requests** that it continues its work until the presentation of the Implementation Plan to the UNGA for consideration during its 75th Session in September 2020;

**Requests** the IOC Executive Secretary to:

- (i) report on the implementation of the current version of the Decade Roadmap at the 53rd Session of the IOC Executive Council in 2020;



- (ii) further develop the governance arrangements for the implementation phase (2021–2030) based on the inputs received on documents IOC-XXX/2 Annex 3 and Addendum;
- (iii) make the draft implementation plan available and invite its review by Member States;
- (iv) report to the IOC Executive Council at its 53rd Session, on comments received and plans for finalising the implementation plan, prior to its submission to the UNGA;

**Invites** the IOC subsidiary bodies to engage in the work of the Decade, in particular through the regional consultation workshops, and identify potential contributions during the next intersessional period;

**Further invites** UN specialized agencies, programmes, funds and bodies, UN Member States, international scientific and academic organizations, non-governmental organizations and other stakeholders to support the Decade, contribute to its preparation and execution by crafting science-based solutions and partnerships;

**Urges** Member States and partners to:

- (i) provide voluntary financial contributions to the IOC for the preparation of the Decade as well as in-kind support such as staff secondments to the Secretariat;
- (ii) host and/or fund regional and global consultation workshops, thematic meetings, and communication activities;

**Thanks** the Governments of the Republic of Korea, Japan, the Kingdom of Belgium (Government of Flanders), Norway, and the United Kingdom of Great Britain & Northern Ireland for their financial contribution to the preparatory phase of the Decade;

**Further thanks** the Governments of Brazil, Canada, Denmark, France, India, Italy, Japan, and Mexico as well as the Secretariats of the North Pacific Marine Science Organization (PICES), the Permanent Commission for the South Pacific (CPPS), the Pacific Community (SPC), the UN Global Compact, Suez Environment, and the Carlsberg Foundation, for their contribution to the organization of regional and global workshops during the preparation phase of the Decade, as well as Germany, for offering to host the kick-off conference of the Decade.

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Financial implication:

Seed funding is identified under the most favourable budget scenario (\$534.6M) of 40 C/5 Programme and Budget. Resources are needed in order to facilitate the coordination and implementation of the preparatory activities, as well as the launch of the Decade in 2021. Correspondingly, the Assembly may invite Member States and partners to contribute resources preferably to the IOC Special Account and/or through in-kind contributions (such as secondment).

Resolution XXX-2

**Joint WMO-IOC Collaborative Board**

The Intergovernmental Oceanographic Commission,

**Recalling:**

- (i) WMO Resolution 14 (Cg-XIII) – Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM),

- (ii) IOC Resolution XX-12 – Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM),

**Considering** WMO Resolution 7 (Cg-18), which entails the disbandment of the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM) in the context of a reform of WMO governing structures,

**Further considering** the parallel WMO Resolution 9 (Cg-18),

**Considering also** the expanded collaboration between WMO and IOC in marine meteorology, oceanography and climatology, including in services, observation and information management, research and capacity building,

**Considering further** the evolving needs of a coordinating mechanism between WMO and IOC to support such collaborative activities,

**Having examined** the recommendations of the Joint WMO-IOC Consultation Group on the Reform of JCOMM established by WMO Decision 58 (EC-70) and IOC Decision EC-LI/5.1,

**Expresses appreciation** to the Co-Chairs and the members of the Joint WMO-IOC Consultation Group on the Reform of JCOMM for their work;

**Decides** to:

- (i) incorporate appropriate JCOMM functions and activities on observation and operational ocean forecasting systems into the IOC-WMO-UN Environment-ISC Global Ocean Observing System (GOOS), with functional connections to the WMO Commission for Observation, Infrastructure and Information Systems (COIIS);
- (ii) incorporate appropriate JCOMM functions and activities on data and information management into the International Oceanographic Data and Information Exchange (IODE), with a close connection to the work of the WMO COIIS;
- (iii) incorporate appropriate JCOMM functions and activities on services into the WMO Commission for Services and Applications, with a close connection to relevant IOC activities in early warning and services;
- (iv) establish the Joint WMO-IOC Collaborative Board, as a high-level coordination mechanism with broader engagement of the key relevant bodies of the WMO and IOC, with the Terms of Reference as given in the Annex to this Resolution;

**Decides also** that for the first intersessional period through April 2020, the Joint WMO-IOC Collaborative Board will be co-chaired by the current Co-Chairs of the Joint WMO-IOC Consultation Group on the Reform of JCOMM, with the technical advice of the current JCOMM co-presidents, noting that these co-chairs would have flexibility to adjust the length of initial appointment terms defined in the Terms of Reference, in order to stagger future rotation of members;

**Decides further** to review, in coordination with WMO governing bodies, the performance of the Joint WMO-IOC Collaborative Board, with an initial review in four years and presentation to the IOC Assembly at its 32<sup>nd</sup> session in 2023;

**Requests** the Joint WMO-IOC Collaborative Board to:

- (i) facilitate the continued work of all JCOMM functions and activities by recommending connections to appropriate working structures on both sides;
- (ii) make recommendations on evolving the governance of GOOS, in consultation with all co-sponsors, to further develop the partnership and functional connections between GOOS and WMO Integrated Global Observing System (WIGOS);

- (iii) prepare, in consultation with WMO and IOC technical, scientific and regional bodies, a comprehensive and coordinated WMO-IOC Collaborative Strategy, based on existing sectoral strategies, and submit it in 2021 to the governing bodies of WMO and IOC for adoption;

**Encourages** WMO Members and IOC Member States to coordinate national responses to the advice of the Joint WMO-IOC Collaborative Board brought to WMO and IOC Governing Bodies;

**Requests** the IOC Executive Secretary to:

- (i) define, in consultation with the WMO Secretary-General, the working arrangements for the sponsorship of current JCOMM bodies and for the Joint WMO-IOC Collaborative Board and report on implementation to the IOC Executive Council at its 53rd session in 2020;
- (ii) evaluate, in consultation with the WMO Secretary-General, the financial and secretariat support requirements for the Joint WMO-IOC Collaborative Board;

**Agrees** that the budget for these activities will be identified within the overall IOC Programme and Budget Resolution adopted at this session (IOC Resolution XXX-(12));

**Decides** to disband the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology upon completion of a transition period ending in April 2020, as defined in WMO Resolution 36 (EC-70).

#### Annex to Resolution XXX-2

### **Terms of Reference of the Joint WMO-IOC Collaborative Board**

#### *Purpose statement*

The Joint WMO-IOC Collaborative Board will maximize opportunities to co-design, co-develop and implement joint scientific and technical work, across oceanography and meteorology, that ultimately will improve the provision of information and services for societal benefit.

It will suggest initiatives to improve end-to-end links in the value chain from observations, through data management, to forecasting systems and Earth system prediction, to services and end user engagement; and enhance connections with research programmes to promote innovation.

By collaborating across both the oceanographic and meteorological communities, the Collaborative Board will provide strategic advice on programme co-design, implementation, and governance in light of relevant long-term goals and objectives. The Collaborative Board will influence how the WMO and IOC jointly enable the delivery of relevant meteorological and oceanographic information and services on the open ocean, in coastal zones and in high latitudes. In addition, while respecting governance, it will provide guidance and advice around technical and scientific issues to optimize the complementarity of activities, including through generating common projects.

#### *Mandate*

- (a) To coordinate, through a quadrennial WMO-IOC collaborative strategy, the collaborative development, integration and implementation of the activities related to oceanographic and meteorological observation, data and information management, services, modelling and forecasting systems as well as research and capacity development carried out by WMO and IOC,
- (b) To provide the WMO and IOC governing bodies with strategic advice on joint work between WMO and IOC to achieve relevant objectives, including proposing new actions, as required, e.g. by preparing coordinated draft resolutions and/or decisions for both the WMO and IOC governing bodies,

- (c) To review work plans and provide technical and scientific recommendations for WMO and IOC subsidiary bodies and programmes, including proposing cross-cutting projects, and
- (d) To engage in liaison or consultation required with relevant intergovernmental and international stakeholders.

### *Membership*

The membership of the Collaborative Board shall be constituted by:

- (a) Ten representatives of WMO and IOC scientific and technical bodies and programmes, including co-sponsored entities:
  - (i) Five designated by the WMO President, representing the leadership of activities in observing system, data processing and management, forecasting systems, services and applications, and research; from a meteorological perspective,
  - (ii) Five designated by the IOC Chairperson, representing the leadership of activities in observing system, data and information management, forecasting systems, early warning and services, and research; from an oceanographic perspective;
- (b) At large members of the WMO Executive Council and representatives of IOC Member States, taking into account overall geographical balance:
  - (i) Three members of the WMO Executive Council designated by the WMO President,
  - (ii) Three representatives of IOC Member States designated by the IOC Chairperson in consultation with the IOC Officers;
- (c) Two co-chairs:
  - (i) a WMO Vice-President, designated by the WMO President, and
  - (ii) an IOC Vice-Chairperson, designated by the IOC Chairperson.

### *Working procedures*

The co-chairs shall hold their office for two years, with the possibility to be re-appointed for a second term.

Other members shall hold their office for four years, or based on the duration of their term as leader in a WMO, IOC, or joint activity.

The co-chairs shall represent the Collaborative Board in the sessions of the WMO and IOC governing bodies.

In principle, the Collaborative Board shall meet in person every year, in order to prepare recommendations for WMO and IOC governing bodies. Intersessional work should be carried out by correspondence or virtual means.

Members of the Collaborative Board will work collaboratively across and within their respective constituent bodies and activities on WMO and IOC observations, data, forecasting systems, services, and research activities, to achieve the objectives stated in the Collaborative Board's mandate.

The Collaborative Board may establish time-bound substructures for the discharge of specific tasks during an intersessional period. Such temporary substructures shall be discontinued at the end of every intersessional period, or may be re-established.

Chairs of other relevant WMO and IOC regional structures, working groups, panels and expert teams, as well as individual experts, may be invited by either co-chair in consultation with the other to attend meetings of the Collaborative Board as required by the agenda.

Representatives from other United Nations or international organizations may be invited as observers to the Collaborative Board as deemed appropriate by either co-chair in consultation with the other.

### Resolution XXX-3

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

The Intergovernmental Oceanographic Commission,

**Having examined** documents:

- (i) [IOC-XXX/2 Annex 2](#) – ‘Report on budget execution 2018 and outline of 2019 budget’,
- (ii) [IOC-XXX/2 Annex 9](#) – ‘Draft Programme and Budget for 2020–2021 (Draft 40 C/5)’,
- (iii) [IOC-XXX/2 Annex 10 Rev.](#) – ‘Draft Medium-Term Strategy for 2022–2029: Preliminary Proposals by the Secretariat’,
- (iv) [IOC-XXX/2 Annex 8](#) – ‘Recommendations on Governance, Working Methods and Procedures of the Commission – Report on progress by the Chair of the Intersessional Financial Advisory Group’,
- (v) [Resolution EC-LI.2](#) – ‘Financial Matters of the Commission’, and in particular Annex 1 ‘Implementation Plan of the Recommendations of the UNESCO Open-ended Working Group on Governance’ and Annex 2 ‘Financial Regulations applicable to the Special Account for the Intergovernmental Oceanographic Commission (IOC) of UNESCO’,

#### **I**

#### **Report on budget execution 2018 and outline of the 2019 budget**

**Confirms** that the IOC budget for 2018, as reported on in Part I of IOC-XXX/2 Annex 2, has been executed in accordance with the approved Programme and Budget for 2018–2019 (39 C/5, US\$518 M Expenditure Plan) and the budgetary allocations approved by the IOC Assembly at its 29<sup>th</sup> session (IOC-XXIX/2 Annex 5 Rev.2) through Resolution XXIX.2;

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

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

**Encourages** 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 increase efforts to obtain further voluntary contributions, including from private sector donors and other partners;

**Recommends** that a process is conducted by Intersessional Financial Advisory Group (IFAG) whereby the activities of the IOC are considered in accordance with the principles adopted in Resolution XXVII-2 Annex 2, with a view to evaluate the impact of constrained regular budget and unstable voluntary contributions on IOC’s intergovernmental mandate, commitments, programmes, governance and operating costs;

**Further recommends** that the IFAG prepare a draft report on the process elaborated in the paragraph above for consideration by the IOC Executive Council at its 53<sup>rd</sup> session;

## II Draft Programme and Budget for 2020–2021 (Draft 40 C/5)

**Welcomes** the continuity in programmatic choices proposed by the IOC Executive Secretary in the four budgetary scenarios presented to the Assembly in document IOC-XXX/2 Annex 9, following the new integrated budgetary framework approach;

**Endorses** the approach to the preparation of the Draft Programme and Budget for 2020–2021 (second biennium of the 2018–2021 quadrennium) proposed in document IOC-XXX/2 Annex 9 as consistent with the quadrennial programme defined in Resolution XXIX-2;

**Recalls** that the IOC Assembly in its Resolution XXIX-2 considered that *'the budgetary allocation proposed for the IOC in the Draft 39 C/5 US\$518 M Expenditure Plan in the amount of US\$10,681,300 is the critical minimum required to allow the functioning of the Commission'*;

**Expresses concern** that the budgetary allocation proposed for the IOC in the Draft 40 C/5 in the lower scenarios based on US\$518 M and US\$523.6 M assessed contributions by UNESCO Member States (regular programme budget) in the amount of US\$10,776,100 is not consistent with the increasing responsibilities of the Commission, in particular with regard to the implementation of the Sustainable Development Goals (SDGs) of the 2030 Agenda and the United Nations Decade of Ocean Science for Sustainable Development (2021–2030), thereafter the Decade;

**Notes** that the need to provide at least basic support to all programmatic sections by creating one additional general service staff position, in the case of the lower scenarios referred to above, will require an 11% cut to IOC programmatic activities;

**Further notes** that the scenario based on US\$534.6 M assessed contributions by UNESCO Member States (US\$11,075,500 for the IOC) allows for some seed funding for the Decade coordination and fund-raising activities, while maintaining the rest of the programme at the same level as in 2018-2019;

**Highlights** the importance of ensuring that the Commission has the necessary resources, both in terms of regular programme budget and voluntary contributions, to fulfill its role in the implementation of the Decade;

**Invites** the Director-General of UNESCO to:

- (i) continue every effort to enhance the resources available to the IOC in the 40 C/5 despite the budgetary challenges faced by the Organization, to enable the Commission to fulfill its increasing mandate and to address current and emerging priorities, including those related to the implementation of the SDGs and the Decade;
- (ii) ensure that the budgetary appropriation for the IOC approved in the 40 C/5 shall not be decreased by transfers of funds to other parts of UNESCO's budget;

**Urges** IOC Member States to:

- (i) continue to advocate to the Director-General of UNESCO and the Governing Bodies of UNESCO on the importance of the IOC as a body with functional autonomy within UNESCO, focusing in particular on the value that the IOC provides to the Organization and to sustainable development;
- (ii) support the reinforcement of the IOC in the consultation process for the UNESCO Draft Medium-Term Strategy for 2022–2029 and the Draft Programme and Budget for 2022–2025 (Draft 41 C/5);

- (iii) increase their voluntary contributions to support the Commission in the face of the current difficulties, preferably to the IOC Special Account;

**Approves** the budgetary appropriations for 2018–2019 under the IOC Special Account as proposed in IOC-XXX/2 Annex 9 Appendix, in accordance with the Financial Regulations applicable to the Intergovernmental Oceanographic Commission;

**Authorizes** the IOC Executive Secretary to transfer funds between appropriation lines of the IOC Special Account up to the maximum of 15% of each line, when necessary, and to report on all such transfers to the IOC Governing Bodies, in accordance with the Financial Regulations;

**Requests** the IOC Executive Secretary to:

- (i) provide Member States with an estimate of the necessary budget to effectively operate the IOC at an optimum level, to help identify how and what additional resources might be secured;
- (ii) keep the IOC Officers and Member States updated on the 40 C/5 adoption process, as well as on the preparatory processes related to the UNESCO Draft Medium-Term Strategy for 2022–2029 and Draft Programme and Budget for 2022–2025 (Draft 41 C/5);
- (iii) support the work of the IFAG by providing timely information on the UNESCO programming and budgetary planning process;

**Further requests** the IOC Executive Council, at its 53<sup>rd</sup> session, to start the analysis of the financial implications of the implementation of the Decade, with a view to prepare the Draft Programme and Budget for 2022–2025 (Draft 41 C/5) and in light of the process to be conducted by IFAG in considering the IOC activities in accordance with the principles adopted in Annex 2 of Resolution XXVII-2.

### III Draft Medium-Term Strategy for 2022–2029: Preliminary Proposals by the Secretariat

**Welcomes** the preliminary proposals by the Secretariat for the Commission's Draft Medium-Term Strategy (MTS) for 2022–2029 as contained in document IOC-XXX/2 Annex 10 Rev.;

**Expresses its appreciation** to:

- (i) the IOC Officers for their guidance to the Secretariat at the annual Officers' meeting, 15–17 January 2019;
- (ii) Member States that participated in the work of the IFAG on this matter;

**Recalls** that the Draft Medium-Term Strategy (MTS) for 2022–2029 will be further reviewed by the IOC Executive Council at its 53<sup>rd</sup> session in 2020 and the final version will be endorsed by the IOC Assembly at its 31<sup>st</sup> session in 2021;

**Takes note** of the revised Draft MTS for 2022–2029 as presented in Annex 1 to this Resolution;

**Recommends** that the following modifications be considered in developing a revised version of the Draft Medium-Term Strategy for 2022–2029 for review by the IFAG in the intersessional period leading to the 53<sup>rd</sup> session of the IOC Executive Council:

- (i) revise the 'Vision' statement by simplifying the language and add the Decade societal outcomes 'clean ocean... etc.', including visuals;
- (ii) include social and human sciences;

- (iii) provide a visual presentation to clarify the nature/hierarchy of entities/ programmes/ activities mentioned in paragraph 15 of Annex 1 and how they contribute to functions and High Level Objectives;
- (iv) enhance consistency by applying the format and style of paragraph 18 of Annex 1 to paragraphs 16–20 describing functions' contributions to objectives;
- (v) open the section 'IOC within the UN system' with a paragraph reflecting that the IOC is a body with functional autonomy within UNESCO and enjoys a recognized role in the UN system, in accordance with the IOC Statutes;
- (vi) develop paragraph 28 of Annex 1 to describe the IOC's interaction with UNESCO programmes in order to maximize the comparative advantage of UNESCO's comprehensive interdisciplinary approach to key societal issues;
- (vii) harmonize the length and style of paragraphs 36-39 describing the IOC Regional Subsidiary Bodies;
- (viii) with regard to the section 'Working closer to the field', continue reflecting on ways to enhance communication and engagement with Member States and their initiatives in regions not covered by existing Regional Subsidiary Bodies;
- (ix) further develop the section 'Communication & visibility', including the communication strategy and channels that will map the implementation of the objectives of the MTS to the various target audiences and consider a visual presentation illustrating the above;

**Requests** the IOC Executive Secretary to prepare a revised version of the Draft MTS for 2022–2029 taking into account Member States' views and concerns expressed at this session of the Assembly, for review by IFAG in the intersessional period and the Officers at their annual meeting in early 2020, prior to submitting it for consideration by the IOC Executive Council at its 53<sup>rd</sup> session;

#### IV Follow-up to Resolution EC-LI.2

##### IV.A Implementation Plan of the Recommendations of the UNESCO Open-ended Working Group on Governance

**Notes with satisfaction** the Implementation Plan of the Recommendations of the UNESCO Open-ended Working Group on Governance adopted by the IOC Executive Council at its 51<sup>st</sup> session through Resolution EC-LI.2;

**Welcomes** the follow-up action by the Secretariat and the Intersessional Financial Advisory Group (IFAG) in the intersessional period;

**Expresses its appreciation to:**

- (i) Member States that participated in the work of the IFAG on this matter;
- (ii) IOC Vice-Chair Ariel H. Troisi for his leadership and contribution, which resulted in a high quality document allowing a constructive way forward;
- (iii) IOC Chair Peter M. Haugan for his participation on behalf of the Commission in the UNESCO governance review process;
- (iv) IFAG Technical Secretary, Xenia Yvinec, for the technical support to the work of the Group;

**Adopts** the new referencing of the IOC governing bodies' documentation as presented in [Annex 2](#) to this Resolution;

**Endorses** the Guidelines on the Responsibilities of the Officers of the Commission as presented in [Annex 3](#) to this Resolution;



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

**Requests** the IOC Executive Secretary to report on new developments in this regard, if any, to the IOC Executive Council, at its 53<sup>rd</sup> session in 2020;

#### IV.B

##### **Revised Financial Regulations applicable to the Special Account for the Intergovernmental Oceanographic Commission (IOC) of UNESCO**

**Expresses its appreciation** to the IOC Executive Secretary for the preparation of the Revised Financial Regulations applicable to the Special Account for the IOC, 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 200<sup>th</sup> session in document [200 EX/19](#) and consistent with [201 EX/Decision 24.I](#);

**Notes with satisfaction** that the IOC Executive Council at its 51<sup>st</sup> session considered 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;

**Accepts** the recommendation of the IOC Executive Council to adopt the Revised Financial Regulations applicable to the Special Account for the IOC as presented in Annex 2 to Resolution EC-LI.2, to be endorsed by the UNESCO Executive Board at its 207<sup>th</sup> session in the third quarter of 2019.

#### Annex 1 to Resolution XXX-3

##### **DRAFT IOC MEDIUM-TERM STRATEGY 2022–2029**



## CONTENTS

### PREFACE

1. OUR HIGH LEVEL OBJECTIVES & PRIORITIES
2. IMPLEMENTING THE STRATEGY
3. ENGAGEMENT WITH KEY PARTNERS & STAKEHOLDERS
4. WORKING CLOSER TO THE FIELD
5. COMMUNICATION AND VISIBILITY

## OUR MISSION

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 processes of its Member States<sup>4</sup>

## OUR VISION

Strong scientific understanding and systematic observations of the changing world Ocean climate and ecosystems shall underpin sustainable development and global governance for a healthy ocean, and global, regional and national management of risks and opportunities from the Ocean.

## PREFACE

Ocean, the largest ecosystem on our planet, provides to our civilization a range of existentially important services. To keep benefitting from them, an equilibrium must be reached between the continuously increasing use of ocean space and resources and restoring and maintaining ocean's health, which is currently in fast decline. Actions required to achieve such a balance are all science-intensive. The pivotal role of the Intergovernmental Oceanographic Commission of UNESCO is therefore to bring together the scientific communities, the governmental decision-making system, and a broader set of stakeholders within our Member States, including the private sector and the

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<sup>4</sup> IOC Statutes, Article 2.1

civil society as a whole, in creating an efficient science-based integrated ocean management. Never in the history of our civilization has such cooperation been in a higher demand.

Facilitating international cooperation in ocean research and targeting it on solutions for sustainable development are the key determinants of the IOC strategy. The years 2014–2021 were marked by significant developments in the global environmental and ocean management, including the adoption by the United Nations General Assembly of the 2030 Agenda and its Sustainable Development Goals (SDGs), and in particular of the stand-alone Goal 14 to *Conserve and sustainably use the oceans, seas and marine resources for sustainable development*; the recognition of the role of the ocean in the UNFCCC Paris Agreement; the endorsement of the Sendai Framework for Disaster Risk Reduction and the Samoa Pathway. IOC's strong contribution to all these frameworks and the planning of the UN Decade of Ocean Science for Sustainable Development (2021–2030) have shown that the IOC can play a key role in ocean-related approaches to global challenges of our time.

IOC is entering the period of this Medium-Term Strategy, 2022–2029 with a clear understanding of its enhanced responsibility. The development of a sustainable ocean economy responding to the 2030 Agenda and the emergence of an international legally binding instrument on conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ) under the UN Convention of the Law of the Sea may invoke stronger responsibility of the ocean science and the IOC towards the global community.

The ability of IOC to deliver on its mandate and respond both to the ambitions placed on the Decade and its Member States aspirations and needs will require, in turn, stronger support from governments, increased decision-making power of IOC governing bodies, and adequate and reliable investment in the whole value chain of modern oceanography.

Peter M. Haugan  
Chairperson

Vladimir Ryabinin  
Executive Secretary

## OUR HIGH LEVEL OBJECTIVES AND PRIORITIES

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1. Through international cooperation, IOC aspires to help its Member States build and apply scientific knowledge to collectively achieve the following high-level objectives (HLOs), with particular attention to ensuring that all Member States have the capacity to meet them:
  1. Healthy ocean ecosystems and sustained ecosystem services
  2. Effective early warning systems and preparedness for tsunamis and other ocean-related hazards
  3. Increased resilience and adaptation to climate change and variability
  4. Scientifically-founded services for the development of the sustainable ocean economy
  5. Enhanced knowledge of emerging ocean science issues
2. Objective 1: Identifying robust indicators of ocean status and in support of locating their tipping points relative to marine ecosystem functioning is important for the prediction or early detection of changes in ecosystem states and in the evaluation of ecosystem resilience. Such knowledge and analytical

tools will be very valuable in ocean management in general and in transforming management of individual sectors into an ecosystem-based approach and underpinning the sustainable development of Blue Economy. The local and regional capacities, in terms of knowledge and tools, are also central for understanding how much an ecosystem can be stressed before it moves to other states from which recovery may be difficult. Current research on these topics is still piecemeal and needs coordination.

3. Objective 2: The ultimate objective of this HLO is to reduce risk, by encouraging communities to implement effective mitigating measures and become aware of the hazards they face. As coastal development continues at a rapid pace, society is becoming increasingly vulnerable to coastal flooding and other extreme sea-level events such as tsunamis. Ensuring that nations have access to the necessary information for coastal adaptation planning is dependent on continued progress in the implementation of tsunami and ocean observing systems, improvements of models of the climate systems and the development of local decision-support tools.
4. Objective 3: Climate variability and change impact many elements on which human well-being depends, modifying patterns of rainfall and drought, sea-level and coastal erosion, and through temperature changes and ocean acidification, adding stress to ecosystems and impacting on the goods and services they provide. Thus, human development goals including food security, access to water resources, and preparedness and resilience to disasters are threatened. Ocean plays a key role in climate. IOC will therefore assist its Member States in developing capacities for climate change impact mitigation and adaptation that are based on specialized scientific knowledge.
5. Objective 4: Ocean observations, data and information management, forecasting, and knowledge-based management approaches, such as marine spatial planning and coastal zone management, provide effective services to positively impact the sustainable ocean economy. IOC will facilitate the development of applications of ocean science that would maximize their societal benefit and stimulate the growth of sustainable marine industries.
6. Objective 5: A broad range of emerging environmental issues—such as new contaminants, ocean acidification, altered patterns of the ocean carbon cycle, de-oxygenation, the impacts of climate change on new ecological conditions, synergies among multiple stressors and their impacts on ocean health—jeopardize the conservation and sustainable use of marine spaces, the resources therein, as well as the marine ecosystems and the societal benefits they provide. Our understanding of the opportunities and changes that are occurring within the ocean, including the deep sea is still forming. Further scientific research, technical analyses and syntheses of scientific data are required to generate the information needed to effectively address these emerging issues, inform policy-making in the context of relevant regional and global conventions, and advance solutions involving multiple stakeholders at multiple levels in a timely and transparent manner.
7. **Global Priority Africa**: Africa is an overarching priority for UNESCO and IOC will ensure that it is mainstreamed in all its programmes and that it is reflected in its performance indicators. IOC will provide the science base necessary for the development of the Blue Economy in Africa as outlined in the African Union's Agenda 2063 (*The Africa we want: A shared Strategic framework for inclusive Growth and Sustainable Development*) and the *2050 Africa's Integrated Maritime Strategy (2050 AIM Strategy)*. The 2050 AIM Strategy specifically recognizes the role of IOC/UNESCO in the promotion of scientific research and capacity development as well as transfer of technology in marine sciences.
8. **Global Priority Gender Equality**: The IOC contribution to Global Priority Gender Equality will focus on ensuring that international science cooperation for peace and sustainability allows for representation and voice for women and men, and that conditions for both women and men to be agents of mitigation, adaptation, resilience and sustainability are provided. IOC is committed to promoting the equal presence of men and women in the marine sciences community, as well as to encouraging activities to include women in marine sciences, starting from early career to increase presence in senior leadership roles, through effective measures and policies and promoting role

models for young women. The IOC's *Global Ocean Science Report* will continue to provide the latest disaggregated information on women in marine science to monitor progress and assist Member States in their efforts to achieve gender equality for women in ocean science, based on international assessment.

9. **Small Island Developing States (SIDS) Action Plan:** The SIDS Accelerated Modalities of Action (S.A.M.O.A) Pathway highlights the significant risks posed by sea-level rise and other adverse impacts of climate change. It also points to the fact that growth prospects of SIDS have been hindered by the impacts of natural disasters and the degradation of coastal and marine ecosystems. The Samoa Pathway calls for increased attention by the international community to extreme weather events, sea-level rise, coastal erosion and ocean acidification. It calls for heightened technological development and deployment, enhanced financing and capacity development in the context of climate change adaptation, calling for assistance to improve baseline monitoring of island systems. IOC's engagement in support of SIDS will continue to focus on the building of SIDS actions related to tsunami early warning systems, the development of marine scientific and technological capacity of SIDS, and enhanced cooperation to assess ocean acidification impacts.

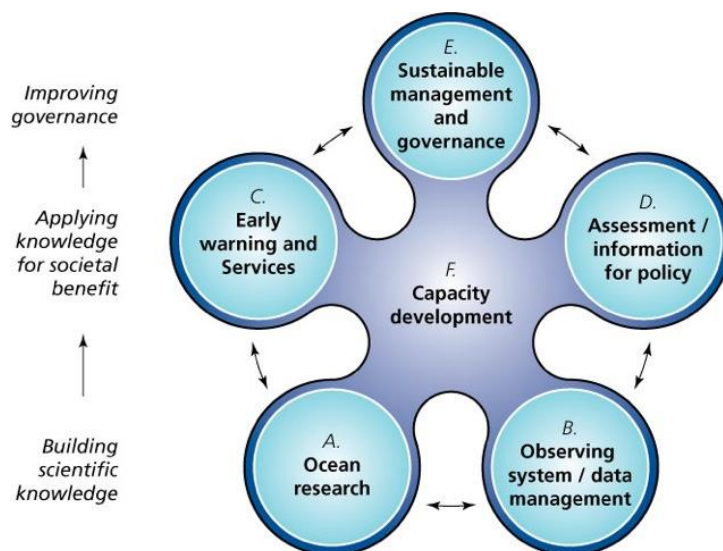
## **UNITED NATIONS DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT (2021–2030)**

10. The UN Decade of Ocean Science for Sustainable Development (the "Decade") will run from 2021 to 2030. This unique long-term and high-level campaign will be aimed at bringing the ocean science to the new level needed to inform decisions, stimulate and maintain efficient actions and policies for sustainable use and protection of the ocean.
11. Successful conduct of the Decade assumes its true ownership by many partners and stakeholders that will use its framework and related opportunities to deliver on their mandate in all aspects depending on ocean science. During the years 2022–2029, a major responsibility of IOC will be to support and facilitate the Decade implementation and to regularly report progress to the United Nations Secretary General, in addition to contributing its own activities under the Decade.
12. The Decade will offer an exceptional opportunity to highlight the societal benefits of all IOC programmes through a transformative approach to generating actionable scientific knowledge at the service of decision-makers. It will also stimulate implementation of collectively agreed priorities.

## **IMPLEMENTING THE STRATEGY**

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13. When working towards the high-level objectives, IOC will focus on the broad areas of:
  - strengthening scientific knowledge of the ocean and human impact on it,
  - applying that knowledge for societal benefit, and
  - building institutional capacities for sound management and governance



14. The strategy is organized in a conceptual framework of *functions* required to advance towards the IOC Vision:
- A. Foster research to strengthen knowledge of ocean and coastal processes and human impacts upon them [*Ocean research*]
  - B. Maintain, strengthen and integrate global ocean observing, data and information systems [*Observing system / data management*]
  - C. Develop early warning systems, services, and preparedness to mitigate the risks of tsunamis and ocean-related hazards [*Early warning and services*]
  - D. Support assessment and information to improve the science-policy interface [*Assessment and Information for policy*]
  - E. Enhance ocean governance through a shared knowledge base and improved regional cooperation [*Sustainable management and governance*]
  - F. Develop the institutional capacity in all of the functions above, as a cross-cutting function [*Capacity Development*]
15. These functions correspond broadly to and will be realized by existing and on-going IOC programmes, IOC regional subsidiary bodies and various mechanisms of cooperation, such as the Global Ocean Observing System (GOOS), the Joint WMO-IOC Collaborative Board and the International Oceanographic Data and Information Exchange (IODE), the Ocean Biogeographic Information System (OBIS), the Tsunami Intergovernmental Coordination Groups (ICGs), World Climate Research Programme (WCRP) and the Ocean Sciences programme, Integrated Coastal Area Management (ICAM), Harmful Algal Blooms (HAB), and Capacity Development (CD). Calling out these functions therefore simplifies Member State engagement in the programmes of the Commission, and makes the programme and budget exercise more transparent.
16. Functions contributing to Objective 1: In order to generate the knowledge relative to marine ecosystem functioning at the appropriate time scale and resolution, it is essential to build capacity and a globally managed and quality controlled knowledge base. The strategy will therefore include: development and coordination of essential research on ocean processes, marine biodiversity and ocean ecosystem health; reinforcing the development of biology and ecosystems sustained observing networks as a part of the voluntary collaboration under the Global Ocean Observing System (GOOS); a focus on strengthening the existing IODE global network of data (and information) centres including the Ocean Biogeographic Information System (OBIS), with an emphasis on

data/information product/service development contributing to continuous monitoring of the identified indicators; support to the United Nations World Ocean Assessment and other related processes; and development of capacity to ensure strong science-policy interfaces in ocean management.

17. Functions contributing to Objective 2: In terms of early warning systems and preparedness for tsunamis and ocean-related hazards, the strategy will focus on four areas: (i) support for the intergovernmental coordination of regionally harmonized tsunami warning systems; (ii) strengthening the work of regional Tsunami Information Centres that provide a clearinghouse for the development of educational and preparedness materials; (iii) targeted capacity development and technical assistance to enhance Member States own ability to develop preparedness and awareness in a multi-hazard framework; and (iv) support for enabling observations, modelling, research and policy development that lead to improved tsunami and ocean-related warning systems and preparedness.
18. Functions contributing to Objective 3: IOC will address the objective of increased resiliency to climate change and variability through scientifically founded services, adaptation and mitigation strategies with an end-to-end effort that:
  - begins with an ocean observing system sustainably monitoring the major global scales of climate (both physics and ocean carbon), and they key variables used in operational services, building readiness and capacity in providing local information required in adaptation at the coast and to address the impact of climate change and ocean acidification on marine and coastal ecosystems, and linked to a data management system built on global standards and best practices,
  - coordinates ocean climate research that improves the understanding of ocean processes and climate change, the predictability of climate variability and change; builds a knowledge base on linked ocean ecosystem changes and adaptation strategies;
  - partners with the World Meteorological Organization (WMO) in the development of next-generation services; informs IOC and other assessment processes; and
  - applies the scientific knowledge base to improve regional management and governance of climate adaptation and mitigation strategies, building capacity through demonstration projects and shared tools.
19. Functions contributing to Objective 4: Ocean knowledge and open access to ocean information and data have the power to generate profits and jobs in the marine economy sector and to maintain it on progressively sustainable path. By 2030, the ocean economy, buoyed by growth in tourism, mariculture and renewable energy, is predicted to significantly increase its share in many national economies, in both developed and developing countries. Engagement and strengthened partnerships along the whole value chain from ocean observations and research to the benefit creation by end-users will be pursued. Innovation and new technologies, delivery of predictions, services, and scientific assessments will support maritime economy and facilitate the identification of sustainability pathways. Defining optimal boundaries for economic operations, reducing conflicts between human uses of the ocean, sustaining ocean health and protecting the marine environment will be promoted through ecosystem-based approaches such as Marine Spatial Planning and Large Marine Ecosystems.
20. Functions contributing to Objective 5: In order to identify and monitor emerging issues, it will be essential to coordinate scientific research and call out these issues in a way that can be communicated to policy. Strengthened and expanded ocean observation and associated global data/information management systems will support the research in emerging issues. Resolving conflicts among the numerous existing and emerging uses of the maritime domain represents a challenge. To properly address these issues and to use the results of the research effectively requires improved international collaboration. It will also be essential for negotiation capacities to be

built in Member States so that they are able to bring emerging national and regional issues for consideration in UN and other intergovernmental fora.

### **Capacity Development Strategy**

21. The United Nations Convention on the Law of the Sea (UNCLOS) recognizes IOC as the competent international organization in the fields of Marine Scientific Research (Part XIII) and Transfer of Marine Technology (Part XIV).
22. The IOC efforts in capacity development will be built starting from the level reached in the implementation of the IOC Capacity Development Strategy 2015–2021 and guided by the international assessments and reports, i.e. IPCC, WOA-2, etc. These efforts will strongly capitalize on the achievements to be obtained in the course of implementation of the Decade. The second edition of the IOC Global Ocean Science Report will provide a key benchmark for the IOC's work and further editions will allow monitoring progress.
23. The role of IOC will be to ensure the research focuses on issues of crucial importance for sustainable development and to increase (*access to/impact of*) cutting-edge research through cooperation. In parallel, IOC will continue to enhance the capacity of *all* IOC Member States to conduct scientific research and benefit from its results. This pillar of the IOC CD work will include operationalization of the *IOC Criteria and Guidelines on Transfer of Marine Technology* (TMT) and the TMT Clearing House Mechanism. The work of the IOC Expert Group on Capacity Development will continue and intensify. IOC will contribute substantially to the development of Member States' capacities in relation to the new international legally binding instrument on BBNJ, simultaneously delivering towards achieving Target 14.a of the 2030 Agenda.
24. Developing and sustaining innovative approaches to ocean governance will require improvements in global ocean literacy. Ocean literacy empowers communities and networks of business, universities, research centres, and civic groups to share the responsibility for addressing urgent threats. IOC's Ocean literacy facilitates stewardship within a larger ocean sustainability framework, by promoting the understanding of ocean knowledge and fostering best practices in sustainable use of marine resources and ecosystem management.

## **ENGAGEMENT WITH KEY PARTNERS & STAKEHOLDERS**

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25. In accordance with its Statutes, the 'Commission will collaborate with international organizations concerned with the work of the Commission, and especially with those organizations of the United Nations system which are willing and prepared to contribute to the purpose and functions of the Commission and/or to seek advice and cooperation in the field of ocean and coastal area scientific research, related services and capacity-building'.<sup>5</sup>

### **IOC WITHIN THE UN SYSTEM**

26. IOC enjoys collaboration with many UN agencies and has on-going collaboration at the programmatic level and/or via co-sponsorship of joint programmes. Examples include IAEA, IMO, ISA, ITU, UNCLOS, UNDP, UNESCAP, UNEP, and WMO. Global and regional intergovernmental agreements and conventions require contributions from international bodies such as IOC or call for national cooperation and reporting among and via IOC Member States.
27. IOC contributes to a number of established and recent UN global agreements including the UN 2030 Agenda and its Sustainable Development Goals (SDGs), and in particular of the Goal 14; the

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<sup>5</sup> Article 2.2 of the IOC Statutes



recognition of the role of the ocean in the UNFCCC Paris Climate Agreement; the endorsement of the Sendai Framework for Disaster Risk Reduction and the Samoa Pathway.

28. UN Oceans is the interagency collaboration mechanism on ocean and coastal issues within the UN system. Through UNOceans, the Commission will work in cooperation with other UN agencies in the development of “SDG enabling activities”. In the context of the UN Decade of Ocean Science for Sustainable Development, IOC will foster the development of joint activities in support of the 2030 Agenda, SIDS Action Plan, Sendai Framework, UNFCCC COP processes, and other relevant mechanisms. The IOC will continue to cooperate with UNESCO programmes to maximize the comparative advantage of UNESCO’s comprehensive interdisciplinary approach to key societal issues.
29. New forms of cooperation and, potentially, stronger formal links of IOC with UN partners will be explored based on the understanding that ocean science represents a crosscutting underpinning force for fulfilling mandates of such UN agencies. Such cooperative agreements will be especially promising for successful implementation of the Decade. The enhanced role of ocean science in assisting Member States in achieving the goals of sustainable development, implementing international agreements and addressing national priorities, may warrant a reinforced coordination between UN agencies and a review of the IOC role and position in the UN System.<sup>6</sup>

## **EXPANDING PARTNERSHIPS & RESOURCE MOBILIZATION**

30. In addition to the collaboration within the UN system, IOC also enjoys strong collaboration with a large number of non-UN global and regional organizations such as IHO, ICES, PICES, ISC, and IUCN.
31. The UN Decade of Ocean Science for Sustainable Development presents an unprecedented opportunity for expanding IOC’s partnership base and boosting fund-raising.
32. At the same time, it is essential that there is sufficient sustainable resources for the core IOC programmes and regional subsidiary bodies that form the solid base of the Commission’s comparative advantage.
33. The relevance and effectiveness of the IOC’s programmes is strongly related to the level of extrabudgetary funding, especially in periods of financial constraints. Existing resource mobilization approaches for Members States, institutional and private sector partners, tightly linked to the priorities approved by IOC governing bodies and its capacities to deliver, will be intensified, as will be public-private partnerships and efforts in providing information, outreach and increasing visibility of IOC.

## **WORKING CLOSER TO THE FIELD**

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34. The United Nations is reforming to provide a better response to the needs of its Member States, with a strong emphasis on its regional dimension. Ocean is of high environmental, social and economic importance to the livelihoods of people and prosperities of countries. By recognizing Member States’ national development goals and internationally agreed development priorities, IOC intends to improve the delivery of its mandates, mainly through its regional subsidiary bodies and complementary to that, where no such bodies exist, by linking with the relevant activities of – groups of – its Member States on the ground..

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<sup>6</sup> Article 11.3 of the IOC Statutes.

35. The IOC regional subsidiary bodies (WESTPAC, IOCARIBE, IOCAFRICA, and IOCINDIO) have a dual role to fulfil. They are instrumental in carrying out IOC global programmes and priorities in the regions, whilst they develop, execute and coordinate projects and activities, and foster regional partnerships, in response to the needs identified by their respective Member States. Given the needs for capacity development varying from one region to another, regional subsidiary bodies take an adaptive approach to capacity development for their respective regions while taking into account all activities and actions contained in IOC's strategy. These regional mechanisms are of paramount importance for the IOC value delivery chain, ensuring solid ownership of programmes by Member States.
36. WESTPAC, the IOC Sub-Commission for the Western Pacific, intends to introduce Big Data approaches in marine science, advance monitoring, modelling and predictive capabilities, enhance scientific inputs for informed decisions, and develop a knowledge-action network in order to advance the global understanding of the ocean processes and climate, balance economic and ecological benefits, and safeguard ocean ecosystem and human health in the Western Pacific and its adjacent waters.
37. IOCAFRICA, the IOC Sub-Commission for Africa and the Adjacent Island States, will focus on ocean observations and monitoring, ocean sciences and assessments, data and information management and capacity development for marine science and technology. In particular, IOCAFRICA will address ocean modelling and forecasting, disaster preparedness and mitigation, impacts of climate change and variability on the coastal zones including coastal erosion, establish marine spatial planning, ocean literacy and the translation of ocean science to policy in order to provide governments and societies with the information required for sustainable development of the oceans and coastal areas.
38. IOCARIBE, the IOC Sub-Commission for the Caribbean and Adjacent Regions, will focus on assisting Member States in achieving sustainable use of the ocean and coastal resources, foster the generation of knowledge, sharing of information, expertise and experiences to facilitate the scientific community in reducing scientific uncertainties, including those due to climate change, effectively encourage the adoption of pertinent measures for reducing human and material losses associated with the increased frequency of extreme ocean and meteorological hazards. The Sub-commission will also assist Member States to develop their capacity to formulate national and regional policies and plans to meet their needs in ocean science and technology, and reinforce and broaden scientific cooperation, regionally and internationally through networking and institutional arrangements with organizations of the UN system, IGOs, NGOs and the scientific community. IOCARIBE recognises the importance of communication with stakeholders and particularly young scientists and decision-makers and intends to include in its capacity development plan ocean sciences communication and media training.
39. IOCINDIO, the IOC Regional Committee for the Central Indian Ocean, will consolidate its reactivation in order to assist its Member States to reinforce their national and regional networks of Ocean observations and monitoring, modelling and forecasting capabilities. The Committee will foster active networking of marine academic and research institutes of its Member States, notably the UNESCO Category II Centres in oceanography, the Indian Ocean Tsunami Information Centre, which will help to establish national regional mapping of critical ecological systems and coastal vulnerability due to sea-level rise, storm surges and climate change. IOCINDIO will reinforce cooperation with regional institutions in Indian Ocean such as the Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA), the Regional Organization for the Protection of the Marine Environment (ROPME) and relevant NGOs.
40. Complementing the work of regional subsidiary bodies, IOC will enhance its communications with Member States and their initiatives in regions without such bodies. IOC also aims to build visibly on these activities of its Member States, acknowledging their significant capacities, often already deployed in many of the global IOC programmes. IOC will liaise with relevant national, regional and large-scale international initiatives of those Member States with a view to take them into account in the execution of its various functions.

## COMMUNICATION AND VISIBILITY

41. The ocean and its resources are increasingly recognized as being indispensable for addressing the multiple challenges that the planet faces in the decades to come. The IOC play a fundamental and upstream role in the information delivery process on oceans and their value to society.
42. In order to better explain this to stakeholders and partners, IOC will implement an efficient and tailored communication strategy enabling it to fully demonstrate the impact of its work. Taking into account that the ocean and marine affairs drive many socio-economic activities, IOC will also engage with Member States and international economic institutions to seek their support in highlighting to the relevant stakeholders the importance of the ocean activities for national economy and growth.

### Annex 2 to Resolution XXX-3

#### REFERENCING OF THE IOC GOVERNING BODY DOCUMENTATION: EXECUTIVE COUNCIL AND ASSEMBLY

As a follow-up exercise to [Resolution EC-LI.2\(III\)](#) (2018) and the recommendations to improve governance, working methods and procedures of the Commission, the new documentation referencing is adopted as follows, with a view of making governing body documentation more user-friendly, including the facilitation of downloading documents by agenda item and in a sequential manner (Recommendation no. 8 in Annex 1 to EC-LI.2).

CURRENT REFERENCE CODE	NEW DOCUMENTATION CODING	DOCUMENT TITLE
	<p><i>Proposed documentation coding:</i></p> <p><i>IOC/GOV acronym-session number in Arabic numeral/agenda item n° + type of document</i></p> <p>Three documents have a coding with no reference to the agenda:</p> <p>Action Paper: <b>AP</b></p> <p>List of documents: <b>Doclist</b></p> <p>Summary report: <b>SR</b></p>	
Documentation for an IOC Executive Council session: <b>EC</b>		
IOC/EC-LI/1 Prov. Rev.	IOC/EC-51/2.1.Doc Rev.	Revised Provisional Agenda
IOC/EC-LI/1 Add. Prov. Rev.	IOC/EC-51/2.1.Doc Add. Rev.	Revised Provisional Timetable
IOC/EC-LI/2 prov.	IOC/EC-51/AP	Provisional Action Paper
IOC/EC-LI/4 Prov	IOC/EC-51/Doclist	Provisional List of Documents
IOC/EC-LI/Inf.1	IOC/EC-51/2.4.Inf	Working arrangements for the session
IOC/EC-LI/Inf.1 Add.	IOC/EC-51/ 2.4.Inf. Add.	Template for submission of written records to the Executive Council summary report
IOC/EC-LI/2 Annex 1	IOC/EC-51/3.1.Doc(1) <sup>7</sup>	Report of the IOC Executive Secretary on the work accomplished since the

<sup>7</sup> Numbers in brackets to be used where there is more than one document of the same type under the same agenda item

CURRENT REFERENCE CODE	NEW DOCUMENTATION CODING	DOCUMENT TITLE
		twenty-ninth session of the Assembly (July 2017-June 2018)
IOC/EC-LI/2 Annex 1 Add.	IOC/EC-51/3.1.Doc(1) Add.	Update on IOC Communication activities (follow-up to the IOC Communications Advisory Report)
IOC/EC-LI/2 Annex 2	IOC/EC-51/3.1.Doc(2)	Report on Budget Execution 2016–2017 and outline of 2018–2019 budget
IOC/EC-LI/2 Annex 2 Add.	IOC/EC-51/3.1.Doc(2) Add.	Extrabudgetary resource mobilisation targets: proposals for 2018–2019
IOC/EC-LI/2 Annex 3	IOC/EC-51/4.1.Doc(1)	Abridged version of the Roadmap for the UN Decade of Ocean Science for Sustainable Development
IOC/EC-LI/2 Annex 4	IOC/EC-51/4.1.Doc(2)	Terms of Reference of the Decade Planning Group (Planning Phase: 2018–2020)
IOC/EC-LI/2 Annex 5	IOC/EC-51/4.2.Doc	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
IOC/EC-LI/2 Annex 6	IOC/EC-51/4.4.Doc	Update on IOC custodianship role in relation to SDG 14 indicators
IOC/EC-LI/2 Annex 7	IOC/EC-51/4.5.Doc	First Report of the IOC Regular Working Group on User Requirements and Contributions to GEBCO Products
IOC/EC-LI/2 Annex 8	IOC/EC-51/4.7.Doc	Global Ocean Observing System 2030 Strategy
IOC/EC-LI/2 Annex 9	IOC/EC-51/4.8.Doc	Evolving capabilities of the Argo profiling float network
IOC/EC-LI/2 Annex 10	IOC/EC-51/4.9.Doc	The IOC contribution to Ocean Literacy activities: perspectives and development in view of the UN Decade of Ocean Science for Sustainable Development
IOC/EC-LI/2 Annex 11	IOC/EC-51/5.1.Doc	Concept for a Joint WMO-IOC Committee for Oceanography and Meteorology (JCOM)
IOC/EC-LI/2 Annex 12	IOC/EC-51/6.Doc(1)	Updated Introduction to the IOC Medium-Term Strategy, 2014–2021
IOC/EC-LI/2 Annex 13	IOC/EC-51/6.Doc(2)	IOC Governance: Draft Implementation Plan of the Recommendations of the UNESCO Open-ended Working Group on Governance
IOC/EC-LI/2 Annex 14	IOC/EC-51/6.Doc(3)	Revised Financial Regulations for the IOC Special Account
IOC/EC-LI/3 (Pt.1) Prov	IOC/EC-51/SR(1) Prov.	Part 1 of the provisional Summary report
IOC/EC-LI/3	IOC/EC-51/SR	Final Summary report

CURRENT REFERENCE CODE	NEW DOCUMENTATION CODING	DOCUMENT TITLE
<b>Documentation for an IOC Assembly document: A</b>		
IOC-XXIX/1 Prov. Rev.	IOC/A-29/2.1.Doc Rev.	Revised Provisional Agenda
<b>Decisions</b>		
<u>EC Decision</u> IOC/EC-LI/Dec.3.3.3(I) IOC Decision EC-LI.3.3.3(I)	IOC Decision EC-51/3.3.3(I)	
<u>Assembly Decision</u> IOC-XXIX/Dec.3.3.3(I) IOC Decision IOC-XXIX/3.3.3(I)	IOC Decision A-29/3.3.3(I)	
<b>Resolutions</b>		
<u>EC Resolution</u> EC-LI.4	IOC Resolution EC-51/4	<i>Resolutions are numbered after their adoption. This digit should not be confused with the agenda item n°.</i>
<u>Assembly Resolution</u> XXIX-4 IOC Resolution XXIX-4	IOC Resolution A-29/4	

Annex 3 to Resolution XXX-3

**GUIDELINES**

**Responsibilities of the Officers of the Intergovernmental Oceanographic Commission**

**Background**

*'The Intergovernmental Oceanographic Commission, hereafter called the Commission is established as a body with functional autonomy within the United Nations Educational, Scientific and cultural Organization (UNESCO).*

*The Commission defines and implements its programme according to its stated purposes and functions and within the framework of the budget adopted by its Assembly and the General Conference of UNESCO<sup>8</sup>.*

*'During the course of each ordinary session, the Assembly shall elect a chairperson and, taking into account the principles of geographic distribution, shall elect five Vice-chairpersons who shall be the Officers of the Commission, its Assembly and its Executive Council...<sup>9</sup>*

*In accordance with the IOC Rules of Procedure<sup>10</sup>, the Chairperson shall be elected from individuals nominated for their personal qualifications and shall not act as a representative of his/her state. The five Vice-Chairpersons shall be nationals of Member States of different electoral groups (listed in [Appendix II to the IOC Rules of Procedure](#)).*

The Chairperson and each Vice-Chairperson shall be eligible for re-election, but only once for successive terms.

<sup>8</sup> Statutes (of the Intergovernmental Oceanographic Commission, IOC), Article 1 ([IOC/INF/1148](#))

<sup>9</sup> Statutes (of the Intergovernmental Oceanographic Commission, IOC), Article 6.B.5

<sup>10</sup> Rules of Procedure of the IOC, Article V, Rule 13 ([IOC/INF/1166](#))

Election to serve as an Officer of the Commission should be seen as an honour and therefore carries with it important duties and a high level of commitment.

Given the highly specialized mandate of the Commission and consistent with the provisions of the IOC Statutes for selecting representatives to the Executive Council<sup>11</sup>, in electing the Officers, *Member States [...] shall endeavour to appoint persons experienced in matters related to the Commission.*

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**

Officers should act in good faith and actively engage with Member States of the Commission.

They should promote UNESCO's values and ideals, and work in a spirit of dialogue, cooperation, inclusiveness and trust-building, in accordance with the purpose of the Commission.

They should abide by highest standards of equity, fairness, integrity, transparency and accountability.

### **All Officers:**

In accordance with the established practice, new Officers should take part in a formal induction process;

The Officers should meet immediately prior to every session of the IOC governing bodies (Assembly and Executive Council).

For the sake of preserving the institutional memory and facilitating induction of newly elected Officers, the former Chairperson participates in the Officers' meeting as an '*ex-officio*' member.

The Officers should meet at least once during every intersessional period, usually in January, to guide the Secretariat in the preparation of the agenda of the next governing body session.

The IOC governing bodies (Assembly and Executive Council) may delegate certain tasks that need to be pursued during the intersessional period to the Officers.

### **Vice-Chairpersons:**

Vice-Chairpersons should be mindful that they represent their respective electoral groups.

They should communicate with the members of their respective electoral groups in a timely, transparent and effective manner, through correspondence by electronic means or by organizing coordination meetings, to promote efficient information-sharing and dissemination and efficient decision-making by the governing bodies.

They are called upon to consult with their respective electoral group members on the items on the agenda of the Officers' meetings, soon after they are announced, and to share Member States view with the Officers.

They should inform promptly their electoral groups about the outcomes of relevant meetings and any emerging issues, as appropriate.

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<sup>11</sup> Statutes (of the Intergovernmental Oceanographic Commission, IOC), Article 7.A.3

## DECISIONS

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### Decision IOC-XXX/2

#### **Organization of the Session**

The Assembly,

#### **I. Agenda**

Adopts the agenda and the timetable of work as set out in document IOC-XXX/1 Prov. Rev. and Add. Rev.2;

#### **II. Rapporteur**

On a proposal of Philippines, seconded by China, Indonesia, Japan, Kenya and Republic of Korea,

Designates Ms Suree Satapoomin of Thailand Rapporteur for its present session to assist the Chairperson and the Executive Secretary in the preparation of the draft provisional report of the session;

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

Considering the recommendations of the Executive Council at its 52<sup>nd</sup> session acting as the Steering Committee for its session (EC-LII/Dec.3.1),

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

Financial Committee: to examine the financial implications of draft decisions/resolutions, workplans of subsidiary bodies and prepare a resolution under items 3.2, 3.3 and 12.1-4; under the chairship of Ariel H. Troisi (Argentina, Vice-chair) with the following Member States participating: Australia, Belgium, Brazil, Canada, China, Egypt, Equatorial Guinea, France, Germany, Grenada, India, Japan, Kenya, Norway, Portugal, Republic of Korea, Russian Federation and United States of America. Ms Ksenia Yvinec provided the Secretariat support to the Financial Committee.

Resolutions Committee: to report on all draft resolutions duly presented for consideration at the session; under the chairship of Mr Yutaka Michida (Japan) with the following Member States participating: Canada, China, Colombia, Germany, India, Japan, Norway, Republic of Korea, Russian Federation, Thailand and United States of America. Mr Julian Barbière provided the Secretariat support to the Resolutions Committee.

Nominations Committee: to examine all proposals of candidates for the elections to the chair, vice-chairs and to the Executive Council at the present session, and to report on them – item 12.6: under the chairship of Dr Sang-Kyung Byun (Republic of Korea) with the following Member States, representing all electoral groups, participating: Bulgaria, Chile, China, Cuba, Democratic Republic of the Congo, India, Ireland, Japan, Morocco, Nigeria, Portugal, Republic of Korea, Senegal, Thailand, USA. Dr Thorkild Aarup and Dr Salvatore Aricò provided the Secretariat support to the Nominations Committee.

Decision IOC-XXX/3.2

**Report of the Executive Secretary**

The Assembly,

Having examined documents IOC-XXX/2 Annex 1 & 2, IOC/INF-1366, 1367, 1368, 1351 Part 3, 1370 and 1382,

Takes note of the report of the Executive Secretary on the work accomplished since the 29th session of the Assembly (July 2017–May 2019), including the report on 2018 budget implementation and the overview of the 2019 budget;

Welcomes the progress made with the preparation of the second edition of the Global Ocean Science Report (GOSR) since the 51<sup>st</sup> session of the IOC Executive Council (IOC/INF-1366);

Invites the IOC Secretariat to present the second edition of the GOSR at the 53<sup>rd</sup> session of the IOC Executive Council in 2020;

Calls upon the IOC Secretariat and OECD to further expand cooperation related to activities on the scientific approaches of valuation of ocean sources and services, and the contribution of ocean science to sustain these;

Welcomes the draft IOC-SCOR policy brief on multiple ocean stressors (IOC/INF-1367) and its potential significant contribution in informing Strategic Objective 2 of the UN Decade of Ocean Science for Sustainable Development, which focuses on the science of multiple ocean stressors as a basis for ecosystem-based management;

Encourages the IOC Secretariat to continue technical cooperation with the Scientific Committee on Ocean Research (SCOR) Working Group 149 in the area of changing ocean biological systems in a multiple-driver world;

Acknowledges the continuous support by Member States to the IOC Secretariat with respect to the SDG indicator development and data collection, specifically, with respect to 14.1.1, 14.2.1, 14.3.1 and 14.a.1 (IOC/INF-1368);

Acknowledges with appreciation the SDG-IAEG decision to reclassify SDG Indicator 14.3.1 from Tier 3 to Tier 2, which means that the indicator is conceptually clear, has an internationally established methodology and standards are available, but data are not regularly produced by countries; and encourages the IOC expert groups on ocean acidification to further pursue their work towards the ultimate reclassification of SDG Indicator 14.3.1 to Tier 1;

Invites the IOC Secretariat to establish and continue the regular data collection for Indicators 14.3.1 and 14.a.1 and report the progress to the IOC Executive Council at its 53<sup>rd</sup> session in 2020;

Acknowledges further the progress made by the Second International Indian Ocean Expedition (IIOE-2) in reference to its alignment with both the IIOE-2 Science Plan and Implementation Strategy (IOC/INF-1351 Part 3);

Notes the request of IIOE-2 Steering Committee, adopted at its third annual meeting of 12–13 March 2019, to the Expedition Sponsors to continue to support the IIOE-2 to at least 2025 in recognition of its many current and prospective projects that will reach well into the UN Decade of Ocean Science for Sustainable Development 2021–2030;

Further notes that a continued IIOE-2 would also contribute tangibly and strongly at both regional and global levels to the Decade;



Invites the IOC Secretariat to continue to support the IIOE-2 through continuing its role on and for the IIOE-2 Steering Committee and to facilitate the alignment of the IIOE-2's extended tenure with the goals and objectives of the Decade and report back to the IOC Executive Council at its 53<sup>rd</sup> session in 2020;

Accepts the proposal by the IOC Secretariat to extend the Terms of Reference of the Perth Programme Office as endorsed in the annex to Resolution XXVII-1 to June 2021.

#### Decision IOC-XXX/3.3.1

### **IOC Sub-Commission for the Western Pacific**

The Assembly,

Having considered the executive summary report of the 12th Session of the IOC Sub-Commission for the Western Pacific, Manila, the Philippines, 2–5 April 2019 (IOC/WESTPAC-XII/3s),

Expresses its deep appreciation to:

- The Government of Thailand, through its Department of Marine and Coastal Resources, for the provision of office space and facilities for the WESTPAC Office; and its National Commission for UNESCO for the financial support to the WESTPAC activities on ocean acidification monitoring, microplastic research, scientific diving and dinoflagellate sampling and processing;
- The Government of the Philippines, through its Department of Foreign Affairs, National Commission for UNESCO, the University of the Philippines and its Marine Science Institute for hosting the 12th Intergovernmental session of the Sub-Commission (Manila, the Philippines, 2–5 April 2019);
- The Government of Japan for hosting and co-organizing the Regional Planning Workshop for the North Pacific and Western Pacific marginal seas towards the UN Decade of Ocean Science (Tokyo, Japan, 31 July–2 August 2019);
- The Government of China, through its Ministry of Natural Resources and First Institute of Oceanography for hosting the Regional Training and Research Centre on Ocean Dynamics and Climate, with annual trainings since 2011 that have attracted a total of 359 young scientists from 43 countries;
- The Government of Indonesia, through its Indonesian Institute of Sciences, for hosting the Regional Training and Research Center on Marine Biodiversity and Ecosystem Health with annual trainings provided since 2016;
- Member States for their either in-cash or in-kind support, such as China via its voluntary contribution to the IOC Special Account, Japan via the UNESCO/Japanese Funds-in-Trust, and the Republic of Korea via the UNESCO/Korean Funds-in-Trust. A significant in-kind support was also provided by China, Thailand, Indonesia, Japan, Republic of Korea, Malaysia, the Philippines, USA and Viet Nam for various WESTPAC programmes and activities;

Taking into account the pivotal role of the WESTPAC Office in IOC's achievements in the region over the past decade and in the preparations and implementation of the UN Decade of Ocean Science for Sustainable Development (2021–2030), with concerns over the increasing difficulty in maintaining IOC's visibility and leadership in the region as a result of the incompatibility of the current size of the WESTPAC Office and the scope of IOC activities in the region,

Requests the Executive Secretary IOC to reinforce the Sub-Commissions' Secretariat;

Invites all Member States, and relevant international organizations/programmes to participate in the 11<sup>th</sup> WESTPAC International Marine Science Conference 2020 (Jakarta, Indonesia, 25–28 August 2020);

Accepts the report of WESTPAC-XII and the recommendations therein, including the workplan of the Sub-Commission for May 2019–April 2021;

Agrees that the regular budget for these activities will be identified as part of the overall IOC Programme and Budget draft resolution XXX-(12).

#### Decision IOC-XXX/3.3.2

### **IOC Sub-commission for the Caribbean and Adjacent Region**

The Assembly,

Having considered the Executive Summary Report of the 15<sup>th</sup> session of the IOC Sub-Commission for the Caribbean and Adjacent Region (IOCARIBE), Oranjestad, Aruba, 6–10 May 2019 (IOC/SC-IOCARIBE-XV/3s),

Accepts the report of IOCARIBE-XV and the recommendations therein;

Recognizes the high vulnerability of SIDS in the IOCARIBE region and underlines the need to identify their national capacity gaps to be addressed in order to enable their effective participation in the activities of IOCARIBE and United Nations Decade of Ocean Science for Sustainable Development work plans, and the effective implementation of the UNESCO's Action Plan for SIDS;

Expresses its deep appreciation to:

- the Government of Colombia for continued hosting of the Secretariat and for its support by seconding experts working as IOCARIBE staff;
- the Government of Flanders (Kingdom of Belgium) for their continuous support to IOCARIBE programmes;
- the Government of Barbados, Mexico, Panama, and the Republic of Korea for their support to IOCARIBE programmes;
- the Government of Aruba (Kingdom of the Netherlands) for its support to and hosting of IOCARIBE-XV;
- All other IOCARIBE Member States for their financial and in-kind support provided to IOCARIBE programme activities implementation;

Agrees that the regular budget for these activities will be identified as part of the overall IOC Programme and Budget draft resolution XXX-(12).

#### Decision IOC-XXX/3.3.3

### **IOC Sub-Commission for Africa and the Adjacent Island States**

The Assembly,

Having examined the Executive Summary report of the 5<sup>th</sup> session of the IOC Sub-Commission for Africa and the Adjacent Island States, Nairobi, Kenya, 25–27 March 2019 (IOCAFRICA-V/3s),

Takes note of the progress made in the implementation of the IOCAFRICA work programme 2017–2019;

Thanks the Member States who have provided support for the development and implementation of programmes of the Sub-Commission, and especially the Governments of Belgium, China, Kenya, Mozambique, Senegal, South Africa, and Spain;

Accepts the report of IOCAFRICA-V and the recommendations therein, including the work programme for the Sub-Commission for 2019–2021;

Requests the Executive Secretary to provide support for the organization of the Pan-African Conference on Ocean Science for Sustainable Development (Sharm El Sheikh, Egypt, 19–22 October 2020);

Requests further the Executive Secretary to organize a meeting to agree a common approach towards effective implementation of GOOS activities around the African continent;

Agrees that the regular budget for these activities will be identified as part of the overall IOC Programme Budget draft resolution XXX-3.

#### Decision IOC-XXX/3.3.4

### **IOC Regional Committee for the Central Indian Ocean**

The Assembly,

Having examined the Executive Summary report of the 7th session of the IOC Regional Committee for the Central Indian Ocean, Hyderabad, India, 31 May–1 June 2019 (IOCINDIO-VII/3s), including its Scientific, Technical and Institutional Innovations Workshop for National and Regional Framework on Coastal Vulnerability Assessment and Monitoring for Sea-Level Rise and Storm Surges in the Indian Ocean Region,

Takes note of the summary report of IOCINDIO-VII including the recommendations therein, the work programme with the project proposals and the working group established during the IOCINDIO-VII workshop with the view to serve as the intersessional working group to support the IOCINDIO Officers and the IOC Secretariat towards the implementation of the work programme;

Further takes note of the proposal by the IOCINDIO-VII to change the status of the regional committee into an IOC Sub-commission;

Requests the IOCINDIO Chair to prepare, with the help of the IOC Secretariat, a proposal for changing the status of IOCINDIO that would contain the mission, the objectives, terms of references, budgetary implications, secretarial arrangements and other necessary provisions;

Decides to include a corresponding agenda item at the 53rd session of the IOC Executive Council in 2020;

Supports the efforts of the regional committee to strengthen its national coordinating bodies for liaison with the IOC and focal points;

Expresses its appreciation to:

- the Government of India, which mobilized national public institutions for hosting the preceding workshop and the IOCINDIO-VII session with in-kind contributions covering the full board accommodation to all participants and local logistics, and for its offer to host the regional workshop related to the Indian Ocean in the context of the UN Decade of Ocean Science for Sustainable Development;
- the two UNESCO Category-2 centres in the region, namely the Regional Education and Research Centre on Oceanography for West Asia at the Iranian National Institute for

Oceanography and Atmospheric Science in Tehran, and the International Training Centre on Operational Oceanography, (ITCOOcean) at the Indian Centre for Ocean Information Services (INCOIS) in Hyderabad, India, for supporting capacity building activities and capacity in the region;

Agrees that the regular budget for these activities will be identified as part of the overall IOC Programme Budget draft resolution XXX-(12).

#### Decision IOC-XXX/3.4

### **Report on the IOC activities (2018–2019) to the Fortieth General Conference of UNESCO**

The Assembly,

Recalling Article 3.2 of the Statutes and Rule of Procedure 49.2,

Having examined document IOC-XXX/6,

Takes note of the report to be presented to the 40<sup>th</sup> session of the General Conference of UNESCO, and requests the Executive Secretary to submit the report on IOC activities (2018–2019) to the 40th General Conference of UNESCO as document 40 C/REP.9.

#### Decision IOC-XXX/4.2

### **Enhanced coherence, impact and future orientations of the IOC in support of the UN Decade of Ocean Science for Sustainable Development (2021–2030) and the 2030 Agenda**

The Assembly,

Taking into account that the IOC is expected to contribute to the UN Decade of Ocean Science for Sustainable Development (2021–2030) beyond its role in preparing an Implementation Plan for the Decade, including through the mobilization and direct efforts of relevant IOC programmes and expert networks,

Commending the inputs to the scoping of the high-level science plan of the Decade received from relevant IOC expert networks and scientific organizations collaborating with IOC,

Recalling a need for continuous alignment and cross-fertilization of IOC programmes and activities with the societal and strategic objectives of the Decade as they are refined through the planning phase,

Calls upon the IOC Member States and the Executive Secretary to continue to seek alignment between the objectives of the Decade and IOC programmes and activities, with a special focus on those that deal with critical gaps in scientific knowledge, understanding of multiple ocean stressors of relevance to ecosystem-based management, prediction of the ocean state, adaptation to climate change, development of solutions for ocean health and the protection of the marine environment, warning of ocean hazards threatening lives, as well as capacity development;

Encourages the Secretariat to enter into collaborative programmatic arrangements with partner organizations in the design and implementation of joint activities in support of the science plan of the Decade following its development by the Executive Planning Group of the Decade;

Urges Member States and partner organizations to provide voluntary financial contributions in anticipation of the IOC's substantive activities in support of the Decade and its science plan, including through in-kind support such as staff secondments to the IOC Secretariat;

Requests the Executive Secretary to report to the IOC Executive Council at its 53<sup>rd</sup> session in 2020 on the status and modalities of IOC's programmatic contribution to the Decade.

Decision IOC-XXX/5.1

**Cooperation with WMO**

The Assembly,

Taking note of the Draft WMO-IOC Memorandum of Understanding (IOC-XXX/Inf.3),

Requests the Executive Secretary to complete preparations for its joint signature with WMO.

Decision IOC-XXX/5.2

**IOC Contribution to the United Nations Framework Convention on Climate Change (UNFCCC)**

The Assembly,

Recalling the central role of the world ocean in the regulation of climate and in the mitigation of, and adaptation to, climate change, as reflected in the Paris Agreement,

Recalling also that climate change is called by the United Nations Secretary General as one of the major threats to humanity,

Having considered the report of the IOC Secretariat on collaboration between the Commission and the UNFCCC process (IOC/INF-1374),

Reiterates that the Commission is in virtue of its mandate and expertise well placed to provide technical assistance in ocean-related scientific, observational and technical aspects of climate change and advocate for their importance in terms of addressing the climate change threat;

Further recalling also the synergies between IOC expert groups, such as the IOC Working Group on Integrated Ocean Carbon Research, and the scientific and technical debates at the UNFCCC, including, the Research Dialogues under the auspices of the Convention's Subsidiary Body on Scientific and Technological Advice,

Invites the Executive Secretary to continue and reinforce cooperation with the Intergovernmental Panel on Climate Change and to explore further opportunities for joint technical work in support of the IPCC Assessment Reports and relevant IPCC special reports;

Decides that IOC shall be represented at the 25<sup>th</sup> session of the Conference of the Parties to the UNFCCC (Madrid, 2–13 December 2019), by taking an active part in ocean-related dialogues, including at Earth Information Day, in support of the Conference as well as in related preparatory meetings leading to COP 25, such as the Pre-COP in Costa Rica;

Expresses its belief that the UN Decade of Ocean Science for Sustainable Development will bring together the scientific communities working on climate change and ocean science and encourages Member States and the Executive Planning Group for the Decade to provide guidance on how the scoping process of the Decade can take into due account needs related to the science of climate change and opportunities of knowledge-sharing, specifically by reflecting these considerations in the implementation and the science plans of the Decade.

Decision IOC-XXX/6.1

**Harmful Algal Blooms**

The Assembly,

Having considered the Executive Summary Report of the 14th session of the IOC Intergovernmental Panel on Harmful Algal Blooms (IPHAB), its 8 Decisions and 2 Recommendations and the workplan for 2020–2021 adopted at the session (IOC/IPHAB-XIV/3s);

Endorses the Executive Summary Report of IPHAB-XIV and the recommendations contained therein (IOC/IPHAB-XIV/3s);

Agrees to the HAB workplan for 2020–2021 (Recommendation IPHAB-XIV.1) and to consider it in the overall IOC Programme and Budget resolution XXX-(12).

Requests the Executive Secretary to complete preparations for the signature of the FAO-WHO-IAEA-IOC Memorandum of Understanding of Ciguatera Poisoning.

Decision IOC-XXX/6.2

**WMO-IOC-ISC World Climate Research Programme (WCRP)**

The Assembly,

Taking into account developments related to WCRP, including the finalized WCRP Strategic Plan 2019–2029,

Stressing the centrality of the ocean and the related role of IOC and of the scientific constituency represented by the Commission in climate research,

Reiterating the importance of the continuum that goes from bedrock climate science to sustained observations, data and information products, and assessments,

Noting with appreciation the continuing strong cooperation between IOC, WMO and ISC in their capacity as co-sponsors of WCRP,

Takes note of the timeline and modalities for the development of the WCRP Implementation Plan associated with the Strategic Plan and of the timeline for the finalization of a renewed co-sponsoring agreement between WMO, IOC and ISC;

Encourages scientists participating in WCRP to take an interest in the UN Decade of Ocean Science for Sustainable Development and specifically in how the Decade can leverage further relevant foci of the WCRP Strategic and Implementation Plans;

Requests the Executive Secretary to monitor the alignment of the WCRP Strategic Plan 2019–2029 with work priorities of the IOC, including engagement with the UN Decade of Ocean Science for Sustainable Development;

Encourages IOC Member States to mobilize extrabudgetary resources in support of the IOC contribution to WCRP.

Decision IOC-XXX/7.1.1

**The Global Ocean Observing System**

The Assembly,

Noting the 18th World Meteorological Congress Resolution 6.1(3)/4 which approved the GOOS 2030 Strategy, subject to its parallel approval by this Assembly, supports establishment of a node of a distributed GOOS Office located within WMO, and asks WMO Members to take the TPOS 2020 report and its recommendations into account when planning their contribution to the Tropical Pacific Observing System,

Further noting IOC Resolution XXX-2, which proposes GOOS taking on primary sponsorship of present observing programme area and operational ocean forecast system bodies in JCOMM, after a transition period and JCOMM disbandment in 2020,

**I.  
GOOS 2030 Strategy**

Having examined IOC-XXX/2 Annex 4,

Accepts the Global Ocean Observing System 2030 Strategy;

Calls on other sponsors of GOOS—the World Meteorological Organization, United Nations Environment, and the International Science Council—to consider how they will help implement the strategy; and

Urges Member States to take actions to facilitate its implementation;

**II.  
GOOS Workplan**

Noting the broad ambition of the GOOS 2030 Strategy,

Further noting IOC's recognized role as lead agency for GOOS, and the fundamental role of observations in supporting IOC's Medium-Term Strategy and the developing of the UN Decade of Ocean Science for Sustainable Development,

Having examined the initial GOOS Implementation Plan (IOC/INF-1376),

Accepts with appreciation the initial Implementation Plan as the GOOS Workplan for the coming intersessional period;

Notes the resourcing requirements that are laid out in the initial Implementation Plan, and that only a fraction of these can be supported from draft IOC Programme and Budget allocation for GOOS;

Further notes the need to incorporate appropriate JCOMM decisions and processes regarding observations into GOOS during the transition period leading up to the disbandment of JCOMM;

Expresses its appreciation for the in-kind contributions of Member States that have enabled the development of a distributed GOOS Office;

Welcomes the proposed establishment of a node of the GOOS Office hosted by WMO, and of a G7-GOOS coordination centre to be hosted by the IOC;

Urges Member States to support GOOS through contributions to the IOC Special Account for GOOS, secondments of staff members to the GOOS Office, in-kind support such as hosting meetings or

workshops with participant funding, the establishment of GOOS support offices, the funding of GOOS projects, or other means as agreed by the GOOS Steering Committee (SC);

### **III. Legacy of Basin-scale observing projects**

Noting the vision of the All-Atlantic Ocean Observing System (the AtlantOS<sup>12</sup> Program) and the TPOS 2020 Second Report (GOOS Reports, 234),

Further noting the OceanObs'19 conference that is going to take place in Hawaii from 16 to 20 September 2019,

Notes ocean observing system review activities in the Indian Ocean (INDOOS) and Tropical Atlantic Ocean (TAOS);

Calls on Member States to take the TPOS 2020 Second Report and its recommendations into account when planning their contribution to the Tropical Pacific Observing System;

Calls on interested Member States to engage in the development of the All-Atlantic Ocean Observing System (the AtlantOS Program) as a contribution to GOOS;

Requests the GOOS Steering Committee to consider the legacy of GOOS projects in future proposals to IOC and co-sponsors on the evolution of GOOS;

### **IV. GOOS SC Regional Membership**

Recalling the GOOS-SC regional membership appointment defined in IOC Resolution XXVI-8, and further recalling IOC Circular Letter 2762 requesting nominations of experts for appointment by Member State Electoral Groups,

Notes the appointment by each of the Member State Electoral Groups of a regional expert member of the GOOS-SC for 2020–2021:

- Elaine McDonagh, United Kingdom (Group I)
- Konstantin Lebedev, Russian Federation (Group II)
- Alvaro Santiago Scardilli, Argentina (Group III)
- Tony Worby, Australia (Group IV)
- Desiderius Masalu, Tanzania (Group V)

#### Decision IOC-XXX/7.1.2

### **WMO-ISC-IOC-UNEP Global Climate Observing System (GCOS) Work Plan**

The Assembly,

Having examined the proposed Global Climate Observing System (GCOS) status report and work plan (IOC/INF-1377);

Accepts the GCOS work plan;

Calls on the other sponsors of GCOS—the World Meteorological Organization, the United Nations Environment, and the International Science Council—to finalize and consider how they will help implement a GCOS Strategy, as well as this work plan; and

Urges Member States to take actions to facilitate its implementation.

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<sup>12</sup> Please see the narrative report IOC-XXX/3 (para. 166) for Member State comments on the use of this name.



Decision IOC-XXX/7.1.3

**Joint WMO-IOC Technical Commission for Oceanography  
and Marine Meteorology (JCOMM)**

The Assembly,

**I.**

**Joint WMO and IOC Strategy for Marine Meteorological  
and Oceanographic Data Management (2018–2021)**

Having examined JCOMM Technical Report No. 40 Rev. 5—Joint WMO and IOC Strategy for Marine Meteorological and Oceanographic Data Management (2018–2021),

Noting the IOC Medium-Term Strategy 2014–2021 and the IOC Strategic Plan for Data and Information Management (2017–2021),

Further noting the decision of IODE at its 25<sup>th</sup> session (19–22 February 2019, Tokyo) to endorse the Joint Strategy, inviting JCOMM to submit it to the IOC Assembly at its 30<sup>th</sup> session,

Recalling the parallel WMO Resolution 6.1(3)/1 adopted at the 18th World Meteorological Congress, which proposed renaming the Joint Strategy to “*Joint World Meteorological Organization (WMO) and Intergovernmental Oceanographic Commission (IOC) of UNESCO Strategy for Marine Meteorological and Oceanographic Data Management (2018–2021)*”, and to update it to reflect Congress Decisions with regard to the WMO Constituent Body Reform,

Concurs with the changes proposed by the World Meteorological Congress;

Adopts the Joint WMO and IOC Strategy for Marine Meteorological and Oceanographic Data Management (2018–2021); and

Requests the Joint WMO-IOC Collaborative Board to: (i) take steps, in liaison with IODE and the WMO Infrastructure Commission, for updating the Joint Strategy according to the WMO Strategic Plan for 2020–2023, and have it submitted to IODE-XXVI and EC-73 (2021) for approval; and (ii) develop an implementation plan responding to the Joint Strategy, with support of IODE and the WMO Infrastructure Commission;

**II.**

**JCOMMOPS**

Having examined the JCOMMOPS Review 2018 (JCOMM TR-93) and its key findings and recommendations,

Commends the work of the review panel;

Notes in particular the recommendation that: “JCOMMOPS core services at the system-level (vs network-level) should be clearly defined and adequately funded on a programmatic basis through the intergovernmental systems, i.e. WMO and IOC. The core services need to serve the needs expressed by these bodies, through WIGOS and GOOS”;

Welcomes the proposed creation by WMO of a regular programme funded post for JCOMMOPS Lead;

Decides to consider the financial implications of the review recommendations in the context of the overall IOC Programme and Budget;

Urges Member States to investigate how they could strengthen their support to JCOMMOPS and assist in making the funding of JCOMMOPS more stable and sustainable.

Decision IOC-XXX/7.2.1

**IOC Committee on International Oceanographic Data  
and Information Exchange**

The Assembly,

**I  
25<sup>th</sup> Session of IODE, 18–22 February 2019, Tokyo, Japan**

Having examined the Executive Summary and Report of the 25th session of the IOC Committee on International Oceanographic Data and Information Exchange (IODE-XXV) (18–22 February 2019, Tokyo, Japan), the recommendations and the decisions contained therein (IOC/IODE-XXV/3s),

Agrees to the IODE Workplan for 2019–2020 (Recommendation IODE-XXV.7.3) and to consider it in the overall IOC Programme and Budget draft resolution XXX-(12);

Endorses the report of the 25th session of the IOC Committee on International Oceanographic Data and Information Exchange and the recommendations contained therein;

**II  
Revision of the IOC Oceanographic Data Exchange Policy**

Recalling Assembly Resolution XXII-6 entitled ‘IOC Oceanographic Data Exchange Policy’,

Recognizing the need for free and open access to oceanographic data for the global common good,

Noting the World Data System (WDS) has superseded the World Data Centres (WDC),

Further noting the Ocean Biogeographic Information System (OBIS) is a global open-access data and information clearing-house on ocean biodiversity for science, conservation and sustainable development,

Decides to revise Clause 5 of the Annex to Resolution XXII-6 (IOC Oceanographic Data Exchange Policy) to the revision attached in Annex 1 of this decision;

Invites all Member States to contribute oceanographic data to the IODE network of data centres, the Ocean Biogeographic Information System (OBIS), and the World Ocean Database or the World Data System;

**III  
Establishment of the IOC Ocean Best Practices System Project (OBPS)**

Recalling Recommendation IODE-XXII.19 for the establishment of the IODE Clearing House Service for Data/Information Management Practices Project, which replaced the JCOMM Catalogue of Best Practices,

Recognizing that:

- (i) the dissemination and use of rigorously tested best practice methods in ocean observing promote and facilitate activity within and across disciplinary boundaries of ocean science,
- (ii) IODE has successfully established a permanent repository offering the scientific community a platform to publish their ocean-related best practices and find practices of others using

innovative search and access technology, a peer review journal publishing outlet and community forum, and a training resource leveraging community capabilities,

- (iii) IOC and JCOMM have established close, efficient and effective collaboration in ocean best practices,

Noting that the Ocean Best Practices System Repository (OBPS-R) of best practices will support all IOC programmes and contribute to the UN Decade of Ocean Science for Sustainable Development and UN Sustainable Development Goals by providing a permanent curated archive of best practices in ocean sciences,

Noting further that within the context of the project, a best practice is defined<sup>13</sup> as a methodology that has repeatedly produced superior results relative to other methodologies with the same objective; to be fully elevated to a best practice, a promising method will have been adopted and employed by multiple organizations,

Noting also that best practices can be in many forms including standard operating procedures, manuals, etc.,

Decides to:

- (i) establish the IOC Ocean Best Practices System (OBPS) as a joint IODE-GOOS project with the terms of reference as attached in Annex 2 to this decision;
- (ii) establish the IOC Steering Group for the Ocean Best Practices System (OBPS) project with the terms of reference as attached in Annex 3 to this decision;

Urges Member States to actively participate in the OBPS project by submitting relevant community practices on ocean observation, data management, products and services, and by promoting the use of practices contained in the OBPS at the national, regional and global level;

Invites relevant stakeholders to contribute community practices and collaborate with the OBPS.

Annex 1 to IOC-XXX, Dec. 7.2.1

**Clause 5 of the Annex to Resolution XXII-6 (IOC Oceanographic Data Exchange Policy): Use of IODE system**

Member States shall, to the best practicable degree, use data centres linked to the World Data System (WDS) and IODE's NODCs, such as the World Ocean Database (WOD) and the Ocean Biogeographic Information System (OBIS), as long-term repositories for oceanographic data and associated metadata.

Annex 2 to IOC-XXX, Dec. 7.2.1

**Terms of Reference of the IOC Ocean Best Practices System Project (OBPS)**

Objectives: The objectives of this project are to:

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<sup>13</sup> Following a review of the literature by OBPWG, a definition of best practices was agreed by consensus of ocean observing community participants at the Evolving and Sustaining Ocean Best Practices Workshop in November 2017 See: Simpson, P., Pearlman, F. and Pearlman J. (eds) (2018) *Evolving and Sustaining Ocean Best Practices Workshop, 15–17 November 2017, Intergovernmental Oceanographic Commission, Paris, France: Proceedings*. AtlantOS/ODIP/OORCN Ocean Best Practices Working Group (OBPWG), 74pp .DOI: [10.25607/OBP-3](https://doi.org/10.25607/OBP-3)

- (i) Increase efficiency, reproducibility and interoperability of the entire ocean observing value chain by providing the community with a unified, sustained and readily accessible knowledge base of interdisciplinary best practices;
- (ii) Provide coordinated and sustained global access to best practices in ocean observing to foster innovation and excellence by developing a system and engaging ocean observing communities in a joint and coordinated effort in producing, reviewing and sustaining best practice documents.

Annex 3 to IOC-XXX, Dec. 7.2.1

**Terms of Reference of the IOC Steering Group for the  
Ocean Best Practices System (SG-OBPS)**

Objectives: The SG-OBPS will have the following Terms of Reference:

- (i) Propose the vision, strategy, work plan and timetable for the Ocean Best Practices System Project;
- (ii) Advise on technical aspects such as user interface, back office, etc. to the project technical task team;
- (iii) Report to the IOC and to other partners on the progress of the Ocean Best Practices System Project;
- (iv) Provide guidance to the project manager and project technical manager;
- (v) Identify funding sources to further develop the OBPS.

Membership: The Steering Group will be composed, *inter alia*, of:

- (i) Representatives from IOC Programmes and JCOMM;
- (ii) Project Manager/Chief Editor;
- (iii) Project Technical Manager;
- (iv) Invited Experts from the ocean observing community;
- (v) Representatives of the IODE and GOOS Secretariats.

Decision IOC-XXX/7.2.2

**IOC Ocean Data and Information System (ODIS)**

The Assembly,

Recalling Decision IODE-XXIV.4 on the Ocean Data and Information System,

Recognizing that a major component of the ocean data and information system landscape is not linked to the IOC and the need to collaborate with those communities/systems in order to achieve improved accessibility, unrestricted use and interoperability of data and information,

Recalling that the IOC decided that IODE will work with existing stakeholders, linked and not linked to the IOC, to improve the accessibility and interoperability of existing data and information, and to contribute to the development of a global ocean data and information system, to be referred to as the IOC Ocean Data and Information System, leveraging established solutions where possible, including existing IODE systems and others,

Noting with appreciation that IODE has developed a prototype ODIS Catalogue of Sources and that the IODE Committee, at its 25<sup>th</sup> session, recommended the establishment of the IOC Ocean Data and Information System Catalogue of Sources Project (ODISCat),

Having examined Document IOC/XXX/2 Annex 6,

Endorses the ODIS Concept, Implementation Plan and Cost Benefit Analysis;

Invites the IODE Committee to prepare a fully detailed and costed project proposal for the IOC Ocean Data and Information System (ODIS) for submission to the IOC Executive Council at its 53<sup>rd</sup> session in 2020.

#### Decision IOC-XXX/8.2

### **Tsunami and Other Coastal Hazards Warning Systems**

The Assembly,

Having considered the executive summary reports of the recent sessions of the Intergovernmental Coordination Groups for: the Pacific Ocean Tsunami Warning and Mitigation System (ICG/PTWS-XXVIII), the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS-XII), the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS-XIV), the North-Eastern Atlantic, the Mediterranean and Connected Seas Tsunami Warning and Mitigation System (ICG/NEAMTWS-XV), and the report of the Working Group on Tsunamis and Other Hazards Related to Sea-Level Warning and Mitigation Systems (TOWS-WG-XII),

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

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

- three exercises carried out (IOWave18, PacWave18, CARIBEWAVE 19) and regular communication tests performed, and with CARIBEWAVE 19 including a volcanic scenario for the first time,
- recovery and reconstruction of observation networks in the Caribbean following recent hurricanes,
- CARIBE-EWS Implementation Plan for 2018–2023 adopted,
- methodological guidelines “How to prepare, conduct, and evaluate a community-based tsunami response exercise” has been completed and is available in French, Spanish and English and under consideration of ICG/CARIBE-EWS for final publication,
- two communities in the Caribbean and Adjacent Regions (St. Patrick, Grenada, and Fort Liberté, Haiti) achieved UNESCO-IOC Tsunami Ready recognition, India and Oman testing Tsunami Ready, and growing interest for piloting Tsunami Ready expressed in NEAMTWS,
- Instituto Português do Mar e da Atmosfera (IPMA, Portugal) seeking accreditation as a Tsunami Service Provider in NEAMTWS,
- South China Sea Tsunami Advisory Centre (SCSTAC) intent to go to full operation, North West Pacific Tsunami Advisory Center (NWPTAC) to have made a full changeover to Enhanced Products at end of February 2019 and the Central American Tsunami Advisory Center (CATAC) plans to start trial operation,
- ITIC Training activities including the ITP-Hawaii course in Chile in August 2018 for the first time,
- European Commission’s support towards projects contributing to NEAMTWS, UNESCAP funding for Strengthening Tsunami Early Warning in the North West Indian Ocean Region, JICA and DIPECHO’s support for CATAC and Tsunami Ready and preparedness in Central America, new funding from DIPECHO and USAID/OFDA towards piloting Tsunami Ready programme in the Caribbean and Central America,
- PTWS completion of its Key Performance Indicators Framework,

- progress in sharing the results of tsunami exercises and communication tests with World Meteorological Organization (WMO) and the improvements in alert message delivery rates for IOTWMS,
- completion and submission of a Community White Paper "Ocean Observations Required to Minimize Uncertainty in Global Tsunami Forecasts, Warnings, and Emergency Response" to the OceanObs19 Conference;

## I

### **Pacific Tsunami Warning and Mitigation System (PTWS)**

Notes the establishment of a Working Group 2 Task Team to propose minimum competency levels for National Tsunami Warning Centre (NTWC) operations staff;

Notes the establishment of a Working Group 2 Task Team to propose an optimal multi-instrument sensor network that integrates existing and emerging techniques and sensor technologies, for tsunami detection and characterization;

Welcomes the decision to organize and conduct the exercise Pacific Wave 2020 (PacWave 2020) in the months September to November 2020 and that it will be conducted as a series of regional exercises organized through the PTWS regional working groups;

Further welcomes the decision to develop a draft PTWS Medium-Term Strategy 2022–2029 for discussion by the PTWS Steering Committee in 2020, and approval by the ICG/PTWS-XXIX in 2021;

Recommends Member States with GNSS data to investigate the means of sharing this data in real time, with a view towards, and benefits of, improved tsunami impact forecasts for coastlines particularly for near-field events;

Decides to commence the full operation of SCSTAC on 5 November 2019, to be announced by the IOC Secretariat to WG-SCS Member States through an IOC circular letter at least 60 days in advance;

Decides to support the efforts and progress made by Nicaragua in the creation of the Central America Tsunami Advisory Centre (CATAC), as a tsunami service provider (TSP) within the framework of the ICG/PTWS;

Also decides to support the proposal to begin sending trial tsunami messages as of August 2019, based on the progress made in capacity-building for the establishment of the Central America Tsunami Advisory Centre (CATAC) using the official IOC ICG/PTWS list of NTWCs and TWFPs;

## II

### **Indian Ocean Tsunami Warning and Mitigation System (IOTWMS)**

Notes with appreciation the adoption of the IOTWMS Medium-Term Strategy (2019–2024) and conduct of Capacity Assessment of Tsunami Preparedness in IOTWMS Member States;

Notes the technical limitations of warning systems in producing timely and accurate forecasts for tsunamis from near-field and "atypical" sources (e.g. aerial landslides, submarine landslides, volcanoes), especially in light of the Palu and Sunda Strait tsunamis in Indonesia;

Notes with concern the continuing instances of Tsunami Buoy Vandalism in the IOTWMS region;

Notes with appreciation the progress made in bilateral exchange of seismic data among some Member States in the North West Indian Ocean and urges Member States to provide relevant seismic data in real-time to TSPs for accurate determination of tsunami threats;

Welcomes the establishment of two new inter-sessional Task Teams on “Tsunami Preparedness for a near-field Tsunami Hazard” and “Scientific Tsunami Hazard Assessment of the Makran Subduction Zone”;

Congratulates IOTWMS Member States for the success of IOWave18 exercise involving 116,000 participants and the piloting of Indian Ocean Tsunami Ready (IOTR) programme by India and Oman, and welcomes the priority to expand IOTR programme in vulnerable communities to enhance community preparedness and response;

Welcomes the decision to organise and conduct Indian Ocean Wave Exercise in 2020 (IOWave20);

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

Notes that the CARIBEWAVE 19 exercise included a volcano-generated tsunami and it brought to light that effective PTWC procedures for such an event would likely require being alerted to an unexpected tsunami signal on a coastal sea-level gauge;

Further notes that a similar capability at PTWC would also be likely needed to respond to a landslide-induced tsunami;

Recommends that PTWC explore new techniques that would alert its duty staff to the arrival of potential tsunami signals on sea level gauges;

Urges Member States to continue to support the long-term operations of their national and local seismic, sea level, and Global Navigation Satellite System (GNSS) networks including accurate metadata so they can continue to sustain and improve the quality, timeliness and usefulness of the data for the delivery of optimal tsunami services;

Recommends ICG/CARIBE-EWS Working Group 1 to develop a strategy for all Member States who own and operate a Deep-ocean Assessment and Reporting of Tsunami (DART) buoy or DART-like system to ensure that both, data and metadata of these systems, are pro-actively shared by the owner States every time there is a new deployment, re-deployment, or simply on a regular basis to confirm no changes to their national array;

Appreciates Monaco for the funding it provides annually and which has been instrumental to increasing the number of sea-level stations and enhancing the capability of station operators through training; and thanks all Member States and organizations that are providing financial and technical assistance to CARIBE-EWS;

Also appreciates the contribution of the Caribbean Tsunami Information Centre (CTIC) in Barbados and calls on the IOC Secretariat and Member States for their continuous support for CTIC to ensure the sustainability of its functions and activities;

Welcomes the decision to organize and conduct CARIBEWAVE 20 exercise on 19 March 2020;

Notes the progress made and decides to continue to support the efforts of Nicaragua in the establishment of the Central America Tsunami Advisory Centre (CATAC), as a Subregional Tsunami Service Provider (SRTSP) within the framework of the ICG/CARIBE-EWS;

Decides to support the proposal to begin sending trial tsunami messages to the Central American countries within the area of service of the CARIBE-EWS by subscription as of August 2019, using the official list of National Tsunami Warning Centres (NTWCs) and Tsunami Warning Focal Points (TWFPs) of the ICG/CARIBE-EWS;

IV.

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

Recognizing the sub-optimal performance of the NEAMTWS due to lack of seismic and sea-level network notably in North Africa and difficulties of Member States in sharing observations due to national policy,

Encourages Member States to increase the number of seismic and sea-level stations available in North Africa and to share data using bilateral agreements whenever possible;

Noting the important future role of NEAM Tsunami Information Centre (NEAMTIC) in providing training and capacity building services,

Invites Member States to contribute to the further development of NEAMTIC through funding and secondments;

Welcomes the decision to organize and conduct the fourth NEAMTWS exercise in 2020 (NEAMWave20);

V.

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

Reiterates the importance of collecting event data strictly in accordance with the International Tsunami Survey Team (ITST) protocols, while continuing to be respectful of the country's needs and requirements;

Encourages timely data and information sharing by the Survey Teams to facilitate immediate submission of a consolidated summary report to the host country to assist with response and recovery planning; and

Requests ICGs to facilitate, in coordination with existing science organizations, special sessions at meetings/workshops to promote sharing of lessons learnt and compilation of all event data;

Encourages Member States to:

- increase and sustain technical and financial support of the tsunami and other coastal hazards warning systems in their respective regions;
- emphasize to national civil protection/disaster management agencies the role they play in strengthening the warning chain to ensure optimal community response; and stress the importance that the agencies participate in regional tsunami governance and technical forums;
- continue to strengthen tsunami awareness and preparedness in communities and among authorities through communication, evacuation planning, tsunami exercises, training, information, and piloting recognition programmes such as Tsunami Ready;
- densify sea-level networks capable of tsunami detection as well as seismic network particularly nearby tsunamigenic sources;
- extend sharing of real time tsunami source and tsunami detection observations;
- collect high resolution coastal bathymetry and extend the data sharing for improved characterization of tsunami and other coastal hazards and risks, and also advocate this through IHO and regional hydrographic commissions;



- register National Tsunami Warning Centres (NTWCs) and Tsunami Warning Focal Points (TWFPs) as alerting authorities in the “WMO Alerting Authority Register” via the WMO National Permanent Representative and in follow-up to a WMO circular letter;

Instructs ICGs to:

- advocate the Fourth edition of World Tsunami Awareness Day (WTAD 2019) among Member States and highlight target [d] of the Sendai Framework that stresses substantial reduction of disaster damage to critical infrastructure and disruption of basic services, with an emphasis on ports, harbours and vertical evacuation;
- consider the PTWS Key Performance Indicator Framework and provide input to a consolidated report for the 13<sup>th</sup> TOWS-WG meeting;
- continue the Tsunami Ready pilot activities with UNESCO-IOC recognition, including conducting surveys on Member State status, interest and feed back in the implementation of Tsunami Ready;
- consider the prospects for building warning systems for tsunami of non-seismic origin;

Accepts the reports from the Task Teams on Disaster Management and Preparedness and Watch Operations and instructs them to continue efforts for monitoring and responding to tsunamis generated by non-seismic sources and possible integration into tsunami watch operations;

Advocates that the UN Decade of Ocean Science for Sustainable Development (2021–2030) adopts an initiative aimed at developing a comprehensive global tsunami hazard assessment including all potential tsunamis, anywhere in the world, regardless of its source; enhancing sensing and analysis strategies to enable the rapid characterization of tsunami sources which are held as fundamental in transforming our ability to forecast and warn of local and/or non-seismic source tsunami threats; and strengthening community preparedness to enable efficient response to tsunamis from all sources;

Extends the tenure of TOWS-WG and its Task Teams on (i) Disaster Management and Preparedness and (ii) Tsunami Watch Operations, with Terms of Reference as given in IOC Resolution XXIV-4 [for TOWS-WG] and IOC/TOWS-WG-VI/3 [Annex II; for TTDMP] and ToRs for TTTWO as given in IOC/TOWS-WG-X Appendix I.

Decision IOC-XXX/9.1

**IHO-IOC GEBCO Guiding Committee**

The Assembly,

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,

Having examined documents IOC/INF-1381 and GGC35/13 that report on the activity of the GGC during the intersessional period (2017–2019),

Recalling Decision EC-LI/4.5 on 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,

Takes note of the report of the GEBCO Guiding Committee Biennial Report for the period 2017–2019;

Recalling Decision IOC-XXVIII/6.2(I) by which it adopted the current terms of reference of the GEBCO Guiding Committee in 2015,

Endorses the amendment to the GEBCO Guiding Committee Terms of Reference and Rules of Procedure proposed by the GGC at its 35<sup>th</sup> meeting and presented in annex to document IOC/INF-1381, in particular paragraph 2.1 (Office bearers) in annex to this decision;

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 on User Requirements and Contributions to GEBCO Products.

Annex to Decision IOC-XXX/9.1

**Amendment to the General Bathymetric Chart of the Ocean (GEBCO) Project –  
Terms of Reference and rules of procedure  
for the Joint IHO-IOC GEBCO Guiding Committee**

2. Office Bearers

2.1 The Chair and Vice-Chair shall be elected by the Committee from the voting Members of the Committee and normally should be from different parent organizations. The Chair and Vice-Chair are each elected for three-year terms, but not exceeding their current membership of the Committee. They can be re-elected for one additional term by the Committee. The Chair shall conduct the business of the Committee. If the Chair is unable to carry out the duties of the office, the Vice-Chair shall assume the Chair with the same powers and duties. [...]

Decision IOC-XXX/10.1

**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 Assembly,

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 resolutions 69/292 and 72/249, which recognize that the BBNJ process and its results 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 organizational stage and in the course of the first two sessions 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;

Further takes note of the draft text of an agreement and the potential role of IOC in managing the future Clearing-House Mechanism to be established under the BBNJ international legally-binding instrument;

Welcoming the work undertaken by the Task Team on Implementation of a TMT/CHM portal of the IOC Group of Experts on Capacity Development in further advancing the concept and feasibility of the TMT/CHM under the IOC, including its forthcoming work in the development of a cost assessment, taking into account future requirements under the BBNJ international legally-binding instrument,

Requests the Executive Secretary, Chairperson or a designated Officer of IOC to represent the Commission in, and respond to requests from, the remaining sessions of the Intergovernmental Conference scheduled for 2019 and 2020;

Invites IOC Member States to continue supporting the role of the Commission through their preparation and statements at forthcoming sessions of the Intergovernmental Conference;

Also requests the Executive Secretary and Officers of IOC to report on developments in this area to the IOC Executive Council at its 53rd session in 2020.

#### Decision IOC-XXX/10.2

### **Integrated Coastal Area Management Programme (ICAM) Strategy Implementation**

The Assembly,

Having examined Documents IOC/INF-1379 and IOC/INF-1380,

Takes note of the progress in implementing IOC Integrated Coastal Area Management (ICAM) Strategy, including activities related to marine spatial planning, Large Marine Ecosystems (LMEs) and sustainable blue economy;

Takes note also of the progress in implementing the IOC and European Commission Joint Roadmap to accelerate Marine/Maritime Spatial Planning processes worldwide and its corresponding commitment to the 1<sup>st</sup> UN Ocean Conference (2017) and Our Ocean Conference (Malta, 2017);

Welcomes the new MSP global initiative (2018–2021) co-financed by the European Fund of Maritime Affairs and Fisheries of the European Union, to be implemented by the Secretariat at global scale, with pilot case studies in the Western Mediterranean and the Southeast Pacific;

Further welcomes the role of IOC in executing the GEF-UNDP IW/LME Learn project and in particular the technical and scientific support it provides to the global LME community;

Encourages IOC science, observation, tsunami and data programmes to further collaborate with the ICAM programme in the operationalization of ecosystem-based management approaches;

Supports the preparation of multilingual internationally accepted guidance on marine spatial planning and the continuing strengthening of capacity development activities jointly organized with national authorities, regional and international partners;

Expresses its deep appreciation to the Kingdom of Belgium (Government of Flanders), the Kingdom of the Netherlands (Ministry of Infrastructure and Water), the Kingdom of Spain (Government of Spain, Government of Andalusia, Tarifa and Facinas), the Kingdom of Morocco (Government of Morocco and Regional Authorities of Tanger, Tetouan, Al-Hoceima) and the Man and Biosphere Programme of UNESCO, the Kingdom of Sweden (Government Offices); the Republic of Turkmenistan (Government of Turkmenistan), the European Commission's Directorate General for

Maritime Affairs and Fisheries; and the Secretariat of the Permanent Commission of the South Pacific (CPPS) and its Member States (Chile, Colombia, Ecuador, Peru), the Priority Actions Programme/Regional Activity Centre (PAP/RAC) of the Mediterranean Action Plan, the Global Environment Facility and United Nations Development Programme, for their valuable contributions to the work of IOC in these areas;

Invites Member States to support, through extra-budgetary resources as well as in-kind contributions, the ICAM Strategy and relevant initiatives related to integrated coastal area management, marine spatial planning, sustainable blue economy, coastal hazards mitigation, and development of decision-support tools for management of large marine ecosystems;

Further invites Member States to sustain the role of IOC in providing technical support to the LME project community, including in the next phase of the GEF IW:Learn project (2020–2024).

#### Decision IOC-XXX/ 11.1

### **IOC Group of Experts on Capacity Development**

The Assembly,

Recognizing the importance of Capacity Development as one of the six functions of the IOC Medium-Term Strategy (2014–2021), enabling all Member States to participate in, and benefit from, ocean research and services that are vital to sustainable development and human welfare on the planet,

Recalling the adoption, at its 28th session, of the IOC Capacity Development Strategy (2015–2021),

Recalling further its Decision IOC-XXIX/10.1, establishing the IOC Group of Experts on Capacity Development,

Welcoming the contributions of its Member States to capacity development at the global and regional level through financial and in-kind contributions,

Welcoming further the implementation, through IOCARIBE (and its CMA2 project), of a regional prototype for the IOC Clearing-House Mechanism for the Transfer of Marine Technology (CHM/TMT),

Stressing the need to share, across programmes and regions, experience and expertise in capacity development, and to coordinate efforts to increase efficiency and maximize impact,

Urges Member States to nominate an "IOC CD focal point" who will be responsible for the coordination of their country's participation in IOC's capacity development activities;

Invites the IOC Group of Experts on Capacity Development to:

- (i) repeat the CD survey at regular intervals (biannually), possibly including CD implementation impact monitoring/metrics, also taking into account other methods such as regional reviews, science conferences, etc.;
- (ii) ensure coordination of the work of the Group of Experts and its task teams with GOSR and CD aspects of the UN Decade of Ocean Science for Sustainable Development;
- (iii) organize a regional conference on capacity development requirements of Pacific SIDS, alongside other meetings occurring within the region involving IOC Member States as well as other stakeholders active in the region and taking into account existing programmes and activities;
- (iv) prepare a detailed and costed proposal for the development of an IOC Clearing-House Mechanism for the Transfer of Marine Technology using a hybrid model of interoperable

nodes as well as a central access point, to be developed in a step-wise modular approach, in collaboration with IODE and its Project Office, and taking into account the regional prototype developed as well as evolving requirements, for submission to the IOC Executive Council at its 53<sup>rd</sup> session in 2020; such analysis should include the possibility of expanding the IOC CHM functionalities to serve other requirements such as those emerging from the BBNJ ongoing negotiations.

Calls on IOC's regional subsidiary bodies as well as regional components of global programmes to:

- (i) promote contributions to the CD survey;
- (ii) identify CD efforts of other organizations and seek complementary cooperation;
- (iii) link with other global, regional and national processes and strengthen the relationships with philanthropic, private partnerships and other regional organizations;

Invites Member States to actively contribute to the surveys and contribute to the IOC's Capacity Development activities through financial and/or in-kind contributions.

#### Decision IOC-XXX/11.2

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

The Assembly,

Having considered Document IOC-XXX/2 Annex 7,

Recalling:

- (i) the *IOC Capacity Development Strategy, 2015–2021* in which ocean literacy is identified as a main activity of the strategy output 5: Visibility and awareness increased,
- (ii) 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 the IOC's progress on ocean literacy, and the role it can play in communicating the relevance of IOC's activities for sustainable development, and in the implementation of the UN 2030 Agenda,

Also taking into account the expected role of ocean literacy in the context of the UN Decade of Ocean Science for Sustainable Development,

Decides to distribute the Draft IOC Ocean Literacy Plan of Action, as detailed in Document IOC-XXX/2 Annex 7, to Member States, IOC regional subsidiary bodies as well as global programmes for comments;

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

Requests the Secretariat to collect comments and contributions to the Draft IOC Ocean Literacy Plan of Action from Member States and relevant organizations, through a circular letter, and to submit, for endorsement, its revised version at the 53<sup>rd</sup> Session of the Executive Council in 2020.

Decision IOC-XXX/12.1

**Follow-up to Resolution EC-LI.2**

The Assembly,

Having examined documents IOC-XXX.2 Annex 12 and Resolution EC-LI.2,

Thanks Vice-Chair, Ariel H. Troisi, and all Member States having contributed to the work of the Intersessional Financial Advisory Group;

Further thanks the IOC Chair Peter Haugan for maintaining the dialogue with the UNESCO General Conference President and the UNESCO Working Group on Governance with a view of exchanging ideas and experiences in the implementation of the recommendations and improving IOC's effectiveness and efficiency;

Takes note of documents IOC-XXX/2 Annex 12 and Resolution EC-LI.2 and annexes subject to further examination by the Financial Committee with a view of formulating a draft resolution for discussion and adoption in plenary.

Decision IOC-XXX/12.2

**Draft Programme and Budget for 2020–2021 (Draft 40 C/5)**

The Assembly,

Having examined document IOC-XXX/2 Annex 9,

Shares the concerns expressed by the Executive Secretary over the financial situation of the Organization and the impact of the proposed budgetary scenarios, none of which reflect the actual needs of the Commission;

Takes due note of the Secretariat's proposals for three budget scenarios and accompanying programmatic targets, subject to further examination by the Financial Committee with a view of formulating draft resolution for discussion and adoption in plenary.

Decision IOC-XXX/12.3

**Draft Medium-Term Strategy for 2022–2029: Preliminary Proposals by the Secretariat**

The Assembly,

Having examined document IOC-XXX/2 Annex 10 Rev.,

Thanks the Executive Secretary for the preliminary proposals developed by the Secretariat for the Draft Medium-Term Strategy for 2022–2029;

Requests the Executive Secretary to continue consultations in an open and inclusive manner with Member States;

Expresses its appreciation that the document could benefit from inputs of the IOC Officers at their annual meeting, 15–17 January 2019, and from intersessional consultations through IFAG;

Takes note of document IOC-XXX/2 Annex 10 Rev. subject to further examination by the Financial Committee with a view of formulating a draft resolution for discussion and adoption in plenary.

Decision IOC-XXX/12.5

**Preparation for the Commemoration of the 60th Anniversary of the IOC (1960–2020)**

The Assembly,

Taking note of the oral report by the Chairperson of IOC,

Encourages Member States to contribute to the IOC History Project by responding to IOC Circular Letter 2767 by 15 September 2019;

Invites Member States and subsidiary bodies to inform the Secretariat about commemoration activities planned and to exchange ideas for national and regional activities.

Decision IOC-XXX/12.6

**IOC Elections 2019**

The Assembly,

Elects the members of its Executive Council for the period 2019–2021 as follows:

- Ariel Hernán Troisi (Argentina) as Chairperson, and
- Monika Breuch-Moritz (Germany) as Vice-chairperson for Group I
- Alexander Frolov (Russian Federation) as Vice-chairperson for Group II
- Frederico Antonio Saraiva Nogueira (Brazil) as Vice-chairperson for Group III
- Satheesh Chandra Shenoi (India) as Vice-chairperson for Group IV
- Karim Hilmi (Morocco) as Vice-chairperson for Group V,

And the following Member States by electoral group:

- (i) Canada, France, Germany, Greece, Italy, Portugal, Spain, Sweden, Turkey, United Kingdom of Great Britain and Northern Ireland (Group I)
- (ii) Bulgaria, Russian Federation (Group II)
- (iii) Argentina, Brazil, Chile, Colombia, Grenada, Mexico, Peru, Saint Vincent and the Grenadines, Uruguay (Group III)
- (iv) Australia, China, India, Iran (Islamic Republic of), Japan, Pakistan, Philippines, Republic of Korea, Thailand (Group IV)
- (v) Côte d'Ivoire, Egypt, Kenya, Kuwait, Madagascar, Morocco, Oman, Senegal, South Africa (Group V).

Decision IOC-XXX/12.7

**Dates and Places of next Sessions of the Executive Council and Assembly**

The Assembly,

Recalling the recommendations of the Executive Council at its 52nd session (EC-LII, Dec.4),

Decides to hold:

- (i) The 53<sup>rd</sup> session of the Executive Council for 3.5 days in UNESCO Headquarters, Paris, over the period of 29 June to 3 July 2020,

- (ii) The 31<sup>st</sup> session of the Assembly for a duration of 6.5 plus one Ocean Science Day, at UNESCO Headquarters, over the period from 14 to 25 June 2021, preceded by a one-day session of the Executive Council (54<sup>th</sup> session) acting as the steering committee of the Assembly.

Decision IOC-XXX/13

**Adoption of Resolutions and the Summary Report**

The Assembly,

Having considered the recommendations of the Executive Council at its 52nd session (EC-LII, Dec.3.4(II)) on organization matters,

Adopts the decisions and 3 resolutions of the session;

Takes note of the draft summary report of the session and the compilation of the decisions adopted during the session (IOC-XXX/Decisions);

Requests the Executive Secretary to circulate the narrative part of the report to Member States in the four working languages of the Commission by 31 August 2019 at the latest for its adoption by correspondence by 15 October 2019.



## ANNEX I

### AGENDA

#### 1. OPENING

#### 2. ORGANIZATION OF THE SESSION

- 2.1 ADOPTION OF THE AGENDA AND OTHER ORGANIZATIONAL MATTERS
- 2.2 DESIGNATION OF THE RAPPORTEUR
- 2.3 ESTABLISHMENT OF INTRASESSIONAL COMMITTEES AND WORKING GROUPS
- 2.4 INTRODUCTION OF DOCUMENTATION, TIMETABLE AND MEMORIAL LECTURES

#### 3. IOC MATTERS AND REPORTS

- 3.1 STATEMENT OF THE CHAIRPERSON
- 3.2 REPORT OF THE EXECUTIVE SECRETARY ON THE WORK ACCOMPLISHED SINCE THE FIFTY-FIRST SESSION OF THE EXECUTIVE COUNCIL AND ON BUDGET IMPLEMENTATION (JULY 2018–MAY 2019)
- 3.3 REPORTS BY THE CHAIRS OF THE IOC SUB-COMMISSIONS AND REGIONAL COMMITTEES
  - 3.3.1 **IOC Sub-commission for the Western Pacific: 12th Session of WESTPAC, Manila, Philippines, 2–5 April 2019**
  - 3.3.2 **IOC Sub-commission for the Caribbean and Adjacent Regions: 15th Session of IOCARIBE, Oranjestad, Aruba, 6–10 May 2019**
  - 3.3.3 **IOC Sub-commission for Africa and the Adjacent Island States: 5th Session of IOCAFRICA, Nairobi, Kenya, 25–27 March 2019**
  - 3.3.4 **IOC Regional Committee for the Central Indian Ocean: 7th Session of IOCINDIO, Hyderabad, India, 25–26 April 2019**
- 3.4 REPORT OF THE IOC ON ITS ACTIVITIES (2018–2019) TO THE FORTIETH GENERAL CONFERENCE OF UNESCO

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

Item 4 will be preceded by a special Ocean Science half-Day opening a discussion on science questions in the context of the Decade

- 4.1 PROGRESS REPORT ON THE PREPARATION OF THE UNITED NATIONS DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT
- 4.2 ENHANCED COHERENCE, IMPACT AND FUTURE ORIENTATIONS OF THE IOC IN SUPPORT OF THE UN DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT AND 2030 AGENDA

#### 5. UNITED NATIONS PARTNERSHIPS

- 5.1 COOPERATION WITH WMO

- 5.2 IOC CONTRIBUTION TO THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC)

**6. OCEAN RESEARCH**

- 6.1 HARMFUL ALGAL BLOOMS: 14TH SESSION OF IPHAB, UNESCO, PARIS, 20–26 April 2019
- 6.2 REPORT OF THE WMO-IOC-ISC WORLD CLIMATE RESEARCH PROGRAMME (WCRP)

**7. OBSERVING SYSTEMS AND DATA MANAGEMENT**

- 7.1 OBSERVING SYSTEMS
- 7.1.1 **GOOS: Strategy, Implementation, and Governance**
- 7.1.2 **WMO-ISC-IOC-UNEP Global Climate Observing System (GCOS) workplan**
- 7.1.3 **Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM)**
- 7.2 DATA MANAGEMENT
- 7.2.1 **International Oceanographic Data and Information Exchange: 25<sup>th</sup> Session of IODE, Tokyo, Japan, 18–22 February 2019**
- 7.2.2 **Draft Concept for an Ocean Data and Information System (ODIS)**

**8. EARLY WARNING AND SERVICES**

- 8.1 REGIONAL TSUNAMI WARNING SYSTEMS
- 8.1.1 **Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System: 28<sup>th</sup> Session of ICG/PTWS, Montelimar, Nicaragua, 2–5 April 2019**
- 8.1.2 **Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System: 12<sup>th</sup> Session of ICG/IOTWMS, Kish Island, Iran (I.R.), 9–12 March 2019**
- 8.1.3 **Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions: 14<sup>th</sup> Session of the ICG/CARIBE-EWS, Punta Leona, Costa Rica, 8–11 April 2019**
- 8.1.4 **Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas: 15<sup>th</sup> Session of ICG/NEAMTWS, UNESCO, Paris, 26–28 November 2018**
- 8.2 GLOBAL COORDINATION OF WARNING AND MITIGATION SYSTEMS FOR OCEAN HAZARDS
- 8.2.1 **Working Group on Tsunamis and Other Hazards Related to Sea-Level Warning and Mitigation Systems: 12th Meeting of TOWS-WG, UNESCO, Paris, 21–22 February 2019**

**9. ASSESSMENT AND INFORMATION FOR POLICY**

9.1 REPORT OF THE IHO-IOC GEBCO GUIDING COMMITTEE

**10. SUSTAINABLE MANAGEMENT AND GOVERNANCE**

10.1 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

10.2 INTEGRATED COASTAL AREA MANAGEMENT PROGRAMME (ICAM) STRATEGY IMPLEMENTATION

**11. CAPACITY DEVELOPMENT**

11.1 REPORT OF THE IOC CAPACITY DEVELOPMENT GROUP OF EXPERTS

11.2 IOC'S CONTRIBUTION TO OCEAN LITERACY IN 2018–2021: ACTION PLAN

**12. ADMINISTRATION, FINANCE AND MANAGEMENT**

12.1 FOLLOW-UP TO RESOLUTION EC-LI.2: FINANCE AND REGULATIONS, GOVERNANCE, WORKING METHODS & PROCEDURES – REPORT OF THE CHAIR OF THE INTERSESSIONAL FINANCIAL ADVISORY GROUP

12.2 DRAFT PROGRAMME AND BUDGET FOR 2020–2021 (DRAFT 40 C/5)

12.3 DRAFT MEDIUM-TERM STRATEGY 2022–2029: PRELIMINARY PROPOSALS BY THE SECRETARIAT

12.4 REPORT BY THE CHAIRPERSON OF THE FINANCIAL COMMITTEE

12.5 PREPARATION FOR THE COMMEMORATION OF THE 60TH ANNIVERSARY OF THE IOC (1960–2020)

12.6 ELECTIONS OF THE OFFICERS OF THE COMMISSION AND MEMBERS OF THE EXECUTIVE COUNCIL

**12.6.1 Election of the Chairperson of the Commission**

**12.6.2 Election of the Vice-Chairpersons of the Commission**

**12.6.3 Election of the Members of the Executive Council**

12.7 31<sup>TH</sup> SESSION OF THE ASSEMBLY AND 53<sup>RD</sup> AND 54<sup>TH</sup> SESSIONS OF THE EXECUTIVE COUNCIL

**13. ADOPTION OF RESOLUTIONS AND SUMMARY REPORT**

**14. CLOSURE**

ANNEX II

**REPORT OF THE 52ND SESSION OF THE IOC EXECUTIVE COUNCIL  
ACTING AS THE STEERING COMMITTEE OF THE ASSEMBLY**

UNESCO, Paris, 25 June 2019  
(IOC/EC-LII/3)

**1. OPENING**

1 The Chair, Professor Peter Haugan, opened the 52<sup>nd</sup> session of the Executive Council at 10.00 h in Room IV on Tuesday 25 June 2019. He welcomed the participants and briefly referred to the documentation prepared for this session. He reminded delegates that the Council was acting as the Steering Committee for the 30<sup>th</sup> session of the Assembly, in accordance with Rule of Procedure No. 12(2), with no other substantial discussions on its agenda.

**2. ORGANIZATION OF THE SESSION**

2.1 ADOPTION OF THE AGENDA

2 The Executive Secretary introduced this item.

3 The Executive Council met in the morning and resumed its work later in the afternoon to adopt the summary report of the session. Outside of its agenda, three presentations on the clearinghouse mechanism for Transfer of Marine Technology, ODIS Catalogue of Sources and the Global Ocean Science Report 2020 were scheduled from 3:00 p.m. to 4:30 p.m. in the same room with full interpretation before the Executive Council resumed its work and adopt its report.

2.2 DESIGNATION OF THE RAPPORTEUR

4 The Chair invited the Executive Council to designate the Rapporteur for the present session.

**EC-LII, Dec. 2**

**Agenda and Rapporteur**

The Executive Council,

Adopts the agenda as set out in document IOC/EC-LII/1 Prov. Rev.

Upon a proposal from Japan, seconded by China, Indonesia, Republic of Korea,

Designates Ms Suree Satapoomin (Thailand) Rapporteur for its present session to assist the Chair and the Executive Secretary in the preparation of the summary report of the session.

**3. ARRANGEMENTS FOR THE 30TH SESSION OF THE ASSEMBLY**

3.1 DESIGNATION OF STATUTORY COMMITTEES  
AND SESSIONAL WORKING GROUPS

5 With reference to the revised provisional agenda for the Assembly, the Chair reminded the Executive Council of the role of each committees (Nominations, Resolutions and Financial) and proposed that some items be furthered examined by the Financial Committee after their discussion in plenary.

6 He also reminded the Council that it could submit proposals on their chairpersonship and composition, but that the ultimate decision remains entirely with the Assembly. He invited Member

States to consider participating in the work of committees. The three committees (Nominations, Resolutions and Financial) will meet respectively in room VI, VIII and VII.

7 The Financial Committee is open-ended and its meetings would have English/French interpretation. The Chair reminded the Executive Council that the Financial Committee would be facing a now customary heavy workload. In addition to the items under its purview, it will be considering the follow-up to resolution EC-LI.2 on finance and regulations, governance, working methods & procedures and the preliminary proposal of the draft IOC medium-term strategy for 2022–2029.

8 Chairman Haugan indicated that, during the Assembly, he would not read out the names of the Member States wishing to participate in the various committees by show of hands during the Assembly with the exception of the Nominations Committee. Only the names of the Member States present and participating in the committees and sessional working groups were to be listed in the final report of the Assembly.

### EC-LII, Dec. 3.1

#### Sessional Committees

The Executive Council,

Pursuant to Rule of Procedure No. 12(2) the Executive Council, acting as the Steering Committee of the Assembly, recommends to the Assembly the formation of each of the following committees:

- Financial Committee: under the chairship of Ariel H. Troisi (Argentina, Vice-chair). Ksenia Yvinec provides the Secretariat support to the Financial Committee.
- Resolutions Committee: under the chairship of Yutaka Michida (Japan). Julian Barbière provides the Secretariat support to the Resolutions Committee.
- Nominations Committee: under the chairship of Sang-Kyung Byun (Republic of Korea). Thorkild Aarup and Salvatore Aricó provide the Secretariat support to the Nominations Committee.

9 The Chair then invited Member States and the Executive Secretary to express views on the need for sessional working groups during the Assembly on any item on its agenda, by briefly explaining the scope of their work expected. None were proposed.

### 3.2 CONSIDERATION OF REQUESTS FOR SUPPLEMENTARY ITEMS

10 The Chair informed the Executive Council that, under Rules of Procedure 8, 9 and 11.2, dealing with the preparation of the agenda for the Assembly, no request for a supplementary item was received at the Secretariat by 26 April 2019 (two months before the date of the opening of the 30<sup>th</sup> session).

### 3.3 TIMETABLE AND ORGANIZATIONAL MATTERS

11 The Executive Secretary briefly presented the provisional agenda and timetable for the Assembly and the main side events recorded on the Assembly webpage. He elaborated on the special room arrangement during the session. The Assembly would meet in room I during the two first days of its session and in room II for the remainder of the session. Day-2 of the Assembly will be largely dedicated to the UN Decade of Ocean Science for Sustainable Development (2021–2030), with an Ocean Science Day event in the morning, open to the public.

12 The IOC Executive Secretary then expanded on the draft resolutions received by 21 June and the volume of the documentation prepared for the Assembly session. He raised an issue related with the adoption of the summary report during regular sessions of governing bodies. He reminded that the heavy agenda of the last two regular sessions of the Executive Council did not allow for

adoption of the report in four languages during the session. The reports were successfully adopted by correspondence. He further pointed out that the increasing cost of hiring the translation service for that purpose far exceeds the increasing cost of translating the narrative report after the session. Decisions and resolutions would be translated and adopted during the session in four languages and the narrative part of the report will be prepared by the Secretariat and published in English only during the session and adopted by correspondence in four languages after the session. With the increasing costs of translation and interpretation, coupled with the increasing costs of central services staff that support the session and additional costs related to the first two days in Room I, this approach to report adoption is the only way for the Secretariat to stay within the available budget. It is also fully in line with the established UNESCO governing bodies practices. For the 2020–2021 biennium, further savings will need to be considered, in consultation with the Officers of the Commission.

13 The Chair asked for comments and questions. There were none.

### EC-LII, Dec. 3.3

#### **Timetable for the 30<sup>th</sup> session of the Assembly and organizational matters of regular governing body sessions**

The Executive Council,

Taking into consideration the comments made by the Officers, the need to accommodate time for the reporting of sessional committees in plenary and scheduled invitation of speakers,

Accepts the provisional timetable for the 30<sup>th</sup> session of the Assembly as set out in document IOC-XXX/1 Add. Prov. Rev.2;

Considering the financial and time constraints related to the adoption of the report in four languages in-session,

Accepts to adopt the narrative part of the report of its regular sessions in four languages by correspondence after the session and the decisions and resolutions in four languages during the session;

Invites the Assembly to proceed in the same manner for the adoption of its report.

#### **4. DATES AND PLACE OF THE 53rd SESSION OF THE EXECUTIVE COUNCIL AND PROPOSAL FOR DATES AND PLACE OF THE 31st SESSION OF THE ASSEMBLY**

14 The Chair reminded the Council that the Assembly and the Executive Council did not give clear indication of duration and dates for their next session. The Officers recommended that the Assembly should adopt the same scheme as for the current biennium.

15 The Chair invited delegates to share information about the main events/conferences that will need to be taken into account when choosing the dates for the next sessions of the Council in 2020 and the Assembly in 2021.

**EC-LII, Dec. 3.3**

**Timetable for the 30<sup>th</sup> session of the Assembly  
and organizational matters of regular governing body sessions**

The Executive Council,

Taking into consideration the comments made by the Officers, the need to accommodate time for the reporting of sessional committees in plenary and scheduled invitation of speakers,

Accepts the provisional timetable for the 30<sup>th</sup> session of the Assembly as set out in document IOC-XXX/1 Add. Prov. Rev.2;

Considering the financial and time constraints related to the adoption of the report in four languages in-session,

Accepts to adopt the narrative part of the report of its regular sessions in four languages by correspondence after the session and the decisions and resolutions in four languages during the session;

Invites the Assembly to proceed in the same manner for the adoption of its report.

**EC-LII, Dec. 4.**

**Dates and places of next sessions of the Executive Council and Assembly**

The Executive Council,

Taking into account both the level of funding proposed for the organization of the IOC governing body sessions in the next C/5,

Considering the experience gained during the 2018–2019 biennium,

Recalling its decision EC-LI/6.3 on the same subject and EC-LII, Dec. 3.4 on organizational matters,

Recommends to the Assembly to carefully consider the items for the agenda of the 53<sup>rd</sup> session of the Executive Council of 3.5 days in June 2020;

Further recommends to the Assembly to identify any potential calendar conflicts with important meetings or cultural days in June 2020 for the 53<sup>rd</sup> session of the Executive Council and a period of six working days preceded by a one-day session of the Executive Council over a period to be decided in June/July 2021 for the 31<sup>st</sup> session of the Assembly.

**5. ADOPTION OF THE SUMMARY REPORT**

EC-LII, Dec. 5

**Report**

The Executive Council,

Having considered the draft summary report of the session (IOC/EC-LII/3s prov.) presented to it in plenary session at 17:05 on 25 June 2019,

Adopts the summary report of its 52nd session as the Executive Council recommendations to the Assembly at its 30<sup>th</sup> session.

**6. CLOSURE**

ANNEX III

**ADDRESSES AND STATEMENTS**

**–A–**

**Address by Mr Xing Qu,  
Deputy Director-General of UNESCO  
on the occasion of the 30th Session of the IOC Assembly**

UNESCO, 26 June 2019

Mr Peter Haugan, Chair of the Intergovernmental Oceanographic Commission,

Excellencies,

Ladies and Gentlemen,

I thank you for this opportunity to address the Member States and Secretariat of the Intergovernmental Oceanographic Commission at the opening of the 30th Session of the IOC's Assembly.

I would like to begin by extending a warm welcome to all attending Member States, and especially to Equatorial Guinea, which has become the 150<sup>th</sup> Member State to join the IOC – welcome!

This Assembly and its outcomes are of the utmost importance to our Director-General. She had the pleasure of participating in the meeting of the Officers of the Commission earlier this year in January, but unfortunately prior commitments have prevented her from joining us today. She has asked me to convey to you her gratitude for the support extended to the IOC over the years.

Oceans are the source of life on earth. They produce half of the oxygen we breathe and they regulate the climate. Yet, acidification, pollution, dead zones, harmful algal blooms and ecosystem degradation and other stressors threaten their health. The Global Assessment Report released in May at UNESCO Headquarters by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services paints a dire picture of the deterioration of biodiversity throughout the world, notably in our oceans.

These changes compel us to take action. We must draw from the powers of science and technology to catalyse a paradigm shift in how we interact with our oceans.

This will be essential to protect the delicate equilibrium of our ecosystems, to preserve the beauty of our planet and ensure our very survival as a species.

This entails that we foster understanding of our oceans, our seas and marine resources, and continue to map and analyse how they evolve. Doing so can enable us to make use of their resources in a more sustainable way, and to mitigate climate change and marine biodiversity erosion.

Considering the magnitude of what is at stake, UNESCO-IOC's mission is more relevant than ever. As one of the custodians for SDG 14 – the “ocean” goal – the Commission has been instrumental for the last 60 years in creating and exchanging scientific ocean knowledge.

The UNESCO-IOC applies its unique normative and convening powers to ensure that ocean science informs and supports major international policy initiatives in areas such as the sustainable blue economy, as well as negotiations for a legally binding treaty to conserve biodiversity and sustainably use marine resources in areas beyond national jurisdiction.



At the intersection of science and policy, the UNESCO-IOC also prepares and coordinates the United Nations' flagship ocean initiative, the United Nations Decade of Ocean Science for Sustainable Development.

The preparations for this formidable undertaking commenced last December, as we gathered some of the leading global ocean science, management and policy experts in Paris to form an Executive Planning Group for the Decade. The Group is positioned to guide the Preparatory Phase and support the UNESCO-IOC Secretariat in developing the Decade's implementation plan.

The First Global Planning Meeting of the Decade, held last month, was a success, assembling more than 200 ocean experts in Copenhagen, Denmark, to participate in this collective and inclusive effort.

Seeking to make the Decade as global as possible, UNESCO-IOC is currently coordinating the organization of eight regional meetings, and the consultation framework is set to cover all ocean basins, including arctic regions. There will be opportunities for all to share their input on the Decade of Ocean Science they would like to see.

We also look forward to working with our UN and non-UN partners, as well as societal actors, in co-designing effective science-based solutions to reverse the decline of the ocean, especially for the most vulnerable countries such as the small island developing states.

The Decade of Ocean Science for Sustainable Development will belong to us all, leaving no person and no country behind.

Mesdames et messieurs,

L'UNESCO s'est lancée dans un processus de transformation stratégique afin de mieux s'adapter aux rapides mutations du monde qui l'entoure. Cela est nécessaire si nous voulons mieux ancrer nos actions et nos réponses face aux défis multiformes du 21e siècle.

Nous comptons pour cela sur le dialogue avec nos Etats membres. Afin d'intégrer pleinement la contribution de l'UNESCO-COI à la stratégie à moyen terme de l'Organisation et prendre en compte les points de vue et les priorités de tous les États membres, un « dialogue » sera organisé le mois prochain avec les États membres de l'UNESCO afin de réfléchir ensemble au futur de nos programmes.

Nous comptons aussi sur nos partenaires, aussi bien institutionnels que du secteur privé, pour faire de notre maison commune – l'UNESCO – un modèle de dialogue et de réussite pour les Nations Unies.

En juin 2020, la Conférence des Nations Unies sur les océans exhortera tous les pays à intensifier leurs actions pour atteindre les objectifs ambitieux de l'ODD 14.

Car de la santé des océans dépend la survie de la Terre. Nous n'avons qu'une seule Terre et elle est fragile.

En conclusion de cette allocution, je voudrais citer les mots de l'astronaute Rob Garan, qui parle justement de la Terre vue de l'espace comme d'un « oasis fragile ».

Car bien que les images satellitaires montrent d'abondantes masses d'eau sur la surface de notre planète, essentiellement les océans, notre survie dépend de la façon dont nous allons gérer et soigner cette ressource.

Aussi ce dialogue que nous ouvrons ce matin, à travers cette 30e Assemblée de la COI, revêt une mission de toute première urgence: mettre en commun nos savoirs, nos expériences pour penser ensemble les conditions pour des océans en bonne santé, pour nous et les générations à venir.

Je veux saluer votre présence nombreuse à cette Assemblée, car votre participation témoigne un engagement sans faille en faveur de la Commission océanographique intergouvernementale de l'UNESCO.

Je vous remercie.

–B–

**Chairperson's Statement  
on recent developments in the work of the Commission  
and perspectives for the coming years  
Prof. Peter Haugan**

Wednesday, 26 June 2019

Dear delegates, ladies and gentlemen,

When we met here in Paris for the previous session of the IOC Assembly in 2017, one of the highlights was the resolution on the Decade of Ocean Science for Sustainable Development. The then President of the UN General Assembly, later UN Special Envoy for the Ocean, Peter Thomson, and UNESCO DG Irina Bokova were among the distinguished contributors. The assembly in 2017 took place shortly after the UN Ocean Conference in New York. The IOC had 148 Member States.

When I look back at my statement from 2017 and other documents from that time, I see that we were excited because of an emerging awareness about the ocean and the possibilities of contributing with science. Now I am quite confident that the biennium from 2017 to 2019 has been even more eventful than the former and more positive than ever for the ocean, ocean science and the IOC. People realize that a healthy ocean is needed for delivery of the ocean based services that the world will depend on, probably more and more. Many nations, groups, businesses, forces in society, people at large now care about the ocean and also turn to the ocean for solutions. The Decade was proclaimed by the UNGA in December 2017 and we have started the planning phase based on decision at the IOC Executive Council in 2018. The IOC has reached 150 Member States and we are seeing active contributions to IOC activities from a wider range of MSs than we used to. This engagement has to increase further if the IOC is to fulfil its mandate in the future.

I am conscious of the big differences among Member States in terms of capacities and capabilities. Many of these differences are brought up by the Global Ocean Science Report, a flagship product of the IOC, recognized in the UN system as measuring progress against Sustainable Development Goal (SDG) target 14.A, and coming in its next edition in 2020. This report should be seen and used as a pointer to the needs for capacity building. I sincerely believe that SDG target 14.A provides a very strong imperative for all Member States so I will read it out in full:

"Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries"

This is a call for action and it is agreed by all Member States of the UN at the highest level. Let us not forget to capitalize on this recognition of ocean science and related issues handled by the IOC when we try to stimulate and argue for participation and joining forces in programs and activities.

Not only science capacity, but also representation in Paris and ability to take part here varies quite a bit between Member States. In order to engage UNESCO Member State delegations also informally between governing body meetings, the Friends of the Ocean group here at UNESCO was initiated by the Norwegian UNESCO delegation some time ago. Lately, elected IOC officers took part in a Friends of the Ocean meeting here in January 2019 providing perspectives and answers to

Member States on a range of issues raised. In May 2019 I provided updates in a Friends of the Ocean meeting co-chaired by Norway and the Seychelles focussing on preparations for this assembly. I hope these contributions from your elected officers has been useful.

Let me also take this opportunity to thank my fellow officers for their engagement in a series of important processes both internal to the IOC and representing IOC in the UN system, in the regions and in a range of other fora. I believe that giving IOC officers increased responsibilities between meetings is a good way to strengthen the IOC, its visibility and recognition, and something to keep in mind in the present and future sessions and for tasks emerging. The selection of Members of the Decade Executive Planning Group, leading the Intersessional Financial Advisory Group, Capacity Development work and Consultations with WMO are prime examples in the present intersessional period of elected vice chairs standing up to the challenge and putting in significant and sometimes crucial efforts.

I have had the pleasure of leading IOC delegations to sessions of the Intergovernmental Conference (under UNCLOS) on a legally binding instrument for conservation and sustainable use of biodiversity in areas beyond national jurisdiction (BBNJ) in September last year and March this year at the UN in New York. I also contributed together with many others in the IOC "family" to the Informal Consultative Process on Ocean and the Law of the Sea in New York in June. This year the full 4-day meeting very appropriately was focussed on ocean science and the decade. In all these occasions I have found it very fruitful when presenting the IOC, our mission and specific issues, that both members of the IOC Secretariat and representatives of Member States are active in complementary roles.

The Intergovernmental Oceanographic Commission (IOC of UNESCO) was created in 1960 to coordinate ocean science at the international level. The Scientific Committee on Oceanic Research (SCOR) had been formed shortly before in order to further ocean research, but it was recognized that an intergovernmental body (the IOC) was needed in addition to the nongovernmental SCOR. When the United Nations Convention on the Law of the Sea (UNCLOS) was established, IOC was recognized as the competent body for ocean science in the UN system. The IOC Member States have gradually given the organization several roles and responsibilities beyond collaboration and coordination of ocean science in a strict sense, including scientific support to decision making of Member States, capacity building, standard setting, sustained observations, securing, storing and sharing of data, and services including tsunami warning systems.

Other UN organizations with global scope as well as regional organizations related to the UN and outside the UN system are also involved in coordination of ocean science. I believe at this time we are seeing clear evidence that the IOC mandate is as relevant as ever. On the other hand, there are so many more actors and possible contributors that leading collaboration and ensuring coordination requires clever and modern approaches, becoming ever more effective, and recognizing the need for division of labor between IGOs, MSs, other organizations and institutions.

During the present intersessional period I continued my tour of UN bodies. I believe that discussion with Member States at Governing Body meetings is essential to ensure engagement in key issues and involvement towards collaboration with the IOC. In addition to links to IHO, UN Environment, International Seabed Authority, DOALOS and others, I managed to take part in the FAO Committee on Fisheries (COFI) session in Rome in 2018 where I presented the decade and invited collaboration. And it was a great privilege and pleasure for me to take part in the Ocean Dialogue at the 18th World Meteorological Congress in June 2019, following earlier discussions at the WMO Executive Council meeting the year before. WMO involvement is essential to reach several of the SDG-related ocean outcomes that have been formulated for the Decade. I am happy to report that I find that the WMO, despite it being a much larger and more powerful organization than the IOC is treating the IOC as an equal partner. This is well reflected in documents for related agenda items at this assembly. And my heartfelt thanks go to all those who have put so much effort into the very successful IOC-WMO consultations.

The communication between WMO and IOC has been particularly strong and active over the last years. JCOMM was a great success from the start and has served us well for 20 years. Now we take one further step expanding the collaboration beyond oceanography and marine meteorology to a strategic partnership covering all aspects of common interest. I am convinced that the arrangements for the Collaborative Board which we want to get started, will serve us well. With its setup we will be able to combine a top-down input from elected leadership with bottom-up technical and scientific expertise, we will strengthen the Global Ocean Observing System and a range of related groups dealing with observations, data exchange and modelling. This is a modern way for intergovernmental organizations to work together in a world where technology offers new opportunities at a faster pace than ever and where also non-governmental bodies and private industry need to be engaged.

World Ocean Day last month very appropriately was dedicated to gender aspects. In ocean science, which is dominated by Science, Technology, Engineering and Mathematics (the STEM disciplines), the gender balance in terms of the fraction of female scientists is considerably better than in STEM topics generally, 38% vs 28 % according to the IOC Global Ocean Science Report. But this fraction of females among ocean scientists is not enough. In particular we really need to take steps to get more women in leadership positions in ocean science institutions and programmes, including those of the IOC.

A consistent driving force over the past 60 years for truly global coordination of ocean science, has been the recognition that the ocean is too big for any single nation, even the most powerful of nations, to observe, study and understand alone. Division of labor makes sense. Then, for science to make progress, observational data have to be shared. Recognizing the scale of many oceanic phenomena which require observations from a large area in order to be described properly and e.g. in terms of tsunamis and storms to be forecasted in order to save lives, provides another impetus for data sharing. Concerns over cross border pollution, global environmental change give further motivation for coordination including planning of observation programs and data sharing.

The need for international coordination of ocean science and related activities has probably never been stronger than today. Unless ocean science work is distributed among all Member States with resources, and more Member States are empowered (SDG target 14.A), more lives will get lost, ocean resources will not be harvested in the way which humanity needs and the risk of conflicts increase. The UN Decade of Ocean Science for Sustainable Development (2021-2030) provides a unique opportunity not only to strengthen ocean science and knowledge about the ocean, but also to carefully consider strengthening of the mechanisms for coordination and data sharing. This is particularly relevant to ocean assessments and the yet-to-be-negotiated legally binding instrument for conservation and sustainable use of biodiversity in areas beyond national jurisdiction.

The perspective from now until 2030, is the time frame agreed by all members of the United Nations to be crucial for a sustainable future. Within the next decade, the goal is to provide nutritious food, clean energy, water, medical services and decent living conditions for all people on Earth in a sustainable way, i.e. without overstepping the carrying capacity of the planet. Few believe that this can be done without harvesting more from the ocean and increasing activity at sea. Yet, the ocean and its ecosystem services are under threat from pollution and climate change.

Ocean science based solutions are needed and they are needed fast. Open innovation, sharing of knowledge, best practices and collaboration will be imperative. The decade is coming at exactly the right time. It invites and encourages governments, institutions and individuals to play a leading role in putting ocean science to work for our global common future. This is not a race where the aim is to leave others behind. On the contrary, now is the time to lead by example. The future we all want requires a healthy ocean and sustainable use of its resources. "The science we need for the ocean we want" is not only a slogan for the decade but can also be interpreted to encompass the essence of what IOC is all about. Therefore I hope that the decade is seen as an enabling mechanism for strengthening the key strategic priorities and contributing to the High Level Objectives of the IOC as we move into the coming decade. We should do this, not to serve ourselves but for nothing less than

the future of the planet. I believe people can make a difference. I believe the IOC can make a difference. Let us do what it takes!

–C–

**Address by UNSG's Special Envoy for the Ocean, Ambassador Peter Thomson,  
IOC Assembly, Paris, 27 June 2019**

Mr President, Executive-Secretary, Excellencies, Ladies and Gentlemen, all courtesies observed.

Thank you for the opportunity of addressing you this afternoon. I am particularly pleased to be here in Paris a year ahead of the UN Ocean Conference to be held in Lisbon, 2 to 6 June, because it gives me the opportunity to underline just how central the scaling up of Ocean science will be to the success of the conference. The 2017 UN Ocean Conference was, and the 2020 conference will be, global game-changers for Ocean action. As a result, Ocean science stands to make huge gains from next year's conference.

Dear colleagues, when you are sick, you go to the doctor for diagnosis and treatment. Well, the Ocean's health is in trouble, the symptoms are clearly evident: from unconscionable levels of pollution to destruction of marine resources and ecosystems, from rising Ocean temperatures and rising sea levels, to exacerbating trends of acidification and deoxygenation.

The full implications of this serious decline in the Ocean's health are not completely evident to us yet; but may well include the death of coral, with all that would imply for food security and the Ocean's ecosystem. Also, it may well entail changes in the Ocean's currents, the distribution of marine species and the extinction or great diminishment of a multitude of species including plankton, shellfish and vertebrates. Safe to say, its time to call in the doctor! Which is basically why the UN General Assembly mandated the UN Decade of Ocean Science.

Mr President,

The 2020 UN Ocean Conference and the UN Decade of Ocean Science are intimately linked. In mandating the conference, the UN General Assembly gave it the theme of, "Scaling up Ocean Action based on science and innovation for the implementation of Goal 14: stocktaking, partnerships and solutions." With the conference's focus on the progress from science to action, it will provide a perfect strategic opportunity for IOC to present the action plan for the Decade of Ocean Science and to forge partnerships around programmes and initiatives.

Mr President,

I want to take this opportunity to reinforce that this process must be ruled by integrity of implementation. We have a universally agreed plan and there can be no back-sliding if we're going to succeed in restoring the Ocean's health, and our relationship with it, to one of respect and balance. Dear colleagues, without that restoration, we are condemning our children, grandchildren and those who come after them to great existential uncertainties.

As we meet today, our responsibility covers four key Ocean elements of that implementation process: firstly, SDG14 to conserve and sustainably use the Ocean's resources; secondly, SDG14a to increase scientific knowledge, develop research capacity and transfer marine technology, with special reference to the IOC; thirdly, the 2020 UN Ocean Conference to support SDG14's implementation; and fourthly, preparations for the UN Decade of Ocean Science for Sustainable Development. At the highest levels available to humanity, we have decided upon our common plan in relation to the Ocean; our shared task is now to summon the will and the means to deliver on our brave purpose.

It is thus that we must call on our governments to provide the resources to do the job. The Ocean's health is deteriorating faster than we are committing remedial resources, and we have to fix that fast.

Partnerships will be critical to success, building trust and sharing resources, innovation and workable solutions. And these must be built between business, academia, NGOs, IGOs and regional organisations. But governments have to be at the core, stepping up with budgetary resources, national planning and full engagement with the Decade. Increasing national contributions to the budget of the IOC would be a welcome start.

The UN System also has a massive role to play in delivering on our purpose. Ocean observation and research results will be key to achieving the 2030 Sustainable Development aims of UN organisations, agencies and programmes, including FAO, UNEP, WMO, IMO, ISA and UNFCCC. This work must be cross-cutting, not confined in silos, or blinkered by bureaucracies. Again, strengthening of the provisions of the IOC could be the best answer for a universal Ocean observation and research results mechanism for the UN System as a whole.

Mr President,

We must take every step necessary to ensure we do not undershoot our ambitions for the UN Decade of Ocean Science. I am confident that the 2020 UN Ocean Conference will deliver the Decade all necessary support through its Interactive Dialogues, its consensual declaration, its voluntary contributions, and its provision of a global platform for presentation of the Decade's plan of action.

I had the pleasure of visiting Copenhagen last month to participate in the 1st Global Planning Meeting for the preparation of the UN Decade and as a result am confident the IOC is preparing well for the Decade's plan of action. I was able to report as such last week in Noumea where I was speaking at the Conference of the Pacific Community, where I found high anticipation for the joint IOC-Pacific Community regional workshop to be held in Noumea next month. The Pacific Islands are keen to partner up to get the best results for the UN Decade, and indeed they are ideally situated around that great Ocean to play key roles in observation and research.

Mr President,

To conclude my remarks, I return to the precarious place in which we find ourselves. Consider for a moment the great predicament we face. This year the collective best of our scientists on the subject, issued the IPCC 's Special Report on Global Warming of 1.5 Degrees Celsius. To paraphrase one of the key findings of the report, coral reefs will have basically died away once we surpass global warming of 2 degrees above pre-industrial levels. For that to happen would be utter catastrophe and I'm sure I don't need to go into details before a gathering such as this. But the stark predicament we face is that thanks to humanity's tragic addiction to fossil fuels, we are currently heading towards a 3 to 4 degree world. I ask you to ponder what that predicament means for the Ocean ecosystem, for the global ecosystem, and for us?

Make no mistake, the great enemy of a healthy Ocean is the exacerbating trend of our greenhouse gas emissions. Thanks to our atmosphere-heating greenhouse gas emissions, the Ocean is steadily becoming hotter, so that the quantity of life-giving oxygen within it is dropping. So much so, we can now see that along with warming and acidification, the scale and ecological implications of Ocean deoxygenation will dictate the future of life in the Ocean. Since only good Ocean science can measure, interpret and forecast for us what that scale and those implications will be, now is the time to deploy our best scientific processes, all necessary resources, and fearless political will to steer away from impending tragedy.

Dear Colleagues,

Credible scientific consensus leads to the conclusion that what goes down in the next decade will be more important for humanity than have the last many thousands of years. This then is the setting of the UN Decade of Ocean Science, a setting out of which the findings of science will guide us

through all the decision-making processes required to provide for the future well-being of life on planet Earth.

The choice is not between optimism and pessimism; it is between action and apathetic inaction. So let it be rightful action based on scientific consensus. I urge you all to leave this Assembly as hard-nosed pragmatists with shoulders to the wheel to do what we all know to be right by sticking to our plan.

I thank you for your attention.

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**Closing statement address by Prof. Peter M. Haugan, Chairperson  
4 July 2019**

There are many challenges for the IOC to run and also to run meetings efficiently. We need to look at the ways in which we do things and I think that is a continuous focus for the IOC. Involvement of Member states in these processes is really welcome and can help us make more out of the money that we have. Perhaps it can also make us able to get more money for the activities we need to conduct and be more efficient with your time as well.

We have met in plenary session during six and a half days, from 26 June to 4 July. We have considered 42 items on the agenda. We have approved 30 decisions and three resolutions. And the plenary meeting was supported by three preparatory meetings, 11 meetings of sessional committees and 18 information and side events during the session.

I would like to thank the Member States' representatives particularly those who have stayed here until the end today but also to all those who have passionately articulated their points of view during the course of the Assembly. And again the rapporteur, Ms Suree Satapoomin of Thailand, the Chairs of the sessional committees Professor Yutaka Michida from Japan, as Chair of the Resolutions Committee, Mr Sang-Kyun Byun of the Republic of Korea as Chair of the Nominations Committee, and Mr Ariel Hernan Troisi of Argentina as Chair of the Finance Committee. I would like to thank the Executive Secretary and all the members of the secretariat who have worked very hard to make this a successful IOC Assembly. And I can tell you that there are a lot of things happening that the secretariat is doing that you don't see here in the main meeting, many, many people working late nights and starting early, making sure that this is a smoothly flowing and efficient meeting. I would also like to express my appreciation to the interpreters for always providing excellent interpretation services through the session and as well as all UNESCO staff that provide support and services to this assembly.

I would like to also take this opportunity to say a few additional words. We have during the assembly adopted very important resolutions. We have the finance resolution, which is always here, it is always important. This year it has included many items, some of which always have to be there, some of which are special to this occasion. And I think the achievement with that resolution is that we have solved some problems, we have put those behind us and we can move forward. We have a very good standing in UNESCO now, we have very good relations to UNESCO, we have the reports, we have what we need, and we have upgraded our activities. The Decade resolution is important because it contains what we need to bring to the United Nations General Assembly and we will continue to work on that. And I would also like to particularly emphasize the resolution on the WMO-IOC Collaborative Board. I think this is really a milestone that we managed to do this and that we managed to have all the preparatory work done during the intersessional period providing an excellent direction for the future.

And I don't go through all the decisions. I have been impressed I must say at this assembly both by Member States, Observers and Secretariat. I have followed the IOC activities pretty closely, worked with many members of the secretariat on various issues over a long time. Every month, almost every

week and in particular lately, we have seen great progress achieved in the various aspects of the IOC's work. As Chair, I cannot follow all aspects equally strongly, go deeply into all aspects, there are some aspects where maybe involvement from the Chair and Officers is more appropriate when we want to represent the IOC in other fora, we want to present the voice of the Member States of IOC. But there are other parts of the work here which are equally important, which are equally useful for the world, for moving into a better world, and I'd like to acknowledge the efforts in, for example, agenda items that we don't necessarily spend so much time on but which are very, very important. We have to strike a balance when we run these meetings on how much time for reporting, how much we can go into detail, and it is not always so that the agenda items requiring most time are the most important. We have certainly many activities that are not necessarily brought here in full. Remember that we should bring to the assembly items where we have need for decision or resolution. We can do reporting and communicate in different other ways on the various activities.

And in this regard, I think it is also appropriate at this point to urge Member States to be active in providing information to the IOC secretariat, to provide information on the national, regional and thematic activities, also in other ways than coming here to the Assembly and Executive Council and taking the floor and reporting on what you do. I think maybe at some later stage we will see what we can do in terms of other ways of informing each other and making us all prepared. We have a request for preparing documents in advance of the Assembly and that is a big burden on the secretariat. And I wonder if there are ways in which also member States can provide documents that can be made available in one way or another as information and inspiration to each other. There are always things that may come to mind of how we can be more efficient in solving our future challenges. Whether you are in an elected position or not, I think your thoughts and ideas and inputs are always welcome and I am quite sure that the new Chair and the new Officers will appreciate your efforts and your good suggestions. You don't have to wait for the next Executive Council to come with a good idea. You're always welcome to come with a good idea on how to proceed. Also I'd like to say that if we are to make more improvements in the way in which we run meetings, the rules of procedure are very strict and very clear. If we have ideas for doing things in a different way, we need to think about that early because it takes quite a while. If you want to change the rules of procedure, a proposal has to be made by member States a long time in advance. It has to go to the Executive Council and Assembly and so on. And this is something that we haven't really paid attention to in my chairmanship. Perhaps we should have a look at that in the near future to make sure that we always have an updated organization.

Concerning this period that I have been allowed to chair, I can't say whether it is the most exciting in the 60 years or almost 60-year history, but it is certainly the most exciting period in the time that I have been coming to IOC. And I am looking forward very optimistically to the next period. I think the next biennium and moving into the next decade is going to be yet another step up the ladder into the future. I am very, very confident in the leadership. I am so impressed with the secretariat. I am so happy to be involved more in the background from now on and I would like to say that I have all the confidence in the new leadership to take us forward into the future. This has been a great Assembly to be present at and I am looking forward to what can be achieved by this organization in the future.

I would like to thank all of you. Then I declare this 30th session of the IOC Assembly officially closed and I will bang the gavel hard this time. Have a safe trip back home and enjoy your opportunities to do something good for the ocean.



## ANNEX IV

### INFORMATIONAL ANNEX

Record of Member States' interventions at the 30th session of the IOC Assembly that were provided to the IOC Secretariat by the respective Member States. Interventions are reprinted without review or verification.

#### 3.1 Chair's Statement Report

##### Kenya

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Kenya appreciates the leadership and personal engagement of the Chairperson in promoting the role of the IOC. We also appreciate the efforts to communicate on the role of the IOC as well as strengthen the visibility and impact of the IOC.

We welcome the actions undertaken in this regard including the contribution to the the United Nations Decade of Ocean Science for Sustainable Development (2021-2030).

Kenya also commends the Chairperson and the Kingdom of Norway for organizing, informal meetings with Permanent Delegations to UNESCO. These meetings were useful for information sharing and exchange of views amongst Member States on ongoing activities of the IOC. The meetings also enabled Member States to discuss opportunities for stronger involvement with the IOC.

One of the meetings was attended by IOC officers and was very useful in providing additional input of activities in the various regions of the IOC. We take this opportunity to also appreciate the contribution of all the IOC officers.

##### United Kingdom of Great Britain and Northern Ireland

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The UK expresses its appreciation for your leadership as chair, especially in your key role in bringing the UN Decade of Ocean Science for Sustainable development into being. The building of effective partnerships with other UN bodies will be particularly important and we express our appreciation for efforts to build a stronger relationship with the WMO.

#### 3.2 Executive Secretary Report

##### Australia

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Australia congratulates the Secretariat for all its achievements across the commission's entire portfolio. In particular, we would like to thank the Secretariat for their ongoing support for the negotiation of a treaty between UNESCO and the Australian Government to secure the status of the Perth Programme Office and IOC Secretariat for the Indian Ocean Tsunami Warning & Mitigation System as a decentralised UNESCO IOC Office. The Bureau of Meteorology, on behalf of the Australian Government, is committed to hosting and providing both cash and in-kind support to this Office. We look forward to a positive outcome from these negotiations and to the continued important contribution of both the IOTWMS Secretariat and the PPO, including as a joint project office for IIOE-2, in support of the implementation of the Decade.

##### China

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China would like to commend the work and excellent leadership of Dr. Vladimir Ryabinin. In 2018, the leading agency of IOC issues in Chinese Government was transferred from State Oceanic Administration to the new Ministry of Natural Resources, due to the reshuffle of our government, but we could like to express our continuously support to IOC and its Secretariat.

Since EC 51 in 2018, China made a lot of progress in IOC framework. We sent our representatives and experts to engage in the work of nearly all the relevant mechanisms and functions of IOC, particularly WESTPAC, JCOMM, IODE, PTWS etc. China undertakes five IOC centers or platforms, including IOC Regional Training and Research Center on Ocean Dynamic and Climate (IOC -ODC Center), as one of the important components of RTRCs of WESTPAC, IOC South China Sea Tsunami Advisory Center (SCSTAC), IOC-WMO Regional Marine Instrument Center for the Asia-Pacific Region (RMIC/AP), CMOC China etc. Another RTRC on Marine Debris and Micro-plastics has been proposed and is in the process of approval. Last year, we also held many capacity development activities, including the 9th training workshop of IOC-ODC centers, with about 50 participants, OTGA Training Course "Regional Climate Change and Coastal Disaster Mitigation" with 25 participants from 9 countries, the OGTA-Tianjin Regional Marine Observation and Quality control Training Course, with 30 participants from 13 countries etc. China made annual voluntary contribution to IOC, as what

we did in every year. Meanwhile, the second Chinese expert has finished his secondment in IOC Secretariat. Now we are working together with the colleagues in Secretariat to ensure the third one would be sent here as soon as possible. Also we will send our detailed intervention later in relevant agenda items, what we would like to reiterate is the support to Executive Secretary and the Secretariat.

### **Colombia**

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Colombia reitera su interés en continuar con el sostenimiento y apoyo a la sede de IOCARIBE en Cartagena.

Reitera igualmente el compromiso con COI e IOCARIBE, en coordinación con la CCO como su punto focal y entidad integradora de las capacidades nacionales y de coordinación interinstitucional para continuar los esfuerzos en:

- Aporte de expertos en afloramientos de algas nocivas para el Caribe
- Sistemas de Alerta de Tsunami para Caribe
- Atlas Marino del Caribe 2 (CMA2)
- Ocean Teacher Global Academy como único centro de formación en idioma español, en INVEMAR
- Continuación del desarrollo del prototipo de clearing house mechanism bajo el liderazgo del INVEMAR
- Aportes a la Carta batimétrica internacional para el Caribe y el golfo de México, bajo el liderazgo de la Dirección General Marítima.
- Agradecer el reconocimiento del aporte y participación de Colombia en el grupo de expertos para la planificación de la implementación de la Década.

Para terminar, reiteramos nuestro agradecimiento al señor Presidente de la COI y su Secretario Ejecutivo por la confianza depositada en Colombia para participar activamente y liderar programas de especial impacto en el ámbito de la Comisión.

### **Côte d'Ivoire**

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La Côte d'Ivoire a un profond respect du volume de travail qui a été réalisé par le secrétariat et félicite le secrétaire exécutif et son équipe pour cela.

En Afrique vous avez mentionné qu'il y a un frémissement au niveau des activités de la sous-commission. C'est vrai. Mais On doit reconnaître que c'est dû à votre volonté de mettre en œuvre enfin, les différentes résolutions prises par la COI d'ériger l'Afrique en priorité. Merci M. Le Secrétaire exécutif.

Toutefois, un effort supplémentaire doit être fait et qui constitue une préoccupation pour nous.

Cette préoccupation, C'est la faiblesse du Secrétariat de la Sous-Commission pour l'Afrique et les Iles adjacentes depuis sa création malgré les nombreuses résolutions de sessions successives du Conseil Exécutif et de l'Assemblée de la COI, le bureau ne comporte qu'un membre. La Côte d'Ivoire estime par ailleurs que la priorité accordée à l'Afrique doit être reflétée dans l'attribution du budget régulier.

Au niveau des travaux préparatoires de la Décennie, La Côte d'Ivoire suggère qu'une attention toute particulière soit portée sur les priorités régionales et nationales. En effet Il ne saurait y avoir une formule magique valable pour tous.

Aussi en ce qui concerne l'Afrique, les consultations régionales doivent-elles se faire sous l'égide des Organisations régionales et sous régionales Africaines, en premier lieu l'Union Africaine avec la prise en compte de la Décennie Africaine de l'Océan.

En ce qui concerne la réactivation du système mondial de l'océan en Afrique (GOOS-AFRICA). La Côte d'Ivoire se félicite que cette question vous préoccupe. A titre personnel comme je vous l'avais promis, je travaillerai avec l'appui de la Côte d'Ivoire et en collaboration avec la Sous-Commission pour l'Afrique et Iles Adjacentes à la recherche d'une solution durable qui préserve l'intégrité continentale du Comité et du programme GOOS-AFRICA telle que reconnue par l'Union Africaine.

### **India**

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Our delegation would like to place on record our appreciation to the hard work of Executive Secretary and his team at IOC. We thank Dr. Vladimir for presenting a clear and concise report on the activities of IOC during the interim period. Our delegation would like to state that our government will continue to support the IOC programmes, especially the programmes on ocean observations, data management, capacity building, tsunami early warning and mitigation, marine spatial planning, etc.

The Government of India would like to continue the IOC programme on IIOE-2 beyond 2020, the earlier set target. As you have seen from the report of Executive Secretary, at present more than 30 projects involving 23 countries are taking part in IIOE-2. These numbers were 8 and 10 in 2015. Since IIOE-2 is working well

and can contribute significantly to the UN Decade of Ocean Science for sustainability, our delegation requests the member states to support the continuation of IIOE-2 beyond 2020 and participate in that programme.

India is committed to the UN decade of Ocean Science for sustainability and is willing to host the regional workshop during the planning phase.

IOCINDIO was inactive for nearly 2 decades and now that has been activated with the active participation of the members states in the Central Indian Ocean. IOCINDIO will require greater support from IOC to sustain the current momentum and bring benefits to the member states in that region where 1/3rd of the world population resides. We request the member states to recommend greater support for IOCINDIO from IOC.

Our government is committed to the IOC's high-level objective of capacity building and will continue to support through the International Training Centre for Operational Oceanography. Our delegation thanks IOC and UNESCO for establishing International Training Centre for Operational Oceanography as UNESCO Category 2 Centre.

In summary, our delegation appreciates the various activities of IOC and will continue the support and participation at various levels.

### **Ireland**

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Ireland would like to congratulate the Executive Secretary and the IOC Secretariat for the significant work that has been undertaken and milestones achieved since the last General Assembly. I would also like to acknowledge the leadership that has been demonstrated by the Chair, Prof. Haugan and IOC officers in the same period.

The proclamation of the UN Decade of Ocean Science for Sustainable Development has strongly signaled to our government and relevant agencies the requirement for transformative science-based ocean management. We recognise that a safer, more peaceful, more sustainable and more equal world is one which is underpinned by healthy ocean ecosystems. Ireland is committed to a whole of government approach to engagement with the IOC and the broader partnership portfolio. Over the last period, Ireland has been active in elements of each of the IOC Functions, in particular GOOS, IODE, IPHAB, GCOS, SCOR, POGO, Tsunami Warning Systems, GEBCO, Seabed 2030, Capacity Development, and the BBNJ process. IOC can be assured of our continued collaboration and partnership with the IOC and Member States to make a constructive contribution to the objectives of the Decade and the achievement of SDG14. We will continue to highlight the role that science, innovation and ocean observation plays in supporting the economic development of maritime nations.

### **Japan**

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Japan appreciates such a comprehensive report by Dr. Vladimir Ryabinin, the Executive Secretary of the IOC, on the progress made during the last inter-sessional period. Japan makes comments on a couple of items except for those will be discussed under the relevant agenda items.

Regarding the IIOE-2, Japan has actively contributed to the IIOE-2 and welcomes with appreciation the continuation of IIOE-2 at least until 2025 decided by the IIOE-2 Steering Committee in March 2019. Japan emphasizes the importance of reviewing processes to assess the scientific achievements of IIOE-2 at regular basis. And it is required to improve its data sharing for its better achievements. This is partly because the activities under IIOE-2 will be a significant contribution to the first half of the UN Decade.

Secondly with regard to the SDG indicators, Japanese Government plans to make them available through a website this year. Japan will be very much pleased to enhance the collaboration with the IOC in this regard.

### **Kenya**

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Kenya appreciates the work accomplished by the IOC Secretariat and the role of IOC in supporting Member States achieve SDG 14 and related SDGs. We also welcome the contribution of IOC to the United Nations Decade of Ocean Science for Sustainable Development.

Kenya hosted a Global Sustainable Blue Economy Conference in November 2018 in Nairobi. The Conference provided an opportunity to inject fresh ideas into the international discourse on sustainable utilization and management of the blue economy. It was also a platform for sharing good practices and relevant information related to the blue economy.

In this regard, we appreciate the contribution of the IOC Secretariat to the Conference, as well as the participation of IOC Member States and in particular, Canada and Japan for co-hosting the Conference.

Kenya is equally pleased to co-host with Portugal, the second UN Ocean Conference to be held in Lisbon in June 2020. The Conference will provide an opportunity to bring about a new generation of concrete, ambitious

commitments and help us to forge new, inclusive and effective partnerships to support the implementation of SDG 14.

As part of the preparations for the 2020 UN Conference, Kenya is equally pleased to collaborate with Portugal and the IOC in the organization of a high-level side event during the 40th session of the UNESCO General Conference in November this year. This side event will seek to galvanize the contribution of Member States and all stakeholders towards the realization of the SDGs and in particular SDG 14 which require strong collaboration within the Global community.

Finally, Kenya particularly welcomes the efforts to foster the engagement and participation of young scientists and young people in ocean related matters. Fostering youth engagement and participation is critical to the design and implementation of solutions that will foster sustainable development especially as related to SDG 14.

### **Norway**

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Norway would like to thank the Executive Secretary for an impressive summary of the extensive work taken on by IOC since the last Assembly. This has been a remarkable biennium, were we, the member states, have witnessed how IOC has strengthened its position and influence within a field of ever-increasing importance and significance worldwide.

The UN General Assembly's proclamation of the UN decade for ocean research, was a clear illustration of the trust granted to IOC by the world community. This has been re-confirmed at several occasions during the last two years, and was further illustrated, as the Executive Secretary said, when ocean science and the decade was the focus of the UN Informal Consultative Process on Oceans and the Law of the Sea a few weeks ago.

Furthermore, IOC's contribution to the BBNJ-process is an example of IOC's ability to give timely and factual information, decisive for successful negotiations.

We would like to thank the Executive Secretary and the Chair for playing such active roles during these consultations – and at a number of other ocean related events.

### **Philippines**

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Science-based ocean management is truly starting to manifest itself not only within the UN system but also with governments, private sector, civil society and other stakeholders. With the growing challenges and emerging threats faced by our oceans, there is no discounting on the contribution of the sciences in our pursuit to fully understand, conserve and sustainably use our ocean resources.

The UN Decade of Ocean Science for Sustainable Development 2021-2030 is our golden opportunity to realize many organizational and societal goals. We believe that we have made good use of our time since 2017 in preparation for the Decade. We are not alone in our efforts. We've seen the emergence of new platforms and activities, spearheaded by governments and the global community, which are aimed at realizing the objectives of SDG 14: Life below water.

We have a crucial role in the ongoing intergovernmental deliberations on the development of an international legally binding instrument under the UNCLOS on the conservation and sustainable use of marine biodiversity of areas beyond national jurisdiction, especially in the area of capacity building and transfer of marine technology. We have seen our Executive Secretary in action and we commend him for actively taking part in the discussions.

We congratulate the IOC for its many significant achievements in the last two years, and we wish to express our continued support for the Executive Secretary and the IOC Secretariat.

### **Republic of Korea**

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The Republic of Korea would like to express our deep appreciation to the IOC Chair and vice-chairs, executive secretary and the secretariat for their sincere and enthusiastic efforts in coordinating and assisting all the IOC activities.

We also like to extend our sincere thanks to all IOC Member states for their collaborative efforts and active participation in the IOC activities, which have made a great success.

Especially, we would like to highlight the successful cooperative effort in preparation for the UN Decade of Ocean Science for Sustainable Development.

The Republic of Korea has also been deeply involved in the preparatory phase of the UN Decade through not only the financial support but also staff secondments, participation in the Executive Planning Group, and supporting the first Global Planning Meeting held at Copenhagen, Denmark, last May.

We also have supported preparation of the second GOSR as well as publication of the first edition of GOSR in 2017.

Our participations in IOC activities have extended to diverse Ocean Observation programs such as GOOS and IIOE-2.

Every year we have deployed dozens of ARGO buoys into the Western Pacific and the Polar regions.

Recognizing the key role of the IOC for the future of Global Ocean Science and its significant effect on the well-being of the global community of humankind, the Republic of Korea is willing to participate in and make continuous support to the activities of IOC.

### **South Africa**

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As previously stated, the Secretariat remains limited in capacity while the spectrum of work is always increasing – a real challenge that requires an elegant solution if we want to even just maintain the current momentum. Forward planning, particularly around the issues of Human Resources and strengthening of the regions to effectively display the IOC's work, is needed.

At this time, SA would like to highlight just two items:

1. The continuation of the IIOE2 as a springboard into the Ocean Decade. We found that using our own research vessels in the region and giving our African scientists an opportunity to do work of priority in their own waters was a great way of advancing science. We will continue to do so, as recently stated by our President as our own development is intrinsically linked to other countries of the continent. We will therefore continue with such cruises moving forward driven by African Priorities aligned with both the outcomes of the IIOE2 as well as SDG14 and others.

We call on experts from around the world to support us in building human capital through participation on these cruises and assisting us in delivering optimal scientific contributions.

2. The second issue is the Ocean Decade and Africa's preparation for its participation. SA feels that the proposed Pan African Conference in Egypt is a good way of consolidating baseline scientific information and expertise, while at the same time identifying key strategic scientific issues going forward. It would also assist in identifying gaps and where other member states can contribute actively. We thank the ES call for supporting this Pan African Conference in 2020. However, we feel that the strength of the IOC lies in bringing together the stakeholders and providing the glue in terms of ensuring a positive outcome, either through direct or in-kind contributions. If Africa is a priority we should do our best as a Commission to action this in all we do, and we as African Member States should respond accordingly.

South Africa stands ready with others to realise a positive outcome and look forward to realizing the synergies that exist between the UN Ocean Decade and that of the African Union.

### **Thailand**

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Thailand would like to thank the Executive Secretary for the comprehensive and inclusive report on the progress and success of the IOC, partners, and its Regional Subsidiary Bodies' activities during the past intersessional period, especially on the UN Decade of Ocean Science and Sustainable Development including the conduct of the First Global Planning Meeting in Copenhagen, Denmark, during 13-15 May 2019.

As the First Regional Planning Meeting for the UN Decade of the Ocean Science is going to be organized in Tokyo, Japan, during 30 July to 2 August 2019, which will kindly be hosted and supported by the Japanese Government and be organized by WESTPAC. Thailand appreciates the Japanese Government and will actively participate in the meeting.

Regarding the Executive Secretary's report of the regular works, projects and programs of the IOC, including several important emerging issues under the global framework and implementation through its regional projects and programs, we congratulate the achievement of IOC's operation even with limited resources. Thailand reiterates to keeping cooperation and working closely with the IOC Regional Subsidiary for the Western Pacific (WESTPAC) and strongly support its operation, as well as the activities, particularly on capacity building to serve the need of the Member States.

### **United Kingdom of Great Britain and Northern Ireland**

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The UK would like to express its appreciation for the Executive Secretary's excellent report and especially for the achievements in raising the visibility of the importance of the ocean and the IOC through major international frameworks. We would like to congratulate the Secretariat for the continued efforts relating to the Global Ocean Science Report, for which the UK has provided financial support, and for the continued efforts in supporting the International Indian Ocean Expedition II.

The UK would like to also recognize the efforts to support the development of the SDG indicators and applaud the success in the elevation of indicator 14.3.1 to Tier 2. And we look forward to similar success with indicator 14.a.1, where the GOSR is a key component.

Key actions and science needs for the coming Decade concern the nexus of climate, biodiversity and the ocean. In relation to protection of the marine space and biodiversity, the UK is backing ambitious calls to treble internationally-agreed targets for protected areas, so that 30 per cent of the world's seas would be safeguarded as MPAs by 2030. For example, the UK and our Overseas Territories are working together to establish a Blue Belt of marine protection for over four million square kilometres of British waters by 2020. Ocean science, such as envisaged under the UN Decade of Ocean Science for Sustainable Developing will be a critical enabler of developing and implementing such actions.

### **United States of America**

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The United States commends the Executive Secretary and the Secretariat staff whose hard work is contained in the Report. It is with this exceptional leadership and talented staff that such a volume and important work can be achieved as was reported. We are in a time of an amazing confluence of world-wide interest in oceans which is a remarkable opportunity. This awareness of ocean issues did not come from arguments of emotion or passion, it came from sound science for which this body has played an important role. With humility I recall that this delegation does not routinely remind the Members of the contributions or activities that the United States routinely contributes toward IOC programs. We appreciate the Executive Secretary's mention of the US contribution to the IOC Argo system, which is normally not captured in the reporting of in-kind contributions. This and many other IOC programs receive significant US contributions and resources. The US delegation looks forward to the day when we are hearing more delegation reports that mention linkages with other Member States, as the distinguished delegate of Kenya just reflected, rather than a recitation of individual MS contributions. Such collaboration is and should be the signature of the IOC. As Member States, let us lead and work with, not rely on this talented staff from the IOC Secretariat.

### **World Meteorological Organization**

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WMO congratulates both the IOC Exec Sec and Chair for your impressive reports, and as well, thanks you both for the positive comments regarding our partnership.

With a similar expression of gratitude, WMO is very much looking forward to continuing our long-standing collaboration with the IOC, and we are very appreciative of everyone who has been involved in the extensive consultations between our organizations, with the goal to forge a stronger way forward together. The WMO Secretary General, Prof Petteri Taalas, will be here on Friday, to explain the WMO Reform, approved at our Congress just two weeks ago, and its significance to the proposed strengthened collaboration between WMO and IOC that you have both referred to.

WMO will be here for the entire IOC Assembly, and we are happy to meet with those who wish to learn more.

Congratulations again, to you both for your committed leadership, and to the IOC Officers and Secretariat plus all the IOC community who have contributed to activities that are advancing joint benefits to both IOC Members States and WMO Members.

### **3.3.1 IOC Sub-Commission for the Western Pacific (WESTPAC)**

#### **China**

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As member state of WESTPAC, China would like to join the other member states to express our satisfaction to the work of WESTPAC, led by a strong leading team and coordinated by a very struggling regional office and its staff. We also notice the Executive Secretary's highly evaluation to WESTPAC with appreciation in his presentation on 26th.

China consider the WESTPAC as the most important platform for us to engage in the IOC cooperation. We always support and value the work of WESTPAC. We tried our best to send our representatives to WESTPAC meetings and workshops. Several important programmes and expert groups in WESTPAC are led by Chinese experts. We also undertake several centers including the Regional Training and Research Center on Ocean Dynamic and Climate (IOC-ODC Center) and the new Regional Training and Research Center on Marine Debris and Microplastics. Meanwhile, the largest part of our voluntary contribution is for supporting the WESTPAC cooperation.

Yesterday, the WESTPAC had a side meeting on the RTRCs during the lunch break. The relevant member states of WESTPAC including China to share our information and observations on the RTRCs. We think it is a meaningful ways to promote the capacity development of IOC. We support the networking of RTRCs in WESTPAC and would like to join the Philippine colleagues to suggest that the RTRCs should be considered

as important tools and vehicles for UN Decade, also we are willing to exchange views on this topics with the member states and RSBs in other regions.

### **India**

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Our delegation would like to compliment the chair of WESTPAC for presenting an excellent report on the excellent work done by the member states of WESTPAC, especially the projects initiated and carried out under the coordination of WESTPAC. Our delegation wants to be very brief with the intervention and just want to suggest that the WESTPAC and IOCINDIO should coordinate and collaborate closely especially on planning and executing the projects in the eastern Indian Ocean, that also includes the heat and salt exchange between Pacific and Indian Ocean. Thank you.

### **Indonesia**

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Indonesia delegation appreciate to the effort of the chairs of IOC WESTPAC and the IOC WESTPAC regional office in coordinating the regional program both on marine science program and capacity building.

Our delegation would like to thank to IOC WESTPAC Secretariat for their coordination and support on establishment of RTRC MarBEST.

Indonesian delegation invite IOC member states to join the international conference of marine science in August 2020 in Jakarta.

Indonesia delegation also strongly support continuation of capacity development under the network of RTRC to support of the decade of ocean science. Let us continue to sail together to implement the next program of the decade.

### **Japan**

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Japan would like express sincere thanks to the Government of Philippine to host the 12<sup>th</sup> WESTPAC intergovernmental session held last April in Manila. Japan also express thanks to the WESTPAC office for continuous efforts for promotion and coordination of all the WESTPAC projects/working groups, including Japanese contributions such as HAB, ORS, marginal sea studies, and NEARGOOS, during the last inter-sessional period.

Regarding the roles of regional bodies to the UN Decade, considering the importance of regional cooperation as well as global level cooperation for better development of implementation plan for UN Decade of Ocean Science for sustainable developments in the next two years, in the Western Pacific region it is important for IOC/WESTPAC to take the efficient and effective roles to promote the UN Decade of Ocean Science. Japan is honored to host the regional planning workshop for the North Pacific Ocean with IOC/WESTPAC and PICES, and will foster discussion of the workshop to success and better contribute to the planning processes of UN Decade of Ocean Science.

Regarding the capacity development, Japan congratulates the further developments of networking of RTRCs led by IOC/WESTPAC in recent years, and hope that IOC/WESTPAC can promote further capacity developments and marine technology transfer in phase with progress of the UN Decade. Japan will continue contributions of promotion of capacity development activities in the region via existing WESTPAC projects by using the Japan Fund-in Trust. For further development and cooperation of capacity development activities, we recommend WESTPAC to further collaborate with other Capacity Development activities inside and outside of IOC.

Japan will support IOC/WESTPAC to be able to take essential roles as platforms for regional cooperation and inter-regional cooperation for promotion of marine science and UN Decade of Ocean Science.

### **Philippines**

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We had the honor of hosting the 12th Session of the WESTPAC last April 2019 in Manila. Over the course of 4 days, we engaged each other in the Sub-Commission's identified priorities, namely ocean processes and climate change; marine biodiversity and food security; ocean ecosystem health; and enhanced knowledge of emerging issues.

A mini science symposium on the UN Decade of Ocean Science for Sustainable Development was also organized during the opening day, headlined by no other than the IOC Executive Secretary. A special brainstorming session on the Decade also allowed for many ideas to be raised and openly discussed by our stakeholders.

Letters of intention were also signed between IOC-UNESCO and the University of the Philippines Diliman on the establishment of a Regional Training and Research Center (or RTRC) on Reef Management and Restoration; and with the Institute of Oceanography, Vietnam Academy of Science and Technology concerning

the establishment of an RTRC on Marine Toxins and Seafood Safety. The establishment of an RTRC on Plastic Marine Debris and Microplastic at the East China Normal University was also noted during the event.

Yesterday, WESTPAC Member States co-lead by the Philippines, hosted a side-event on the role of WESTPAC's Regional Network of Training and Research Centres on Marine Science. RTRCs are effective instruments in improving regional capability and capacity and we hope that this capacity building mode be recognized and pursued also in other regions during the UN Decade of Ocean Science. We and other Member States are willing to work with the IOC in order to be fully established RTRCs, and contribute to IOC's Capacity Development strategy.

We wish to end our statement by expressing our continued support to WESTPAC, the hardworking and dedicated WESTPAC officers and the staff at the WESTPAC office, headed by Mr. Wenxi Zhu and his wonderful team.

### **Republic of Korea**

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As a member states of WESTPAC, our delegations have seen that the ocean science in the WESTPAC region is developing fast and all the Member states have strong will to enhance the capacity and capabilities in the ocean science and technology. Moreover, the regional cooperation is becoming strengthened: the number of collaboration programs and projects has increased significantly. One manifest example is the triennial WESTPAC international ocean conference which draws more than six hundred marine scientists.

Our delegation would like to congratulate all the WESTPAC member states and thank the chairs, vice-chairs, the secretariat, and the advisory group members of WESTPAC.

Republic of Korea has actively participated in several WESTPAC programs such as NearGOOS, Harmful Algal Bloom, Harmful Jellyfish, Microplastic and a Coral Reef project called DRMREEF through which we have established together a WESTPAC marine biodiversity portal site and provided capacity building and training workshops.

One thing our delegation would like to highlight is one of the capacity building and technology transfer mechanisms of WESTPAC, Regional Training and Research Center. RTRC is a very effective and sustainable mechanism that meets the societal needs of the member states and the region. It is one of the best practices in this kind.

So, our delegations hope to see extension of the RTRC initiative to other sub-commissions of IOC and so would like to recommend inclusion of RTRC as one of the Capacity building and technology transfer mechanisms in the implementation plan of UN decade of ocean science for sustainable development.

### **Thailand**

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Thailand congratulates the progresses and successes of the WESTPAC during the last intersessional period. As the Regional Subsidiary Bodies, WESTPAC plays a key role to lead the implementation of global projects and programmes in the region, especial on the UN Ocean Decade of Ocean Science for Sustainable development. Thailand fully supports the IOC activities, actively participates, and cooperates closely with the member states in the region for the preparation and implementation of the UN Decade of Oceans Science for Sustainable Development.

Thailand would like to express our special appreciation to the Philippines Government for hosting and full support the WESTPAC, especially the WESTPAC Session in 2019. We also thank to Dr. Ho Si Tuan, Chair of the WESTPAC, for his active leading in the WESTPAC with member states to achieve the WESTPAC's targets.

Thailand will keep continuing to strongly support WESTPAC's activities and the operations of the WESTPAC office in Bangkok. Thailand has provided the trainings and workshops to support the activities to reach the achievement of the objective of capacity building in the region, including joint research projects and programmes. We will keep close communicate with the IOC, WESTPAC, and member states.

Finally, Thailand would like to thank the WESTPAC' staffs for their hard work and activities engage with member states and its partner.

### **General Bathymetric Chart of the Oceans (GEBCO)**

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GEBCO Guiding Committee wishes to appreciate and congratulate the very active activities and successes of WESTPAC, conducted under the great chairmanship of Dr. Vo Si Tuan. GEBCO Guiding Committee wishes to express its hope that WESTPAC send GEBCO an invitation for relevant activities of WESTPAC, so that both WESTPAC and GEBCO will enjoy more efficient activities and fruitful outcomes, including Seabed 2030.



### **3.3.2 IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE)**

#### **Colombia**

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El Gobierno de Colombia agradece el informe presentado por el Presidente de IOCARIBE y reconoce y exalta la labor de la COI y el señor Cesar Toro, Secretario de la Subcomisión de la COI para el Caribe y Regiones Adyacentes, que ha permitido el desarrollo de las actividades en estos dos años. Asimismo, queremos resaltar que nuestro país continúa comprometido con el sostenimiento de su Oficina en Cartagena y con el desarrollo de los programas y proyectos de la Subcomisión, tales como:

- Afloramientos de algas nocivas para el Caribe
- Sistemas de Alerta de Tsunami para Caribe
- Atlas Marino del Caribe
- Centro Regional de Entrenamiento de la estrategia Ocean teacher global academy, el único en idioma español
- Prototipo de Clearing House Mechanism
- Carta batimétrica internacional para el Caribe y el Golfo de México
- Proyecto Grandes Ecosistemas Marinos del Caribe y Norte del Brasil, CLME+

Nuestro país, a través de la Comisión Colombiana del Océano y todas las instituciones que la integran, se compromete a seguir aportando sus capacidades para la región de Latinoamérica y el Caribe. Igualmente, resalta su compromiso con la preparación y ejecución de la Década de las Ciencias Oceánicas, para lo cual continuará participando activamente en el Grupo Ejecutivo de Expertos para la Planificación de la implementación de la Década, y desarrollando las actividades nacionales pertinentes.

#### **United Kingdom of Great Britain and Northern Ireland**

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The United Kingdom expresses its thanks to the Secretariat of the sub commission for their continued efforts and for the report of the 15th Session of the IOC sub-commission for the Caribbean and adjacent regions.

The UK would like to highlight some of the initiatives UK agencies are involved in within the Caribbean region. These include those undertaken in our Overseas Territories, where significant hydrographic and habitat mapping has taken place as well as the installation of tide gauges. And those in other Commonwealth Sovereign States where activities funded by the UK Government's Commonwealth Marine Economies Programme are delivering a number of projects that could support the programmes articulated in the annex of the report of the 15th Session - in particular, in Capacity Development, the Decade, Seabed2030, sea level monitoring and early warning systems. Where the UK does not deliver directly we are mindful of the need to enable activity when they occur within the waters of our Overseas Territories.

We look forward to working closer with the sub-commission on the sharing of information that will ensure that our contributions are recognised and utilised by the sub-commission in its endeavours to deliver its portfolio of programmes.

#### **General Bathymetric Chart of the Oceans (GEBCO)**

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GEBCO Guiding Committee appreciates the persistent progress of the bathymetric activities in IOCARIBE, that is IBCCA, International Bathymetric Chart of the Caribbean Sea and the Gulf of Mexico. The report from the Chair of IOCARIBE is promising and GEBCO Guiding Committee wishes to express its thanks and promises the enhanced cooperation, especially through Seabed 2030. GGC notes that the area of IOCARIBE is subject to tsunami disaster, and bathymetry is very important for the safety of life of the people in the area. GEBCO Guiding Committee wishes to express its hope, that IOCARIBE would send GEBCO an invitation to relevant activities of IOCARIBE, so that both IOCARIBE and GEBCO will enjoy more efficient activities and fruitful outcomes, including Seabed 2030.

### **3.3.3 IOC Sub-Commission for Africa and the Adjacent Island States (IOCAFRICA)**

#### **China**

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China had very good cooperation with IOCAFRICA and its member states under IOC framework and through the bilateral channel. We have had 3 IOC Sino-African Forums on Marine Science and Technology since 2013. Now we are working with African colleagues to prepare the 4th one which would be held in the end of this year.

Taking the IOC platform, we proposed and implemented more important programs and cooperation of joint research, capacity development, human resources cooperation and etc., in ocean observations, continental shelf investigation, marine disaster forecast and relief and blue economy between China and African member

states. Some of our voluntary contribution to IOC is allocated to support the capacity development of IOCAFRI in every year. China also fund the African Students to study for ocean related master and doctor in top Chinese universities since 2012 by Marine Scholarship of China. 43 African Student from 14 African countries including Egypt, Algeria, Kenya, Nigeria, Liberia, Sudan, Tanzania, Mozambique, Namibia, Madagascar, Ghana, Morocco, Mauritius and Seychelles , are supported, according to the data before this year.

Through communication, both China and IOCAFRI found that the potential between us is huge and China would like to reiterate our support to IOCAFRI and the will of promoting our cooperation in IOC framework. We also encourage IOCAFRI to strengthen their communication with WESTPAC and other RSBs for experience sharing and regional coordination.

### **Côte d'Ivoire**

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La délégation de la Côte d'Ivoire félicite la sous-commission pour les efforts faits, malgré les ressources humaines extrêmement limitées.

La délégation de la Côte d'Ivoire souhaiterait insister sur quelques points :

1. La nécessité de prendre en compte des préoccupations des pays et des régions demeure essentiel : en Afrique de l'ouest : les questions qui émergent sont entre autre : l'érosion côtière, la pollution, la surpêche, etc.
2. Les Alliances GOOS sont pour le GOOS, ce qu'est un Gouvernement pour un pays; c'est à travers les Alliances que la mise en œuvre du plan stratégique ambitieux de GOOS peut être mis en œuvre. Faire en sorte que GOOS-AFRICA soit revitalisé avec l'initiative des chercheurs africains eux-mêmes demeure la meilleure voie.
3. La participation du secteur privé et des institutions régionales demeure capitale pour la réussite de nos actions

Les initiatives que nous avons prises en Côte d'Ivoire que ce soit dans le cadre du programme WACA que dans les travaux de recherche que nous menons dans l'océan nous ont montré l'importance du soutien du privé et des pétroliers en particulier.

C'est pourquoi la délégation de la Côte d'Ivoire soutient l'idée de l'ouverture au secteur privé de la conférence panafricaine qui va se tenir en Egypte. Enfin La délégation de la Côte d'Ivoire remercie les pays comme la Chine et la Corée pour leur soutien constant soutien.

### **Kenya**

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Kenya thanks the Chair of IOCAfrica for the presentation on the activities implemented by the Sub Commission including the main outcomes of the Fifth session of IOCAFRI held in Nairobi in March 2019. We thank the Executive Secretary for his personal participation and contribution during the last session of IOCAfrica.

The IOC Sub-Commissions are important for the visibility and impact of the IOC at the global, regional and national levels. IOCAfrica has a critical role to play in the implementation of the IOC Africa Strategic Plan as well as supporting Member States achieve the development goals set out in the African Union's Agenda 2063 and the UN 2030 Agenda for Sustainable Development.

At the same time, the IOCAfrica Sub-commission continues to face both financial and human resources challenges in the delivery of its mandate. Kenya thanks all the Member States and partners that have provided support and calls for further support to the activities of the Sub-commission which are key to the achievement of the UN Decade of Ocean Science for Sustainable Development. This could include expert, financial or in-kind support as well as support to the Pan-African Conference on Ocean Sciences for Sustainable Development to be held in Egypt in 2020.

Finally, Kenya will continue to play its part in support of the IOCAfrica Sub-commission. We are currently exploring modalities for additional support to the Sub-commission.

### **Spain**

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Agradecemos al Presidente de la Subcomisión de la COI para África y Estados Insulares Adyacentes la información contenida en su informe y resumida en su presentación.

Aunque España no es un estado miembro de esta Subcomisión, tiene un gran interés en sus actividades, ya que el Archipiélago de las Islas Canarias se encuentra geográficamente muy próximo al continente africano y está inmerso en el Gran Ecosistema Marino de la Corriente de Canarias, que es uno de los cuatro grandes sistemas de afloramiento que existen en el océano y que es particularmente importante para la seguridad alimentaria de los países ribereños.

Históricamente, el Gran Ecosistema Marino de la Corriente de Canarias ha suscitado mucho interés científico, habiéndose desarrollado en su zona de influencia algunos grandes proyectos internacionales de investigación, como el adoptado por la Comisión Oceanográfica Intergubernamental en 1969 bajo el nombre de "Cooperative Investigation of the Northern Part of the Eastern Central Atlantic", más conocido por su acrónimo CINECA. Otra iniciativa más reciente es el proyecto "Canary Current Large Marine Ecosystem" (CCLME), ejecutado por la FAO y por el Programa de Naciones Unidas para el Medio Ambiente.

También, la Agencia Española de Cooperación Internacional para el Desarrollo ha venido financiando varios proyectos, liderados por la COI con el título "Enhancing oceanography capacities in Canary Current Large Marine Ecosystem Western Africa countries". Actualmente, se está desarrollando el tercero de ellos, centrado en estudiar los efectos del Cambio Climático.

El Instituto Español de Oceanografía ha estado siempre comprometido con la región COI-AFRICA, creando, en 1927, un Centro Oceanográfico en las Islas Canarias, desde el que se han dirigido y ejecutado numerosos proyectos y campañas de investigación en toda la costa occidental africana y en parte de la costa del Índico y del Mediterráneo, y participando activamente en todos los grandes proyectos que se han desarrollado en la región.

El Instituto Español de Oceanografía, consciente de la importancia del desarrollo de capacidades y de colaboración científica en la región de la Corriente de Canarias y en el conjunto del continente africano, ofrece la posibilidad de utilizar las facilidades de su Centro Oceanográfico de Canarias, ubicado en la isla de Tenerife, para albergar un Centro de Capacitación de la COI-UNESCO (p.ej. OceanTeacher) para toda la región macaronésica y de COI-AFRICA, desde donde se facilitaría capacitación sobre temáticas propias de la Corriente de Canarias, así como sobre otras temáticas asociadas tanto al mandato del propio Instituto Español de Oceanografía como al de la COI-UNESCO, incluyendo oceanografía física, biogeoquímica, caracterización de fondos marinos, redes tróficas, biodiversidad, recursos pesqueros y, por supuesto, Cambio Climático.

Dicho Centro aprovecharía el potencial de extender la colaboración a los otros nueve Centros Oceanográficos de que dispone el IEO en la costa peninsular española, además de a la importante comunidad científica de otras instituciones de las Islas Canarias dedicadas al estudio del océano, como son la Universidad de La Laguna, la Universidad de Las Palmas de Gran Canaria y la Plataforma Oceánica de Canarias (PLOCAN).

### **United Republic of Tanzania**

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Tanzania and other member states of the IOC-AFRICA have been requesting the IOC Secretariat to strengthen the Sub-Commission for Africa and Adjacent Island States, but till now Mr. Mika Odido is working single handedly, which is a lot of work for him. We would therefore like to re-iterate our request to the IOC Secretariat to strengthen the IOC-Africa to enable it deliver much more.

Tanzania also would like to call upon other Member States of IOC to participate in the conference on Pan African Ocean Science in Egypt in 2020, this will strengthen Ocean Sciences in the continent.

Furthermore, Tanzania would like to thank IIOE2 Secretariat for the good achievements. IIOE-2 is providing important opportunities particularly for African coastal States to better understand their oceans, and for on-board training for young scientists & Students, which is rare in the region. Tanzania is grateful to various Member States and other Organizations who have directly provided various opportunities under the auspices of the IIOE-2. This include India, which invited several scientists and students to participate in cruises; South Africa which till now has brought the *SA Agulhas II* in the Tanzanian waters and in other WIO Member States waters twice; The EAF-Nansen Programme, funded by FAO, by bringing the RV *Dr Fridtjof Nansen* to Tanzania and other African countries.

We would therefore wish to request other Member States to offer their research vessels of opportunities to the region to enable countries to implement their ocean plans.

### **General Bathymetric Chart of the Oceans (GEBCO)**

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GEBCO Guiding Committee understands that the African Coastal and Marine Atlas, and Marine Spatial Planning, which were reported by the chair of IOCAFRICA, Dr. Said, require detailed and reliable bathymetric information.

In this context, GEBCO Guiding Committee wishes to express its hope, that IOCAFRICA would send GEBCO an invitation to relevant activities of IOCAFRICA, so that both IOCAFRICA and GEBCO will enjoy more efficient activities and fruitful outcomes, including Seabed 2030.

### **3.3.4 IOC Regional Committee for the Central Indian Ocean (IOCINDIO)**

#### **Australia**

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Australia acknowledges the Chair of IOCINDIO's report and outlined aspirations for the evolution of IOCINDIO. Given the relatively late notice of this outcome from the recent IOCINDIO session and limited information other than what was presented today in the Chair's report, Australia respectfully recommends that a clearer proposal be prepared (including proposed use of Regular Program funds) in accordance with any relevant IOC procedures and be brought back to Member States for their further consideration.

#### **India**

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We also acknowledge the excellent support provided by the Secretariat in organizing the meetings, preparation of reports and guiding the member countries with the formation of projects. Mr. President, as the report reflects, IOCINDIO has come to vibrancy, a couple of years ago, from its slumber for nearly two decades. Government of India is committed to support the activities of IOCINDIO and has provided generous supports in organizing the meetings and expertise for designing the projects of common interest to the member countries. Government of India extended complete support by way of providing free accommodation, local transport, meals for the participants and the infrastructure required for the conduct of IOC/IOCINDIO workshop on "Coastal Vulnerability and Hazards" and IOCINDIO-VII meetings.

IOCINDIO was inactive for long time and due to the renewed interests of Chair and member states, that has come back to activity. Hence, our delegation feels that, IOCINDIO requires enhanced support from IOC to keep up the momentum. Our delegation supports the recommendation of IOCINDIO-VII for the elevation of IOCINDIO as a sub-commission. Our delegation feels that, now it is right time to elevate the status of IOCINDIO and we request this Assembly to consider the recommendation of IOCINDIO-VII favorably and honor the aspirations of member countries in that region.

#### **Indonesia**

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In Indonesian delegation support the proposal of India delegation on the establishment of sub-regional office IOCINDIO. This will be an important of stage for the sub-regional for collaboration research and capacity building especially for monsoonal related and ocean hazard. Thank you.

#### **Thailand**

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Thailand would like to congratulate the progresses of the IOCINDIO after its revitalizing in past few years. Thailand would like to thank the Indian government for providing strong support the office and has been being chair of the IOCINDIO.

The role of the IOCINDIO is important to the Indian Ocean to develop scientific activities and generate information including provide capacity building to the member states, especially on the ocean dynamic and its role on the climate, as well as marine resources. Thailand is looking forward to keeping close communication and cooperation with IOCINDIO.

#### **United Kingdom of Great Britain and Northern Ireland**

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The United Kingdom applauds the ongoing efforts aimed at revitalizing the IOCINDIO over the past 3 years. We recognize how the Committee offers the prospect of assisting with wider engagement with the Indian Ocean region, in particular in light of current initiatives such as the IIOE2 and the Decade. The UK would also like to acknowledge the Committee's recognition of ongoing arrangements with the United Kingdom for securing financial support to IOCINDIO.

The UK welcomes the recommendation of the report for the transformation of the IOC Regional Committee for the Central Indian Ocean to the IOC Sub Commission for the Central Indian Ocean in accordance with the aspirations expressed. We support the view respectfully articulated by Australia, and look forward to the opportunity of seeing a more developed proposal in due course that can be considered within the IOC's normal processes.

#### **United States of America**

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We congratulate Dr. Atmanand for the energy and efficiency of revitalizing IOCINDIO. Work in this part of the world is important scientifically and this level is very rewarding. We would like to draw attention to IIOE2 as we contemplate the decade, because IIOE2 began with just 8 projects in mind, today there are 32. With this level of effort, innovation, and energy that has been put into this unique part of the world we can follow these same paths and patterns. Want to also acknowledge the accomplishments of IOCINDIO that our colleague Dr. Atmanand has accomplished.

## **GEBCO Guiding Committee**

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Indian Ocean is, unfortunately, one of the more poorly mapped oceans, which was, for example, revealed by the sad event of MH370 as introduced by Executive Secretary of IOC. GEBCO runs a dedicated mapping project of the Indian Ocean, that is, Indian Ocean Bathymetric Compilation (IOBC).

In this context, GEBCO Guiding Committee wishes to express its hope, that IOCINDIO would send GEBCO an invitation to relevant activities of IOCINDIO, so that both IOCINDIO and GEBCO will enjoy more efficient activities and fruitful outcomes, including Seabed 2030.

### **4.1 Preparation of the UN Decade**

#### **Australia**

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The Australian Government continues to engage and provide support to the IOC in this important planning phase through a number of mechanisms including input to the development of the Implementation Plan through my colleague Dr Karen Evans as an expert on the EPG; and by raising the profile of the Decade early with the Australian marine science community, key science agencies, universities, institutes and policy makers to ensure awareness, ownership and good time to plan.

The Australian Government recognises the very significant opportunity that the declaration of the Decade can provide and Australia is planning its response, in particular, considering how to leverage the Decade for enhanced engagement and activity in a number of areas of strong national interest, including the Pacific, Indian and Southern Oceans, the seas to the north of Australia, and fringing coral reefs. This is a once in a life-time opportunity which should achieve multi-generational outcomes for the benefit of all humankind.

While Australia is optimistic and enthusiastic about starting the Decade's implementation, we recognise that there is still considerable work to be undertaken to finalise the planning for the Decade.

To help all stakeholders – not just IOC Member States – better understand how and when they can inject their knowledge and support for the Decade, Australia recommends that the Secretariat provide more detail of the EPG's workplan – including tasks and timeframes – as they work towards completing all elements of the draft Implementation Plan. We would also welcome an opportunity to allow stakeholders (beyond IOC Member States) to review the draft Implementation Plan – ideally by April 2020 – such that there is good time to consult widely and thus provide informed input back to the EPG and IOC Secretariat prior to its finalisation.

The Oceans Decade website launched by the IOC provides the perfect communication platform to provide this level of detail and the IOC is to be congratulated for their development of this resource.

As passionate Member States of the IOC, we are strong advocates for the IOC to continue to have a prominent role in the Decade once it begins. But Australia also recalls that broad governance of the Decade was cited in the Roadmap document as being a key to its success. The Executive Planning Group has been tasked with providing advice to the IOC on the governance arrangements for the Decade, and we strongly encourage them to cast their nets widely and inclusively, to ensure the catch will deliver us the best results for the Decade.

#### **Brazil**

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Brazil supports the Draft Resolution 4.1, with amendments, and congratulates the IOC Secretariat and the Executive Planning Group for the outstanding work done in the framework of the preparatory phase of the UN Decade of Ocean Science for Sustainable Development.

As announced by Mr. Julian Barbieri, UN Decade Focal Point, Brazil will host a Regional Workshop for the South Atlantic at the Brazilian Navy War College, which is located next to the Sugar Loaf, in Rio de Janeiro, from November 25th to 27th.

Member States from Africa, North, Central and South America will be invited and are more than welcome to show up and collaborate with the discussions.

This initiative will be conducted in connection with our partners at the North Atlantic, the Caribbean Sea and the South Pacific Regional Workshops.

#### **Chile**

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Chile apoya el proyecto de resolución. Hacemos nuestro el mensaje entregado por el enviado especial de naciones unidas para el océano.

Nuestro país, a través de su Comité Oceanográfico Nacional – CONA -, Comité de carácter público que tiene como principal función coordinar a las instituciones actividades relacionadas con las Ciencias del océano en Chile, ha dado pasos significativos en esta fase preparatoria del Decenio.

Conforme a lo recomendado por la COI, sobre la base de este mecanismo de coordinación nacional existente, este comité, en su Asamblea número 140, trabajó las materias relacionadas a la década de las ciencias oceánicas para el desarrollo sostenible, y se aprobó por decisión unánime de sus 30 instituciones miembros, la conformación de un Grupo de trabajo que cumpla el rol de Comité Nacional para la década.

El objetivo del Grupo es proponer un Programa Nacional de Investigación 2021-2030, que vincule las prioridades nacionales con las del proceso global sobre la década, este programa será implementado por la comunidad científica nacional, en coordinación con diferentes actores, siguiendo las directivas de la COI en su documento "Hoja de Ruta".

La primera actividad acordada fue la invitación a todas las instituciones de investigación de las Ciencias Marinas en Chile a informar sobre sus proyectos actuales y proyecciones futuras o brechas prioritarias, indicando objetivos y la contribución de éstos al cumplimiento de las metas y objetivos de la década y al ODS14 de la Agenda 2030.

Hemos querido compartir nuestra experiencia, con el objeto de exponer a esta asamblea que Chile está comprometido con la década. Participaremos de forma activa en el taller regional que se realizará en septiembre en Guayaquil, con el objetivo de establecer la perspectiva sobre la década desde la región del océano pacífico sudeste.

## **China**

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Firstly, China fully supports the work of UN Decade, we think it is really a unique opportunity for international community to review, streamline and plan the ocean-related cooperation processes through the preparation and implementation of UN Decades. China also paid a lot of attention to this work. Dr. Qiao Fangli from China is also the member of EPG. We are encouraging and organizing our experts to engage in the coming WESTPAC regional workshop on UN Decade. We are ready to make more contribution to the process of UN Decade.

Secondly, China supports IOC to play more active role in both the preparation and implementation of UN Decade. We notice that more and more international mechanisms, both the inter-governmental and non-governmental, both ocean-related and non ocean-related organizations, to focus on emerging ocean topics gradually. As the most important intergovernmental organizations on marine science under UN framework, even in the global ocean governance, and the proposer of UN Decade, IOC should have responsibility and obligation to undertake more work in this process and in the global ocean governance.

Thirdly, China agrees that the UN Decade should be a strategic, farsighted, and forward-looking plan/paper rather than the collection of current work. Meanwhile, considering the balance between limited resources and the huge job we should face, the priorities should be focused rather than dispersive. We should also balance the regular mandate and the further need of International community.

Fourthly, we support and value the function of regional subsidiary bodies (RSBs) of IOC in the preparation and implementation of UN Decade. We encourage the IOC Secretariat and member states strengthen the communication with the relevant RSBs to promote the regional coordination.

## **Colombia**

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Colombia respalda la propuesta de resolución y agradece la presentación de los progresos realizados en la preparación de la década de las Naciones Unidas de las ciencias oceánicas para el desarrollo sostenible 2021-2030, celebra los esfuerzos realizados por la Secretaría de la COI, y considera de vital importancia el reconocimiento a ésta.

El Grupo Ejecutivo de Planificación de la Década, cuenta con un experto colombiano de alto nivel, Capitán Francisco Arias, Director del Instituto de Investigaciones Marinas y Costeras-INVEMAR, para asesorar a la Secretaría de la COI contribuyendo con una visión regional, y quien hace parte de nuestra Delegación.

Colombia continuará realizando aportes en contrapartida a las actividades de la COI en la Región de Latinoamérica y el Caribe, a través del Centro Regional de Entrenamiento - OTGA, el prototipo del Clearing House Mechanism para transferencia de tecnología marina, la participación activa en el Comité Editorial del Reporte Global de Ciencia Oceánica y en el Grupo Ejecutivo de Planificación de la Década.

Colombia ha sido una nación líder en la promulgación y consolidación de los Objetivos de Desarrollo Sostenible (ODS) y manifiesta su pleno compromiso con la planificación y la puesta en marcha de la Década, su conexión con los ODS y concreta ese compromiso habiendo incluido en su Plan Nacional de Desarrollo 2019-2022 un capítulo específico sobre los océanos que nos permitirá implementar acciones enmarcadas en La Década. Aún más, con el apoyo de la "Misión Internacional de Sabios" que ha sido creada recientemente en nuestro país, estamos construyendo e implementando una Política Pública de Educación, Ciencia, Tecnología e Innovación y definiendo las estrategias a largo plazo para responder a los desafíos productivos

y sociales de manera escalable, replicable y sostenible. Los insumos conceptuales y de acción de la Década harán parte de las visiones del País sobre investigación científica, uso, cuidado y gestión de nuestros océanos y nuestra contribución a las metas de la Década.

Asimismo, el Decenio de las Ciencias Oceánicas contribuirá a la actualización de nuestra Política Nacional del Océano y los Espacios Costeros con el objetivo de alentar a la comunidad científica, formuladores de política, sector privado y sociedad civil a proporcionar ciencia, datos e información oceánica, permitiendo el desarrollo sostenible de nuestro territorio marítimo.

Con lo anterior, en mente, Colombia y agradece la autorización de la COI para incluir en nuestra Expedición Pacífico, Expedición Seaflower, Expedición Antártica y nuestro Seminario Nacional de Ciencias y Tecnologías de Mar - SENALMAR, el logo de la Década de las Ciencias Oceánicas.

Queremos invitar a todos a iniciar desde ya acciones para preparar una Década exitosa, el momento es ahora, la Década es un hecho para esta oportunidad, única en nuestras vidas y la del planeta.

### **Côte d'Ivoire**

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La Délégation de la Côte d'Ivoire félicite tous ceux qui ont travaillé à l'avènement de la décennie qui apparaît comme une chance pour les océanographes de montrer l'intérêt de l'océan pour la survie même de l'espèce humaine.

La délégation de la Côte d'Ivoire voudrait se permettre de paraphraser son Excellence Peter Thompson L'envoyé spécial des Nations unies lorsqu'il parlait tout à l'heure dans son discours de l'attitude du malade devant le médecin.

Il y a lieu de rappeler que quand un athlète est blessé et qu'il va voir le médecin selon qu'il est footballeur ou basketteur c'est le pied ou le bras qui sera le centre d'intérêt.

Cela pour dire que la réflexion doit partir d'une vision prospective et se poser la question de savoir quels seront les bénéfiques qu'auront toutes les parties prenantes (Chercheurs, décideurs, utilisateurs, et le citoyen lambda) ? ce que chaque partie prenante va observer comme changement ? au soir du 31 décembre 2030.

Comme les attentes des populations varient d'une région à une autre, la délégation de la Côte d'Ivoire propose que dans la stratégie, l'on s'appuie sur les institutions nationales et régionales qui prennent déjà en charge les questions locales.

Dans la même veine, en ce qui concerne l'Afrique, et en rapport avec la préoccupation du Kenya, la Côte d'Ivoire propose de créer un lien, une consultation avec la décennie africaine des océans et la stratégie africaine maritime intégrée qui a démarré depuis 4 ans en suggérant fortement d'associer les experts africains.

Enfin, au niveau national, le Centre océanologique, les Universités, Institut et centre de Recherche et le centre d'Excellence en Télédétection prendront une part active dans la mise en œuvre des activités inscrites dans le cadre de la décennie.

### **Germany**

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Germany appreciates the well-organized planning process and highlights the importance of regional consultation workshops for the development of the implementation plan.

Germany is glad to announce that we will host the kick-off conference for the UN Decade of Ocean Science for Sustainable Development in Berlin in the first semester of 2021.

The Decade will bring together scientists from all regions and disciplines to work with stakeholders from sectors that rely on ocean research and knowledge, including policy and decision-makers, NGOs, civil society, the philanthropic sector, blue economy leaders, and education and communications professionals. Thus, we aim for a broad involvement and want to organize the kick-off conference as a true multi-stakeholder event.

We believe that such a kick-off event is an excellent opportunity to facilitate the visibility and impact of the upcoming Decade. It will also serve as a platform for all of you to present your commitments and contributions towards the objectives of the Decade. Its planning process has only just begun, and Germany appreciates your comments on how to make this conference a great success!

### **India**

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India supports the draft resolution for the UN decade of ocean science for sustainable development. India is committed to the sustainable ocean observation program and the data is shared among all member states. Capacity building, one of the areas being highlighted at UN decade is taken up through involvement of students

and young scientists. Many institutions have specific training programs for operational oceanography, marine pollution, water quality measurement, shore protection etc.

India is happy to host the regional workshop for preparation of UN decade of oceans. This has been endorsed at the IOCINDIO VII meeting held in May this year. Specific programs to study the effect of pollution due to micro plastics have been taken up on a large scale. India is open for collaborative programs as in IIOE 2 from any country in the region to complement each other.

India compliments the secretary and Julian for their enthusiasm in taking the ocean decade forward by convening meetings with stake holders, EPG and effective documentation and follow up so that there will be a measurable positive change after the decade.

Let us all strive to make the earth a better place to live in for posterity.

## **Japan**

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The United Nations Decade of Ocean Science for Sustainable Development is with no doubt an important and unique opportunity for the ocean community to enhance ocean sciences and services to meet societal needs toward the SDGs, SDG-14 and 13 in particular.

Japan has provided financial support for the preparation of the Decade through Japan Fund-in-Trust to the IOC Headquarter and IOC/WESTPAC.

Japanese government adopted the 3rd version of National Basic Ocean Plan in May 2018, which stated that Japan would contribute to and actively participate in the preparatory and implementation phases of the Decade.

As Mr. Julian Barbieri mentioned in his report, Japan will host a regional consultative workshop for the North Pacific under close cooperation with IOC WESTPAC and North Pacific Marine Science Organization (PICES), from July 31 to Aug 2, 2019 in Tokyo. Japanese national committee for the IOC has also been fully involved in preparing the workshop.

The outcomes and/or priority areas of the Decade are all essential. But Japan highlights here the ocean data and information sharing based on a reliable and workable data and information management system, without which it will not be possible for us to achieve successful Decade. It is very much challenging to establish ocean data and information system including ODIS (Ocean Data and Information System) that realizes fully open access to the ocean data and information. However, it is only through international/intergovernmental cooperation that can make it possible for us to have such data and information system including full implementation of the IOC oceanographic data and information exchange policy.

Japan sincerely expects excellent leadership of IOC officers and the Executive Secretary in finalizing the implementation plan of the Decade.

## **Kenya**

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The United Nations Decade of Ocean Science for Sustainable Development (2021-2030) is an important opportunity to better understand the ocean and promote the sustainable use of the marine ecosystem.

Kenya appreciates the work accomplished by the IOC Secretariat and thanks the Executive Planning Group for its work in support of the preparation of the Implementation Plan. We thank all the Member States and organisations that have contributed to the preparatory phase of the Decade.

Kenya welcomes efforts to take into account the importance of the participation of young people, women scientists as well as foster inter-disciplinary collaboration in the preparation and implementation of the Decade.

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. It is in this spirit that Kenya is collaborating and cooperating with other countries towards building a sustainable ocean.

In this regard, the United Nations Ocean Conference in 2020 that will be co-hosted by Kenya and Portugal will indeed be an important opportunity to galvanise action in support of the Decade. Kenya looks forward to further collaboration with all Member States and partners towards a successful United Nations Decade of Ocean Science for Sustainable Development.

Finally, given the importance of capacity-development and fostering collaboration amongst Member States including in Africa, could the IOC Secretariat kindly inform us of any planned regional meetings for the Africa region?



## **Norway**

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The Decade represents a major opportunity to strengthen knowledge about oceans and marine ecosystems, for the benefit of marine science globally and the global community.

Challenges we are facing in the oceans relating to climate change, pollution, and others, all call for stronger international cooperation in science, at the global as well as at the regional level.

Norway considers the theme of addressing the needs of developing countries for capacity building in science and fisheries management a major aspect of the decade. We look forward to advice from the regional level bodies and the decade Executive Planning Group on how this best can be addressed and coordinated during the decade.

Within the setting of Norwegian Prime Minister Erna Solberg's High Level Panel, Norway hosted a conference last year bringing together 150 marine scientists from 50 countries, producing more than 40 recommended actions to ensure a sustainable ocean economy. The recommendations from the High Level Panel will be important inputs also in the planning of the decade.

We have taken the first steps in our domestic work to prepare for the decade. We have established a unit within the Research Council of Norway which is to coordinate national decade activities. Norway will continue to provide financial contributions to the IOC for the planning of the decade.

In Norway, one important task will be to communicate with students and society to increase awareness of how important the ocean is for our future and welfare. The aim is to increase young people's interest in ocean education and science.

## **Philippines**

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The Philippines actively participated in the deliberations on the modalities and organization of the 2nd UN Ocean Conference to be held in Lisbon next year. We will continue to support the Conference and build on its focus to progress from science to action.

We wish to express our support for IOC's thrust to engage as many stakeholders as possible, to include in the process our partners in the UN system, scientific community, foundations, private sector and the youth. We need all parties to support the design and implementation of the Decade. We thank the members of the Executive Planning Group for their work in support of the development of the Implementation Plan.

We also support IOC's plan to participate in and communicate the objectives of the Decade at global and regional meetings. IOC's message must be simple, targeted and engaging in order us to secure support and generate involvement from the global community. We have to devote resources to reach out, especially to those who are not aware or are not interested in ocean action, and convey the importance and potential of the ocean sciences.

We encourage all Member States to co-lead with the IOC in the communication of the Decade's vision and key objectives. We are now midway through the preparation phase of the Implementation Plan, and several regional workshops and consultations are forthcoming.

Following our inclusive and participative approach, we are confident that the inputs and perspectives of all stakeholders will be considered. We also hope that the Implementation Plan will be circulated as early as possible for review and consideration, before it is transmitted to the UN General Assembly.

## **Portugal**

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Portugal supports the proposed Draft Resolution on the Progress Report on the preparation of the UN Decade of Ocean Science for Sustainable Development, as amended.

We firmly believe that the Decade is a timely and unique opportunity to mobilize governments, academia, the private sector, civil society and mankind as a whole, namely the younger generations, to take the urgent actions to revert the current state of degradation of the ocean's environment and health, while promoting the protection and the sustainable use of the ocean and its resources for the present and future generations.

In order to define priorities, plan, coordinate and execute these necessary actions at a national level, and also to assist the IOC's Secretariat in the preparation of the Implementation Phase of the Decade, Portugal is now creating a National Office for the Decade, under the scope of the Ministry of the Sea, in coordination with other relevant ministries, to promote national cooperation and combined actions between the scientific community and the various stakeholders, in articulation with other national and international programs, IOC and UN initiatives.

At the 51st Session of the IOC's Executive Council and at the 1st Global Planning Meeting in Copenhagen, Portugal has offered to host the 2nd Global Planning Workshop for the preparation of the Decade, in late May 2020, seizing the opportunity that it will be hosting in Lisbon, that same year, together with Kenya, the 2nd UN Ocean Conference. The combination of the two events back-to-back makes use of the unique opportunity to gather in the same place, at the same time, a very large number of decision makers, scientists and major stakeholders.

During the planning phase of the Decade, 2019-2020, and throughout its implementation phase in 2021-2030, awareness and active engagement of the Portuguese ocean community and society in general, in the Decade Objectives, will be promoted nationwide by the Portuguese Committee for the IOC, through consultations and open meetings with the various stakeholders (including academia, the private sector, NGOs and the general public). This will be done with particular focus on the Atlantic, taking full advantage of and building on the two major recent initiatives with headquarters in the Azores, in line with the Galway (2013) and Belém (2017) Statements: the international initiative of the Atlantic International Research (AIR) Centre, in which Portugal is strongly involved, and the national initiative of the creation of the Observatory for the Atlantic.

Another major opportunity that will be used to promote the awareness of the importance and vulnerability of the oceans, the objectives of the Decade at national and international level, and the urgent actions that need to be taken, is the series of actions planned for the commemorations of the 500 years of the first circumnavigation voyage carried out by the Portuguese navigator and ocean explorer Fernão de Magalhães, completed by the Spanish navigator Sebastian Elcano. These will take place between 2019 and 2022.

Finally, and following Kenya's intervention, we would like also to mention again the side event that will take place during the 40th General Conference of UNESCO, in November 2019, jointly organized by Kenya and Portugal, in collaboration with the IOC Secretariat, to raise awareness and support for the Decade. You are all most welcome to participate in this event.

### **Republic of Korea**

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Recognizing the global, regional, national importance of conservation and sustainable use of the ocean, the Republic of Korea has actively participating in the preparatory phase of "UN Decade" from its initial stage through financial support and secondment of staffs based on the MOU signed between Korean Government and IOC in 2018.

In order to enhance engagement of diverse Korean stakeholders in the UN Decade framework and to develop collaborative activities, the Republic of Korea has established a national mechanism for the UN Decade under the Korea Oceanographic Commission.

Last May of 2019, we held a special planning session on UN Decade during the annual meeting of Korea Oceanographic Society, encouraging more Korean scientists to be engaged in the UN Decade.

As a strong supporter of the UN Decade from its first stage, our delegation would like to continue such support and contribute to successful implementation of the Decade.

In this regards, the Republic of Korea is seeking to host one of the UN decade coordination offices as well as launching international collaboration projects for the post-2020 UN Decade implementation phase.

Our delegation is willing to mobilize and provide valuable resources to the Decade such as excellent researchers, facilities and financial support for the research programs and capacity building.

We consider that the UN Decade is a once-in-a-life time opportunity to advance the ocean science and serve the society for sustainability of the human culture and civilization.

### **South Africa**

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The Delegation of South Africa commends and appreciates the work conducted by the Executive Secretary, the UN envoy, the IOC officers as well as all the relevant stakeholders for the preparatory work thus far, and supports the United Nations Decade of Ocean Science for Sustainable Development. South Africa sees this decade as an excellent initiative that will contribute towards Africa's development, the developing world and Small Island States on oceans research, conservation and governance as we believe in the notion that No One is Left Behind.

The delegation of South Africa wishes to remind the Member States in the Assembly that in the year 2015 the African Union declared Africa's Decade of Seas and Oceans to be between 2015-2025, which meant that our engagement within the IIOE2 and planned activities within the Ocean Decade will address the synergies and priorities as set out in the AU Integrated Maritime Strategy document. We consider that the United Nations Decade of Ocean Science for Sustainable Development will be a catalyst and provide further support towards

the objectives set out in the framework of the AU which seeks to enhance the capacity of African Member States.

We stand ready to do our part in partnership with other member states and hope to infuse a more developmental approach into the Decade's planning process.

### **United Republic of Tanzania**

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Tanzania also supports the Resolution submitted by Norway and the Republic of Korea.

The UN Decade is an opportunity for IOC to raise awareness globally about the importance of ocean sciences and the health of the oceans, by capitalizing on the services that oceans offer to humans.

Tanzania is particularly pleased with the planning process, which is participatory and we are looking forward to participate in the regional planning Workshops. However, Tanzania would like to note here that the success of the UN Decade and IOC activities at national level will depend very much on the successful implementation of national ocean science Programmes. Unfortunately, most African countries do not have ocean policies, which could enable them to develop and implement national ocean science programmes.

Tanzania would like to propose that among other planned activities IOC and all Member States use the UN Decade to promote the importance of National Ocean Science policies and assist the African Member States, and all others who do not have National Ocean Science Policies, to develop coherent ones that would enable them to come up with good Ocean Science Programmes.

Tanzania would also like to propose that the UN Decade be used to streamline ocean sciences education from lower levels starting with Kindergarten and primary schools, secondary schools and colleges. Such awareness will ensure gender equality in ocean sciences because mostly at the early educational levels, the gender balance is around 50%.

Indeed, this is possible; for example, the IOC-Africa Secretariat did facilitate an initiative for youths to have a competition in drawing pictures telling stories about the Ocean. The response was high, and they received input from as young as 9 years old! As a product, they produced a very interesting book from the pictures drawn by the youths, which is used as an awareness material.

Finally, Tanzania is pleased and grateful to have had one of her young scientists – Ms. Hellen Kizenga– being invited by IOC to participating in today's session of Ocean Science Day 2019, as a panelist.

### **United Kingdom of Great Britain and Northern Ireland**

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The United Kingdom supports the draft resolution and compliments the secretariat and Expert Planning Group (EPG) for their efforts to date. As a strong advocate for the Decade at the UNGA in 2017, the UK is committed to supporting the Decade, including by having provided financial support for the preparation phase as outlined in the resolution, hosting the Seabed2030 Global Data Centre at the British Oceanographic Data Centre and the inclusion of the Decade in the soon to be released UK Government International Ocean Strategy.

The UK would like to encourage the Executive Planning Group to continue with urgency its work on providing guidance on criteria/process for endorsing recognition of Programmes and Projects as contributing to the Decade's portfolio. This is viewed as important to facilitate leverage of national research funding and other partnerships. And given the long lead-time for developing proposed funded programmes it is important that this is developed well in advance of the start date for the Decade in 2021.

Whilst we appreciate that the Roadmap will evolve as greater insights are captured over the next 12 months, we would caution against changing significantly what it is we understand to be the shape of the Decade. If the ambition is to start at pace in 2021, Member States will need to have reasonable planning confidence as to what the Decade is expected to look like.

### **United States of America**

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The Chair and Secretariat are familiar with US commitment to the Decade at the government, public, private levels so I will not elaborate on those subjects.

On a specific portion of the draft resolution—Para 11- we have comments about role of other UN agencies in the Decade; we'll await your guidance on how/when to raise those suggested changes to the text?

Two other points, without having specific projects it is hard for us to pursue projects, including philanthropic or private funding, such as the UK has described. It is important for us to look for projects to conduct during the Decade, and only when defined can we invite partners. It is important to define these projects and solutions, not just science questions. Finally, many of us believe that this Decade is a once in a lifetime opportunity. But it's not just our lifetime. If we do not get this right we will regret it and we won't be remembered well.

## **Viet Nam**

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Vietnam Delegation highly appreciated Progress report on the preparation of the United Nations decade of the ocean science for sustainable development submitted by Norway and the Republic of Korea.

Concerning the United Nations' decade of ocean science program for sustainable development, Vietnam has also made special preparations on the national policy.

The following is information related to the issues mentioned above:

+ The strategy of sustainable development of Vietnam's marine economy

On October 22, 2018, on behalf of the Central Committee, General Secretary Executive Committee and President of the Socialist Republic of Vietnam, Nguyen Phu Trong signed the Resolution N0 36 of the 12th Central Executive Committee on the strategy for sustainable development of Vietnam's marine economy to 2030, vision to 2045.

This is a very important document of the nation to guide Vietnam's sustainable marine economic development in the next decade.

In the economic field, over the past 10 years, the sea and coastal economy has always contributed more than 30% to the country's GDP of Viet Nam.

Besides, many non-traditional security challenges such as pollution of the marine environment and exhaustion of natural resources are increasingly fierce in the Bien Dong. These will be direct challenges to our country's maritime security development and protection process.

Marine thinking must be placed in the overall socio-economic development strategy of Vietnam, taking integration as the main direction, building internal resources as a center and placing in the strategy of ensuring security and national defense of Vietnam in the new situation.

Under the Framework of the resolution N0 36 Draft resolution of Vietnam's government on the strategy of sustainable marine economic development to 2030 vision to 2045. Content:

1. Governance sea, ocean and coastal management
2. Developing sea and coastal economy
3. Regarding the improvement of community life, building a marine culture, a society associated with and friendly to the sea
4. Regarding marine science and technology development, improving the quality of marine human capacity Building.
  - There are priority policies to develop renewable energy sources and clean energy technologies.
  - Promote cooperation, enlist the support of partners, international and regional organizations for the development of human resources. To study and apply modern technologies to marine economic sectors, environmental protection, natural disaster prevention and climate change.
5. Concerning to the Marine Environment, response to natural disasters, climate change and sea level rise.
  - Promote and participate in international cooperation activities in response to the UN decade of marine science and technology for sustainable development.
  - Planning coastal economic zones, industrial clusters, urban areas to ensure sustainable, ecological-based, smart adaptation to climate change and sea level rise.
  - Continue to operate and further develop programs and projects to restore coral reefs, seagrass beds, natural ecosystems, mangrove forests, coastal tidal flats

## **Scientific Committee on Oceanic Research (SCOR)**

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SCOR appreciates the progress being made by IOC and partners on the UN Decade of Ocean Science for Sustainable Development. We were pleased to see that there is an intention to hold one or more workshops in the Indian Ocean region to obtain regional input. We suggest that the second International Indian Ocean Expedition, co-sponsored by IOC, SCOR, and IO-GOOS, be considered as a component project under the UN Decade.

### **4.2 IOC Contribution to the UN Decade**

#### **Republic of Korea**

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The delegation of R.O.K realizes that collaboration among the IOC member states and an appropriate support for their activities would be most important in order to materialize the implementation and to achieve the goals of the UN Decade of Ocean Science for sustainable development.

In this regards, please let me introduce a program of my institute under planning. On the plea of understanding, my Insititute is the government funding agency for ocean research and technology development, Korea Institute of Marine Science and Technology, KIMST. The program is called 'Marine Science and Technology International R&D Program which is scheduled to be launched in 2021 at the beginning of the UN Decade.

The main purposes of the program are to support international collaboration researches that will produce solutions to ocean stressors and also to support capacity building and training programs, reflecting the themes of the seven R&D priority areas identified in the Roadmap of the UN Decade.

### **World Meteorological Organization (WMO)**

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WMO supports entering into collaborative programmatic arrangements with IOC to design and implement joint science activities as part of the Ocean Decade, especially through the WMO research programme, the jointly co-sponsored WCRP and newly established WMO Research Board and Scientific Advisory Panel for the Earth System science. Another example includes GOOS, with improved Ocean Observing systems highlighted as a key outcome of the Decade. As well, the Decade theme 'A predicted ocean' is of significance to our co-sponsored programmes: GOOS, GCOS and WCRP; and WMO looks forward to working with the IOC to strengthen ocean modelling in support of earth system prediction.

Regarding the Decade theme a 'Safe Ocean', WMO has already been working in partnership with the IOC (including via JCOMM) and the IMO to ensure the best support for Members and Member States to deliver quality maritime safety services, and early warnings, to mitigate the impact of coastal and marine hazards. This aligns with the Sendai Framework and also links to the Multi Hazard Early Warning System (MHEWS). As part of this, and as mentioned yesterday, WMO is also developing training material to advance the capability of Members and Member States to deliver these services for a safe ocean, especially in developing countries and SIDS.

WMO expresses its commitment to continue and expand these partnerships with the IOC that will ensure significant joint contributions to the Decade and the Sustainable Development Goals, with benefits to the global community.

I also take this opportunity to convey the deep appreciation of WMO SG Prof. Petteri Taalas to the Chair, for your great efforts, contributions and success for promoting and strengthening the collaboration between WMO and IOC. Prof. Taalas also requested me to convey his sincere congratulations to the new elected IOC Chair, Mr Ariel Troisi, and all the newly appointed IOC Officers and Executive Council. He and WMO in general, are looking forward to the expected continued and further strengthened collaborations between our two organizations for our common goals

## **5.1 Cooperation with WMO**

### **Australia**

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Australia supports the draft Resolution regarding the creation of a Joint WMO-IOC Collaborative Board.

There is considerable important work ahead for the Collaborative Board and Australia will seek to engage deeply to support these transition arrangements to ensure that no one or no activity is left behind.

Australia notes WMO's service delivery focus provides opportunity for improved connections between IOC's Working Group on Tsunamis and Other Hazards Related to Sea-Level Warning and Mitigation Systems and WMO's Worldwide Met-Ocean Information and Warning Service regarding global coordination for an operational service. It is expected that the IOC will need to strengthen TOWS with all tsunami ICGs if this role is to be well coordinated with WMO in the new structure.

Finally, we note that the culture in WMO is very different to the IOC and therefore active open communication and consultation at every stage in the transition to a new structure will be critically important.

### **Brazil**

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Brazil congratulates the IOC Secretariat, under Ariel Troisi leadership, for the outstanding job accomplished in such a short period.

We cannot understand and therefore predict weather or climate without a joint effort from WMO and IOC.

The present effort by these organizations to optimize the work done by JCOMM will certainly contribute to better results.

Brazil strongly support this joint effort. Finally, Brazil presented to the IOC Secretariat a suggestion to improve the Terms of Reference of the Joint WMO-IOC Collaborative Board, regarding the selection process of IOC

Member States representation to this Board, by adding the text “, in consultation with IOC Officers” at the end of paragraph (b) ii of the Membership section.

### **Côte d’Ivoire**

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La délégation de la Côte d’Ivoire se félicite de cette réforme dont les premiers avantages visibles sont la promotion de la synergie d’action et la mutualisation des ressources.

La Côte d’Ivoire observe que ce rapprochement montre encore une fois, le rôle de l’océan dans les phénomènes météorologiques qui affectent les activités quotidiennes des populations mais aussi le changement climatique.

In fine, le rapprochement va permettre renforcer la visibilité de la COI

Pour tout cela la Côte d’Ivoire support cette resolution mais aimerait tout de même poser deux questions:

- 1- A quel niveau se fera la certification des instruments de mesure?
- 2- Du point de vue financier quels sont les avantages de cette association

### **Germany**

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As co-sponsor of the proposed resolution would like to add some brief comments.

First of all Germany would like to thank Ariel Troisi and Luis Uccellini for their excellent chairing of the joint WMO/IOC consultation Group, as well as Albert Fischer and Stefano Belfiore for their outstanding secretarial support.

The proposed WMO-IOC Collaborative Board has some evident advantages over JCOMM. The most important thing is to intensify cooperation. While JCOMM was created for collaboration in specific areas, the new Collaborative Board has a mandate for a fast variety of technical and scientific work where collaboration brings additional benefits. In the future we will also be able to make faster decisions. While JCOMM met every five years, the new Collaborative Board can propose decisions to the IOC and WMO governing bodies every year. It is important to keep in mind. While JCOMM itself was an intergovernmental body that could make decisions itself, the new Collaborative Board is a purely advisory body. The decisions are taken by us, the Member States represented in the IOC governing bodies and our colleagues in the WMO governing bodies. As a result, Member State control will increase, not decrease, in the future.

In fact, not every issue was resolved by the Joint WMO-IOC Consultation Group, which drew up the proposal on which we must decide. In particular discussion on the involvement of the existing working groups and working arrangements is still under way and should be resolved during the transition period. However, you can argue that this is an advantage. Now the experts in the working groups can propose a structure that takes account of the individual needs of each group. The principle that nobody should be left behind and that the fruitful work must be continued is strictly respected. We are strongly optimistic that now we have the opportunity to create a group that enhances the spirit of cooperation even better.

### **Japan**

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We recognize that JCOMM has been playing a key role for global ocean and marine meteorological observation, data collecting and management, product services, and planning, consultation and promotion related to capacity development since its establishment in 1999. Japan appreciates JCOMM’s activities and highly praises the efforts made by the people concerned.

We also recognize that WMO has decided to reform its structure to achieve more effective and efficient organizational management. Japan is satisfied with the appropriate definition of the successor organization of JCOMM.

We would like to emphasize that the existing JCOMM functions and activities should be taken over to the reformed structure smoothly. Also, the transition plan should be shared between WMO and IOC appropriately.

### **Spain**

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Hace 4 años el Presidente de la Organización Meteorológica Mundial presentó una reforma de su organización que afectaba al funcionamiento de la JCOMM (Joint Commission for Oceanography and Marine Meteorology). Este anuncio causó incertidumbre e incluso preocupación entre los Delegados de los Países Miembros de la COI.

La Presidencia y la Secretaría de la COI entendieron dicha preocupación que llevó a iniciar un proceso de consultas para la reforma de la JCOMM y a establecer un Grupo de Consultas. España agradece muy especialmente el magnífico trabajo realizado por este grupo. A lo largo de este proceso el papel de la COI en

su interacción con la OMM ha salido reforzado. Esto es positivo no solo para la COI como organización, sino porque la atmósfera y el océano son parte del sistema climático del planeta. Además, la reforma propuesta conlleva una simplificación del proceso de decisiones que incrementará la eficiencia en abordar los retos de la predicción meteorológica y climática, de tanta relevancia para el futuro del planeta.

España reitera su agradecimiento a la OMM, a la Secretaría y a la Presidencia de la COI, y muy especialmente a los miembros del Grupo de Consultas para la Reforma de la JCOMM.

### **United Kingdom of Great Britain and Northern Ireland**

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The United Kingdom would like to express its appreciation for their excellent work to the Co-chairs and the members of the Joint WMO-IOC Consultation Group on the Reform of JCOMM. The coupling of ocean and atmosphere processes is particularly critical in the earth-system and for understanding and predictions on timescales longer than several days - including seasonal weather, coupled modes of variability and climate change and variability.

For this reason, it is essential that the WMO and IOC are able to continue to work together effectively to jointly enable the delivery of relevant meteorological and oceanographic observations, information and services. The UK is satisfied that concerns it first raised at the 29th IOC General Assembly regarding potential for unintended adverse impacts on this work have been addressed through the work of Joint WMO-IOC Consultation Group.

The UK considers the principle of the proposed arrangements allow the appropriate JCOMM functions to continue within GOOS with appropriate functional connections to WMO enabling continued cooperation. Moreover, the proposed Joint WMO-IOC Collaborative Board offers a flexible means to oversee wide-ranging cooperation, development of new initiatives and for provision of strategic advice to both the IOC and WMO where Member States remain able to take the final decisions. The UK will therefore be supporting the draft Resolution [XXX/DR.(5.1)].

### **United States of America**

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The US greatly appreciates the efforts of the Consultancy Group to bring this resolution to IOC attention. The US strongly supports cooperation with the WMO and adoption of this resolution, consistent with the efforts WMO has made to enhance WMO ocean activities, boost coordination and cooperation, and contribute to the UN Decade of Ocean Science for Sustainable Development 2021-2030. There is increased recognition that the interactions of the ocean and atmosphere are critical for improved forecasts of weather, climate, extremes, marine ecosystems, inundation events, as well as a variety of products and services that coastal and non-coastal communities rely on for their safety, thriving economies, and sustainable futures. The US has been strongly supportive of JCOMM and look forward with great anticipation to the future efforts of the new Joint Collaborative Board.

## **5.2 IOC contribution to the United Nations Framework Convention on Climate Change (UNFCCC)**

### **Chile**

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Actualmente el océano enfrenta peligrosas amenazas, entre ellas el Cambio Climático que acidifica a los mares afectando su biodiversidad, cambiando su temperatura y afectando a los recursos y ecosistemas marinos.

El océano posee un rol fundamental en el balance de la temperatura de nuestro planeta, el océano captura el 30% de las emisiones de gases de efecto invernadero, además de absorber el 90% del calor adicional generado por el calentamiento global.

La Convención Marco de Naciones Unidas sobre Cambio Climático (CMNUCC) de 1992 reconoce al océano como un sumidero de carbono que debe ser “fortalecido y conservado”. Sin embargo, luego de estos 26 años, no se ha realizado un trabajo significativo para cumplir con este mandato.

En este contexto, se hace urgente establecer una fuerte vinculación entre cambio climático y océano.

Destacamos la inclusión del océano en el preámbulo del acuerdo de París, ya que marcó un hito, pero eso no es suficiente.

Desde la COP 21, Chile ha desarrollado grandes esfuerzos para generar esta vinculación, establecimos dos declaraciones Because the Ocean, a través de las cuales nuestro país ha hecho un llamado a los distintos actores sobre las amenazas que afectan al océano y motivando a los gobiernos a incluir al océano en sus Contribuciones Nacionalmente Determinadas.

Chile ha asumido la presidencia de la COP25 basado en compromiso con el multilateralismo y con la convicción que el Cambio Climático es una tarea colectiva. Chile espera que la COP25 dé lugar hacia mayores

niveles de ambición en la acción climática y buscará incluir nuevos temas específicos, como el de océano para poner en relieve la necesidad de mayor acción en estas áreas. Esperamos que el océano posea un rol importante en esta COP y creemos que de esta forma podremos establecer las estrategias a través de las cuales generaremos la vinculación entre la convención y el océano.

En este sentido, las ciencias del océano juegan un rol muy relevante. El próximo informe del IPCC sobre criósfera y océano marcará un momento muy importante para el futuro, el desarrollo y el avance en la lucha contra el cambio climático.

La década de las ciencias del océano para el desarrollo sostenible es una gran oportunidad para fortalecer y consolidar el conocimiento acerca de la relación entre cambio climático y océano, y por esto, esta delegación espera que esta década incluya el cambio climático como una de sus prioridades y de esta forma aportar con bases científicas en diversos desafíos a mediano plazo y largo plazo.

Chile posee la expectativa de que la COI posea un rol importante en generar y consolidar una base de conocimiento científico que sea el pilar desde donde se establecen las prioridades a largo plazo en la mitigación del cambio climático y su relación con el océano, para esto apoyamos que continúe su trabajo en coordinación con la Convención Marco de Naciones Unidas sobre Cambio Climático.

Queremos hacer un llamado a los distintos Estados y a los organismos intergubernamentales a ser parte de este proceso, de avanzar en generar el vínculo entre cambio climático y océano, el océano está sufriendo debido al cambio climático y esto debemos detenerlo ahora y la única forma de hacerlo es generando acciones e iniciativas concretas, tanto en la agenda climática como también en agenda del océano.

Como ya se ha mencionado, el concepto de COP azul aún está en desarrollo y estamos trabajando en conjunto con todos los actores para avanzar en esto.

Tenemos algunos comentarios sobre la decisión que realizaremos cuando analicemos este texto.

## **Colombia**

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El Gobierno de Colombia agradece al Señor Secretario Ejecutivo por promover la colaboración entre la COI y la Convención Marco de Cambio Climático de las Naciones Unidas (CMCCNU), y buscar las oportunidades de cooperación científica y técnica.

Como Comisión Colombiana del Océano, coincidimos con la COI en que resulta fundamental que el Grupo Ejecutivo de Planificación de la Década de Ciencias Oceánicas tenga en cuenta en la preparación de la década las necesidades relacionadas con la ciencia del cambio climático.

Colombia continuará participando activamente en la Red Latinoamericana de Acidificación de los Océanos (LAOCA) y contribuyendo a la puesta en práctica del Plan de Acción de Acidificación de los Océanos para Latinoamérica y el Caribe, con actividades como la realización de cursos de entrenamiento para la región en esta temática.

Colombia insta al Secretario de la Comisión a que continúe y refuerce la cooperación con el Grupo Intergubernamental de Expertos sobre el Cambio Climático (IPCC) y explore nuevas oportunidades en conjunto con los Secretarios de las subcomisiones regionales de la COI para emprender una labor técnica conjunta, que se refleje en evaluaciones regionales.

Para lo anterior, es indispensable poner en práctica las sinergias que promuevan debates científicos y técnicos de la Convención Cambio Climático entre los grupos de expertos de la COI, sus subcomisiones regionales y los Estados Miembros, en particular sobre investigación en la acidificación de los océanos y en balance de carbono en sistemas marinos y costeros.

Por último, Colombia confirma su intención de participar en las discusiones sobre los océanos y en los eventos paralelos relacionados con América Latina y el Caribe que tendrán lugar en la 25ª reunión de la Convención de las Partes en Cambio Climático.

## **Costa Rica**

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Costa Rica reconoce el trabajo realizado por la Secretaría de la COI para vincular efectivamente el contenido de la UNFCCC y el Acuerdo de París con las capacidades y el mandato de la COI. Esta es una declaración directa del compromiso que asumimos para responder a la crisis climática que enfrentamos, y un importante reconocimiento del rol vital de los océanos en la regulación climática.

Costa Rica aprecia el compromiso de la Comisión con el proceso de la COP25 y esperamos generar una agenda marina sólida, basada en la mejor información científica y técnica disponible.



Costa Rica será la anfitriona de la PreCOP el 08, 09 y 10 de octubre. Estamos buscando generar espacios de diálogo y negociación basados en acciones para enfrentar la crisis climática. Buscamos soluciones que nos permitan ser más ambiciosos de cara a la COP 25 y a los NDC. La PreCOP estará enfocada en 3 temas: ciudades sostenibles, soluciones basadas en naturaleza y agenda azul. Derechos humanos, género y mecanismos financieros serán temas transversales.

Costa Rica considera que la PreCOP debe ser uno de los pilares para asegurar el éxito de la COP25. Invitamos a los países miembros del COI a que se involucren activamente en la PreCOP. Solicitamos respetuosamente, que en el punto 7 de la decisión se incluya de manera expresa la colaboración e involucramiento de la COI en la PreCOP. Esperamos seguir trabajando de manera cercana con la COI visibilizando con información científica el vínculo cambio climático y océanos.

### **United Kingdom of Great Britain and Northern Ireland**

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The nexus of ocean and climate is increasingly recognised, not least because 93% of excess heat in the earth-system is being taken up by the ocean. As summarised at the First Global Planning Meeting of the Decade of Ocean Science for Sustainable Development in Copenhagen in May 2019, “the Ocean IS too big to ignore”. Consequently, mainstreaming the ocean issues into climate actions is essential and hence the mandate of the IOC will align ever more strongly with the work of the Convention.

We note that the United Kingdom and Italy have agreed to present a proposal for the UK to assume the Presidency of the 26th Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC) in partnership with Italy.

### **World Meteorological Organization (WMO)**

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WMO very much welcomes and supports the partnership between UNFCCC and the IOC. Noting WMO’s links to both entities and in particular our hosting of the IPCC Secretariat, we would like to reinforce our cooperation through the joint partnerships already underway with the UNFCCC and the IOC. As well, WMO would like to explore further opportunities for joint technical work in support of the IPCC Assessment reports and the relevant IPCC Special Reports.

We are looking forward to working closely with IOC (and broadly the UN-Oceans, in which the UNFCCC is a new Member) to plan activities for Santiago, for the ‘Blue COP’ given the theme related to oceans.

Regarding the Ocean Decade, WMO also encourages the Executive Planning Group to take into account the needs of the science of climate change and we welcome the suggestion just given by the USA to include Member States within the resolution. In addition, WMO would also like to encourage close discussions between IOC, WMO and UNFCCC – and other UN-Ocean Members - to consider the reflections of climate change in the science plan of the Decade. If appropriate, you may wish to consider adding that to the text.

## **6.1 Harmful Algal Blooms: 14th session of IPHAB, UNESCO, Paris, 20–26 April 2019**

### **Chile**

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Las Floraciones de Algas Nocivas constituyen un fenómeno muy sensible para las comunidades costeras y en particular para la sociedad Chilena. El alto impacto en la salud de la población y los negativos efectos en el plano social y económico resultan en una temática sensible y por ende concita una prioridad para nuestras autoridades y para nuestros científicos que trabajan el tema desde diferentes disciplinas.

Chile ha tenido una activa y permanente participación en el Panel y particularmente en la componente regional denominada FANSA – Floraciones de Algas Nocivas de Sudamérica-, que integra junto a Argentina, Brasil, Ecuador, Perú y Uruguay.

Chile expresa su apoyo al Informe del IPHAB y quiere hacer énfasis respecto del apoyo financiero que requiere el Panel, el que se ha visto mermado en los últimos años. La adecuada asignación de apoyo financiero es clave para avanzar los objetivos del Panel.

La falta de recursos ha generado que el Grupo FANSA haya perdido posibilidades de trabajo entre los países de la región. La falta de apoyo no ha permitido mantener la cohesión y relación entre los integrantes de FANSA, dificultado la realización de reuniones bianuales de integración para el tratamiento del tema toxinas marinas y floración de algas nocivas.

Reiteramos nuestro apoyo al Informe y solicitamos a la Asamblea que se considere un financiamiento tal, que permita al Programa contribuir a minimizar los negativos y en ocasiones, mortales efectos que se cierne sobre las comunidades costeras afectadas por las floraciones de algas nocivas.

## China

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Harmful algal blooms (HABs) are a global environmental problem. China also suffers from HABs disaster and lead to millions of US dollars annual losses, especially for the coastal aquaculture, which is the main source of sea food production. China put active efforts on coastal ocean research such as eutrophication, HABs based on operational survey including chemical-biological sensors attached buoy monitoring, and scientific question oriented process studies. Financial supports for such monitoring and research both from central and local government, particularly from Ministry of Natural Resources, Ministry of Science and Technology (MOST) and National Natural Science Foundation of China (NSFC).

Meanwhile Chinese government encourages scientists to participate in various activities under the IOC framework particularly WESTPAC. September of 2018, Chinese experts from Ministry of Natural Resources, worked with their counterparts of Malaysia and Hong Kong, China to hold a week-long WESTPAC training workshop on introductory scientific diving for benthic dinoflagellate sampling and processing in Phuket, Thailand, with the participation of more than 30 young scientists and government officers from six WESTPAC member states. Besides, during WESTPAC Harmful Algal Bloom workshop in Bangkok in February 2019, five Chinese researchers share their recent researches. Also the IOC Working Group on Investigate Climate Change and Global Trends of Phytoplankton in the Ocean (TrendsPO) is led by Chinese Experts. Chinese government funded the TrendsPO and would like to fund the working group for IOC continuously in the future.

## Costa Rica

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Costa Rica reconoce el extraordinario trabajo realizado por el COI en la investigación sobre floraciones de algas nocivas.

Es de especial importancia la referencia al sargaso en el Caribe, y las implicaciones económicas, de salud e impactos en el ecosistema marino.

Costa Rica está impulsando un modelo de economía azul para tener mares productivos y sanos para el beneficio de las comunidades. Reconocemos la importancia de involucrar activamente a las comunidades en el manejo de las floraciones de algas nocivas en el marco de este modelo de economía azul, generando trabajos azules al tiempo que aseguramos mares sanos.

## France

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La France approuve le programme élaboré par le panel intergouvernemental sur les efflorescences d'algues nuisibles

Nous souhaiterions souligner particulièrement :

- le maintien, avec un nouveau mandat, de l'Équipe spéciale pour une stratégie inter-institutions visant à améliorer la recherche et la gestion relatives à la ciguatera (Priorité française et portée par l'Ifremer pour l'établissement de la stratégie commune inter-institutions relative à la ciguatera (priorité du GdR PHYCOTOX 2018-2022 ; MoU Ifremer-NOAA sur la ciguatera) ;
- le maintien, avec un nouveau mandat, de l'Équipe spéciale sur la surveillance et la gestion des biotoxines, et les réglementations qui leur sont applicables
- le maintien, avec un mandat identique, de l'Équipe spéciale sur les algues nuisibles et la mort des poissons.

La France en profite pour rappeler qu'une conférence internationale sur les sargasses sera organisée en Guadeloupe du 23 au 26 octobre prochain par les autorités françaises, à l'initiative de la région Guadeloupe. Elle sera l'occasion de mieux comprendre le phénomène à l'échelle de la Caraïbe, de faire un point sur les connaissances scientifiques et de partager les expériences en matière de collecte, traitement et valorisation des algues, mais également d'inscrire à l'agenda politique international la problématique de l'invasion massive de ces algues. Un salon « Sarg'expo » permettra aux entrepreneurs de la région de mettre en avant leurs solutions en matière de collecte ou de valorisation.

## Ireland

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In common with many Member States, over a number of years Ireland has been severely affected by toxin producing blooms that curtail our shellfish industry, have caused salmon farm and wild fish mortalities, and have impacted tourism through periodic beach closures. IPHAB guidance and IOC support for ongoing national research programmes is essential.

The IOC Science and Communication Centre on Harmful Algae supports Ireland in the International Phytoplankton Intercomparison which provides Quality Assurance for laboratories across the world. This endorsement and support is invaluable.

Ireland continues to support the joint IOC and SCOR research network “GlobalHAB” to deliver greater understanding of harmful algal bloom ecology including improved and operational detection of bloom species and associated toxins.

Ireland also supports IPHAB’s efforts in the context of cumulative multiple stressors as a theme under the UN Decade and will continue to explore how IPHAB can engage in and contribute to the UN Decade of the Oceans.

Finally, Ireland endorses the proposed workplan, and supports and will participate actively in the task team on the early detection, warning and forecasting of harmful algal events and is very much open to engagement on IPHAB in regional HAB activities in the coming years.

## **Japan**

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Japan appreciates detailed report of the 14th session of the IOC Intergovernmental Panel on Harmful Algal Bloom (IPHABs) and congratulates the establishment of the joint interagency strategy for Ciguatera.

Japan supports draft recommendations and the workplan of IPHAB.

Regarding the enhancement of harmful algal blooms in the world oceans and the impacts to health, fishery and local economy, also regarding the importance of resolving HAB related issues to reach the goal of SDG14, Japan will continue to support the activity of IPHAB through IOC subcommission WESTPAC.

## **Mexico**

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México reconoce y respalda el trabajo del Panel Internacional sobre Floración de Algas Nocivas. Y es por ello que desea informar que el pasado 27 de junio en Quintana Roo, México, tuvo lugar el Primer Encuentro de alto Nivel para la Atención del Sargazo en el Gran Caribe, con el objetivo de desarrollar una agenda de cooperación regional en torno al control del problema del arribo de sargazo y la mitigación de sus efectos socio-ambientales.

El evento contó con la presencia de Honduras, Nicaragua, República Dominicana, Jamaica, Trinidad y Tobago, Haití, Cuba, Panamá, Isla Guadalupe, Belice, Guyana, y Guatemala, así como con la participación de académicos y representantes de numerosos organismos, quienes coincidieron en que para avanzar se debe trabajar de manera conjunta e intercambiar experiencias. En ese sentido, al cierre del encuentro de Alto Nivel, los participantes acordaron un total de 26 puntos.

## **Philippines**

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Harmful algal blooms (HAB) cause negative impacts to coastal marine fisheries, aquaculture and human health. Although research and interventions on HAB span a considerable period of time, there remains the need to fully understand and address it.

In the case of the Philippines, concerned government agencies and scientific-academic institutions regularly monitor coastal waters for HAB and associated marine toxins. Innovative techniques are used from detection, identification to analysis of harmful algal species. However, HAB trends continue to increase and diversify with understudied consequences. In order to effectively address HAB trends, we need to strengthen our cooperation, share information, sharpen expertise and build capacity.

In this regard, we support the endorsement of the report of the Panel on its 14th Session; agree to the Harmful Algal Workplan for 2020-2021 and its consideration in the overall IOC Programme and Budget resolution.

On the Panel's decision related to Task Teams such as the periodic global HAB status report, ciguatera strategy for improved research and management, and biotoxin monitoring, among others, we greatly encourage regular and coordinated interaction with working groups and committees including the Global Ocean Oxygen Network (GO2NE), as well as the expansion of the teams to include those from regional sub-commissions.

## **Republic of Korea**

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In Korea, Harmful Algal Bloom is also one of the important issues in ocean health.

Korea has continuously made efforts to develop integrated HAB real-time monitoring and prediction systems, based on new techniques such as hyperspectral satellite observation and Deep Learning prediction combined with Numerical modelling.

We will contribute to the HAB research and mitigation of damages by sharing our experience and knowledge with the international communities about the HAB monitoring and prediction systems, being developed as part of operational oceanography in Korea.

## **Spain**

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España dedica importantes recursos al estudio de las proliferaciones de algas tóxicas, incluida la ciguatera. Estos fenómenos tienen gran importancia en nuestras aguas sobre recursos pesqueros y sobre la salud pública.

España siempre ha participado activamente en el programa y en el pasado existió una Oficina de la COI dedicada a este programa en la ciudad de Vigo en colaboración con el Instituto Español de Oceanografía, que tuvo que ser clausurada por problemas administrativos. España está estudiando fórmulas que permitan reforzar nuestra contribución al programa, particularmente en el desarrollo de capacidades que era una importante actividad de la oficina mencionada.

## **Thailand**

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Increasing organic and inorganic nutrients in coastal Thai waters has caused more frequencies of eutrophication and phytoplankton blooms, generating impacts on national economy and social benefits. These phenomena have been more visible and recognized by public and policy makers.

The Thai Government gives a high priority on the management and conservation on coastal ecosystem and environment, particularly those related to public health, food security, and livelihood. Coastal environmental monitoring programme and the occurrence of phytoplankton bloom, particular on the potential toxin producing species including benthic dinoflagellate have been conducted since past two decades.

Thailand has actively participated in the WESTPAC-HAB programmes and its activities, especially on research and capacity building. We have also developed bilateral and multilateral research programmes in the region, to fulfill the need of the country as well as to contribute its activities to the WESTPAC.

Last year, the Thai Government funded and co-organized the WESTPAC's capacity building on "the Introductory Scientific Diving for Marine Benthic Dinoflagellates Sampling and Processing" at Phuket Marine Biological Center.

Thailand will keep our engagement with the WESTPAC-HABs and other related activities such as WESTPAC-Toxic Marine Organisms Programme.

## **United Kingdom of Great Britain and Northern Ireland**

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The UK supports the joint (FAO-WHO-IAEA-IOC) MoU for understanding ciguatera poisoning referred to in Paragraph 4 of the decision. Whilst Ciguatera Fish Poisoning (CFP) is not an issue in UK waters, it presents significant problems in other parts of the world and it has only been through joint activities particularly in relation to capacity building, that appropriate monitoring strategies, methodologies/technologies as well as surveys to understand the ecology of the causative organism and toxin transfer through the trophic levels have been established.

Many of these were transnational efforts involving multiple organisations. There still needs to be more work done on better records of incidence of CFP intoxication events in some regions. Although not present in UK waters, there was a CFP incident in the UK last year caused by imported fish. Such events, although rare, have also been recorded elsewhere in Europe. This illustrates how the work of the Intergovernmental Panel on HABs has wide ranging benefits given the transboundary impacts of HABs.

## **6.2 Report of the WMO-IOC-ISC World Climate Research Programme (WCRP)**

### **China**

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China appreciates the roles played by IOC in the implementation of WCRP activities. The WCRP is an important platform for IOC to strengthen cooperation with WMO, ISC and other relevant international organizations in the area of ocean and climate research. And it will be a good mechanism to promote the implementation of UN Ocean Decade. Therefore, China would like to support IOC to continue its contribution to WCRP, taking into account of the interests of both IOC and other partners of WCRP.

In the last five years, China, through the First Institute of Oceanography, Ministry of Natural Resources, hosted and funded the WCRP CLIVAR Global Project Office (ICGPO), and the ICGPO provides strong support to CLIVAR Scientific Steering Group and WCRP, also it became the bridge between China and WCRP. China are consulting with WCRP for an extension agreement on hosting ICGPO, given the current agreement will expire in next August.

## **World Meteorological Organization (WMO)**

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WMO would like to reiterate its support as a co-sponsor of the World Climate Research Programme and looks forward to working with the other co-sponsors, IOC-UNESCO and the ISC to coordinate and facilitate international climate research.

### **7.1.1 GOOS: Strategy, Implementation, and Governance**

#### **Australia**

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Australia strongly supports the approval of the GOOS 2030 Strategy and associated Workplan and congratulates everyone involved in its development.

The ambitious Strategy and Workplan, along with new responsibilities for GOOS following the disbandment of JCOMM, will however require urgent attention to how GOOS is resourced into the future. Its current reliance upon large individual and short-term national contributions which are often transitory is insufficient and inappropriate for building and maintaining a global ocean observing system of the level needed to inform national governments and global institutions on the status of the oceans and to fulfil real-time services and mitigate climate change and ocean health concerns.

Australia therefore urges the IOC and GOOS co-sponsors to continue to analyse and identify the budget requirements needed and to develop a business case for securing long-term funds from partners and Member States. The Decade provides a significant opportunity to increase understanding of the end to end value chain from observations to end users that GOOS supports and could be used as a launch pad for broader investment. Australia will certainly be seeking this outcome.

Australia also commits to remaining strongly engaged in GOOS through expert participation on the steering committee and science panels, hosting of the Bio-Eco panel secretariat, and direct investment in ocean observations and free and open data access through Australia's Integrated Marine Observing System, which is a GOOS Regional Alliance. We encourage all member states to commit people and resources to GOOS and therefore welcome the text of the draft decision at item 15 in particular.

With respect to the draft Decisions consideration of the TPOS 2020 Report, Australia strongly supports the call on Member States to take the report's recommendations into account when planning contributions to the Tropical Pacific Observing System. We also congratulate the Atlantic observing community for the development of their proposal and wish them success in its implementation.

Finally, Australia is very pleased that Dr Tony Worby of CSIRO will be appointed as a regional expert member of the GOOS Steering Committee for 2020-2021 in Group IV.

#### **Brazil**

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Brazil fully supports the GOOS 2030 Strategy. The GOOS Programme is formally organized in Brazil, under the supervision of the Interministerial Commission on Sea Resources. That's the Brazilian Observing System for Oceans and Climate – GOOS Brazil. It is coordinated by Directorate of Hydrography and Navigation (DHN) through the Brazilian Navy Hydrographic Centre (CHM).

Brazil has been aware of the increasing importance of sustained observations for all international organizations dealing with ocean and atmosphere affairs.

The insertion of the GOOS Brazil Program is reinforced by the participation of Brazilian science and educational institutions in the Regional Alliance for Oceanography in the Upper Southwest and Tropical Atlantic (OCEATLAN) that also counts with the participation of Hydrographic Services and science and educational institutions from Argentina and Uruguay.

As Bulgaria, Japan, Argentina, Peru and others, we'd like to congratulate the GOOS Steering Committee and IOC Secretariat for the GOOS 2030 Strategy and its Implementation Plan. The strategy is very well worded and organized, showing properly the main issues and proposing actions to tackle them, as well as expecting outcomes.

#### **China**

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China highly appreciate the excellent jobs done within the framework of GOOS, under the leadership of JCOMM during the intersessional period of the IOC Assembly. China would like to affirm its commitment to support various activities under the framework of GOOS, especially the TPOS-2020 plan through which China will participate in the construction of the trunk tropical Pacific buoy systems. It will be a significant contribution of China to GOOS, as well as SDG 2030 and the UN Ocean Decade. We look forward to a stronger GOOS

system, which will serve the international community better, and China would like to do more in international cooperation both regionally and globally.

### **Côte d'Ivoire**

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La Côte d'Ivoire se félicite de l'excellent travail effectué par le comité directeur de GOOS qui a abouti à l'élaboration du document de stratégie à l'horizon 2030.

La satisfaction de la Côte d'Ivoire provient surtout de l'approche inclusive adoptée tout au long du processus.

En effet en plus de la lettre circulaire adressée aux états membres pour solliciter leur contribution, au niveau du groupe 5 en particulier, les chercheurs ont été consulté par mes soins en tant que membre du comité Directeur de GOOS, de sorte que leurs avis ont été considéré à chaque étape, au cours de l'élaboration du document de projet.

Enfin, L'argent étant le nerf de la guerre, la décision de solliciter le secteur privé dans la mise en oeuvre de cette stratégie rencontre l'assentiment total de la Côte d'Ivoire. C'est pourquoi la Côte d'Ivoire supporte la résolution proposée.

### **France**

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La France apporte aussi son soutien à cette proposition et souhaite souligner que les cinq objectifs identifiés à 10 ans permettront de répondre aux objectifs initialement proposés dans GOOS. Ces objectifs correspondent à des priorités qui ont également été discutées dans le cadre du système européen d'observation des océans (EOOS) mené en collaboration entre Euro-GOOS et l'European Marine Board, et comme indiqué soutenu par le programme financé dans le cadre du projet européen AtlantOS qui vise à optimiser et renforcer le système d'observations in-situ de l'océan Atlantique.

### **India**

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Our delegation would like to thank the co-chairs of GOOS and the Secretariat for the excellent work done in promoting the ocean observations. Our delegation recognizes the importance of ocean observations and the need for coordinated observations from the Global Oceans. We are happy that IOC is fulfilling that requirement through GOOS.

The Government of India recognizes the importance of data from oceans not only for research but also for the operational purposes like prediction of ocean state as well as the weather; especially the extreme weather conditions - cyclones and hurricanes. Government of India, thus funds the deployment and maintenance of several observing systems in the Indian Ocean that include the Moored Data buoys, Argo floats, satellite tracked drifters, current meter moorings, XBT transects, ADCP moorings, wave rider buoys, sea level gauges, etc. The data from most of them have been shared with all those who wants to use the data for operational or research purposes. India will continue to deploy the observing systems in the Indian Ocean to fulfill the requirements of GOOS/IOC.

### **Japan**

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Japan also would like to appreciate the excellent work done by the GOOS steering committee and the secretariat to develop the strategy and the work plan.

Japan welcomes these documents and also highly commends the activities made so far under the framework of GOOS. Japan recognizes the importance of GOOS and considers its sustainability and enhancement are the key to success of the Decade. Therefore, Japan supports GOOS activities by various ways which include financial support and hosting the GOOS Regional Alliance Forum held in August this year in Tokyo.

Japan will continue contribution to GOOS through participation in projects such as Argo, TPOS, GO-SHIP and so on not only by conducting observations but also sending specialist to the relevant committees.

Finally, on this occasion, we'd like to draw your attention to the point that the leader's declaration of G20 OSAKA Summit 2019 just finished last week, includes ocean issues such as marine plastics.

### **Republic of Korea**

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The Republic of Korea welcomes the GOOS 2030 strategy, which contains clear vision, mission and strategic goals to lead the ocean observing community, and endorses the strategy with the workplan for the next intersessional period.

Recognizing the importance of sustained ocean observations to support sustainable development goals, Korea will contribute to the GOOS program by continuously participating in global and regional projects such as Argo, IIOE-2, Near-GOOS, etc.

## **South Africa**

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For SA the GOOS Strategy is an important consideration and cuts across many of the IOCs activities, including the Ocean Decade, linkages with JCOMM and WCRP, etc

The workplan is a good one into the future, however how it supports the Ocean Decade and the regionalization of these systems would go a long way in getting more member states to contribute and support this FlagShip Programme in all ocean areas. The implementation will require much greater human and financial resources within the secretariat. Our evolving Medium Term Strategy must include a special resourcing plan to address this.

SA plays an active role in the AtlanTOS programme because the information at both the global and regional level are important. We will continue to support this programme of deep ocean moorings across to the Mid-Atlantic Ridge and the servicing thereof. The long-term maintenance of the system is crucial into the future. This mooring system will be extended by SA onto the west coast shelf of SA to look at the interaction between deeper ocean circulation and the ocean shelf system. Similarly, the extension of the IIOE2 opens an opportunity for the Indian Ocean system which has been shown to be a significant ocean basin when looking at overall heat absorption. In addition, our greatest challenge lies in the ocean around the Antarctic where SA is exploring ways of increasing in situ observations, particularly during the austral winter.

We also feel that we must find way to make the tropical systems have more of a footprint beyond the tropics in order to show linkages at the country and regional level. To this end, South Africa has engineered a real-time buoy system that it will deploy around the entire coastline, and the environmental data will be freely available. We will keep the IOC and other member states informed of the progress in this regard.

## **United Kingdom of Great Britain and Northern Ireland**

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The United Kingdom welcomes the GOOS 2030 Strategy which sets out a clear vision and strategic objectives for GOOS. It clearly links with the UN Decade of Ocean Science for Sustainable Development. A key challenge to address within the period of the strategy will be improving the resilience of key sub-programmes of GOOS as well as expanding its scope to embrace a wider range of essential ocean variables including physical, biogeochemical and ecosystem parameters.

The UK has invested £24m over the next 5 years through the Climate Linked Atlantic Sector Science (CLASS). This will provide underpinning national capability to support several UK contributions to open ocean GOOS including: GO-SHIP Repeat Hydrography, an OceanSites Multi-disciplinary Observatory in the Porcupine Abyssal Plain, the South Atlantic tide gauge network, core and deep Argo, and part of ongoing observations of the Atlantic Meridional Overturning Circulation. The UK has been making regular financial contributions to the GLOSS programme which is part of GOOS.

The UK appreciates reference in the decision at paragraph 14 to the G7 statement in the Information Paper IOC-XXX/Inf.5. This states that G7 members will establish a Coordination Centre for ocean observation platforms that will interface with GOOS and be interlinked with other G7 priority areas. This Centre will build upon and improve the coordination between existing programs and implement the action plans that have been developed for each Action Area. Where appropriate, the G7, in collaboration with GOOS, will explore options to use the Coordination Centre as a vehicle to usher forward recommendations forthcoming from the IOC Assembly and OceanObs'19 conference as well as support other relevant initiatives, such as the UN Decade of Ocean Science for Sustainable Development (2021-2030).

*[later additional statement]* We appreciate that the Decision 7.1.1 cannot be amended at this stage but we are grateful to the Executive Secretary for the opportunity to clarify matters in the draft narrative, perhaps with a view to revisiting the matter at a future date. The term 'Atlantos the Programme' is not defined and neither are its governance arrangements and it opens the possibility of confusion with the EU project called Atlantos. We are grateful for the opportunity offered by the Executive Secretary to identify these points.

## **United States of America**

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The US Congratulates the IOC on completion of the GOOS 2030 Strategy - a major achievement necessary to better coordinate and govern ocean observing over the next decade. We strongly support its approval. We look forward to engaging in the process of revising the initial GOOS Implementation Plan. The United States partners with many IOC member states in support of the Global Ocean Observing System. The multi-year TPOS-2020 and AtlanTOS efforts are demonstrating the value and importance of the GOOS Framework for Ocean Observing and in many ways could be the first pilots under the new GOOS Strategy. We encourage their support. Additionally, we note the INDOOS-2 plan for observing system development in the Indian Ocean. We encourage IOC member state support of the GOOS endeavor.

## **World Meteorological Organization (WMO)**

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WMO recognizes that ocean observations are critical for Earth System prediction, while a great number of these observations are implemented by third parties outside of National Meteorological and Hydrological Services. We also recognize that the physical, biogeochemical and biological components of the GOOS support the ocean component of the Global Climate Observing System.

Last June the World Meteorological Congress adopted Resolution on Ocean observations in support of Earth System Prediction and approved the GOOS Strategy 2030, subject to parallel approval by the IOC Assembly. Congress thereby reaffirmed its co-sponsorship of GOOS and the important contribution of sustained ocean observations to achieving WMO Strategic Objective 2.1, which is about optimizing the acquisition of Earth system observation data through the WMO Integrated Global Observing System (WIGOS).

Congress also decided to contribute to the implementation of the GOOS 2030 Strategy, including through the fostering of appropriate interfaces into the two new WMO Technical Commissions and the Research Board.

Congress encouraged further dialogue with GOOS and its associated observing system community in the development and evaluation of the ocean observing system, and supported the establishment of a node of a distributed GOOS Office located within WMO through the consolidation of existing ocean observing activities at WMO.

We stand ready to contribute to the development of the GOOS Implementation Plan, to establishing a mechanism to coordinate WMO Regional Centres with GOOS Regional Alliances, and to providing GOOS related education and training through WMO Global Campus and the Virtual Laboratory for Training and Education in Satellite Meteorology (VLab) in collaboration with the Ocean Teacher Academy.

WMO recognizes the importance of ocean observations in coastal areas, and as already reported by GOOS Steering Committee co-Chair in his presentations, Congress adopted two Resolutions to facilitate the making of marine meteorological and oceanographic observations in coastal regions, including Exclusive Economic Zone. One is focusing on a list of surface marine meteorological variables in support of protection of life and property at sea. The other on future Collaboration Between WMO and IOC on Facilitating Oceanographic Observations in Coastal Regions in Support of Earth System Prediction and Climate Services.

Finally, Congress supported the recommendations of the second TPOS 2020 report, and requested Technical Commissions, the Research Board, the Joint WMO-IOC Collaborative Board, and GOOS to include the TPOS 2020 second report recommendations in their respective work programmes as appropriate. We also look forward to similar developments in other Ocean Basins, learning from TPOS 2020 development, in particularly to the finalization of the Roadmap to Sustained Observations of the Indian Ocean for 2020-2030.

### **7.1.2 WMO-ISC-IOC-UNEP Global Climate Observing System (GCOS) workplan**

#### **Republic of Korea**

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Republic of Korea would like to express agreement and support on the implementation and workplan of GCOS.

Satellite observations are essential to obtain observations of the climate system in GCOS. Therefore, Republic of Korea, one of Global Satellite derived Products Providers, is focusing on developing ECVs (Essential Climate Variables) including sea surface temperature and their application techniques by using the data from COMS satellite and Korean new geostationary meteorological satellite, GEO-KOMPSAT 2A(GK-2A) satellite. GK-2A was successfully launched last December.

In this regard, we would like to reiterate the importance of the collaboration among leading edge satellite agencies. We hope that we will cooperate more closely with the agencies in developing the retrieval algorithm for satellite ECVs and their application.

## **World Meteorological Organization (WMO)**

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WMO reiterates its support as a co-sponsor of the Global Climate Observing System and looks forward to continuing the collaboration with the other co-sponsors, the IOC, United Nations Environment Programme (UNEP) and the International Science Council (ISC) to coordinate and facilitate global climate observations.

### **7.1.3 Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM)**

#### **China**

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JCOMM since its establishment, has been providing effective international coordination of oceanographic and marine meteorological observing, data management, services and forecast. It has made significant



contributions to link the expertise, technologies and capacity building capabilities of the meteorological and oceanographic communities.

We welcome and appreciate the efforts made by WMO in adapting the changing needs of member/member states, and support the hard work of Joint WMO-IOC Consultation Group on the reform of JCOMM. China would like to join many other Member States to support the Joint WMO and IOC Strategy for Marine Meteorological and Oceanographic Data Management (2018–2021).

Taking this opportunity, we would like to highlight that China attaches great importance to the construction of global ocean observing system, especially the tropical ocean observing network and satellite system. And through the units of Ministry of Natural Resources, China has participated in many programmes/projects, working groups and expert teams across observation, data management, and services under the framework of JCOMM. The successful held of Fifth JCOMM Marine Instrument Workshop for Asia-Pacific Region (RMIC/AP-5) and the Third Pacific Islands Training Workshop on Ocean Observations and Data Applications of DBCP in Hainan Province, with 70 participants from 20 countries last July, is a good demonstration of our attempt seeking the inter-JCOMM- project cooperation on capacity building.

Finally, we would like to reiterate our continue support to the work across oceanography and meteorology which will be embedded in the new structure, promote the related transition together with other member states. We are looking forward to see the Joint WMO-IOC Collaborative Board to be function soon, to enhance cooperation and coordination in the implementation of a fully integrated marine observing, data management and services system.

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#### **France**

La France salue l'apport essentiel de la coopération avec l'Organisation Météorologique Mondiale (OMM) pour la supervision des déploiements d'observatoires, en particulier de la Commission Technique Conjointe pour l'Océanographie et la Météorologie Marine (JCOMM) dont l'entité opérationnelle (JCOMM-OPS) est hébergée au Centre Ifremer de Bretagne. Elle souligne la très bonne coopération avec l'IFREMER et se dit favorable à l'extension du rôle du JCOMM-OPS.

La France approuve le rapprochement du projet « GOSUD » (collecte au niveau mondial des données de salinité de surface) des réseaux du GOOS pour qu'il en devienne une composante officielle.

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#### **World Meteorological Organization (WMO)**

With regard to the joint WMO-IOC Strategy for Marine Meteorological and Oceanographic Data Management, WMO would like to confirm that the Strategy has now been approved by the World Meteorological Congress, subject to parallel approval of the IOC Assembly. Since the Strategy was recommended by JCOMM-5 in 2017 under assumption of continuation of JCOMM functions, Congress updated the strategy slightly to reflect future collaboration between WMO and IOC under WMO Reform and the new Joint WMO-IOC Collaborative Board. We also invite the Assembly to concur with the proposed change of the Strategy period for better alignment of WMO and IOC Strategies. WMO sees the joint strategy as an opportunity to enhance future collaborations between WMO and IOC in the area of ocean data management, with the goal to make as much as possible marine meteorological and oceanographic data of known quality available to Earth System prediction and validation.

With regard to JCOMMOPS, WMO would like to express its continuing support and management of the Centre in close liaison with the IOC Secretariat. We see JCOMMOPS as a critical structure facilitating implementation and monitoring of ocean observing networks. We also realize the need to assure better sustainability of the Centre, and we thank the IOC Member States contributing financial resources as well as the host for their commitments. We invite IOC Member States to consider making contributions to JCOMMOPS in order to diversify the sources of funding. Finally, we would like to inform the Assembly that WMO is taking steps for establishing JCOMMOPS as a WMO Office based in France.

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#### **7.2.1 International Oceanographic Data and Information Exchange: 25th Session of IODE, Tokyo, Japan, 18–22 February 2019**

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#### **Australia**

We support the draft Decision. We have a technical comment with respect to the OBIS data portal.

We note that the conclusion of the OBIS-ENV-Data project will mean data providers will need to revisit older already published data to ensure compliance. An OBIS data portal that can handle the new vocabularies and OBIS-ENV data structures would be a valuable next step.

Finally, Australia notes the USA & Argentina's intervention with respect to holding a data meeting as part of the decade planning process. In this regard we note that WMO is planning a large data conference in early 2020 and perhaps there could be an opportunity to utilise this gathering in some way in the context of the Decade.

## **Belgium**

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En ce qui concerne ce programme, la Belgique voudrait vous apporter quelques renseignements pratiques sur les développements afférent à son bureau de projets situé à la ville d'Ostende en Belgique.

Le *Moniteur* belge, notre journal officiel, a publié le 14 mai 2018 la Loi du 10 juin 2014 portant assentiment à l'Accord entre le Royaume de Belgique et l'UNESCO sur l'établissement, en Belgique, d'un Bureau des projets du programme « International Oceanographic Data and Information Exchange », qui avait été fait à Paris le 18 juillet 2005. Ceci rend – enfin – cet accord applicable, entre autre au bénéfice du personnel de ce bureau pour les années à venir.

En vue du redéveloppement de la zone du port d'Ostende où est situé l'institut flamand de la Mer (VLIZ vzw) et les organisations internationales qu'il abrite, le gouvernement de la Flandre avait décidé en principe en juillet 2016 de construire un nouveau bâtiment pour cet institut et les organisations internationales qui y ont un siège, ensemble avec les services marins de l'Institut flamand de recherche pour l'agriculture, la pêche et la nourriture (ILVO). Je me réjouis de pouvoir vous informer que, après une deuxième récente décision du gouvernement, le contrat pour la construction d'un nouveau « InnovOcean Campus », un campus pour l'innovation centré sur l'Océan, va être signé la semaine prochaine. Nous espérons que les nouvelles infrastructures pourront être mise en services en 2022, impliquant un déménagement de l'IODE project office dans cette année. En tant qu'hôte pour ce project office, nous restons prêts à continuer le dialogue local pour faciliter au maximum le bon fonctionnement continuuel de l'IODE Project Office à Ostende.

En ce qui concerne le financement de projets par le fonds fiduciaire UNESCO/Flandres pour les sciences, pour les cinq ans à venir, nous avons lancé un appel à projets au sein de l'UNESCO, la COI y inclus, et nous espérons pouvoir compléter la sélection de projets à financer avant la fin de l'année.

## **China**

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One of the important consensus reached at IODE-25 is that it is critical for IODE to be further strengthened and expanded to play an essential role in supporting the flow from data to information to knowledge, thus contribute to the UN Ocean Decade.

We highly appreciate IODE's endeavor on facilitating the global exchange of oceanographic data and information, and meeting the needs of users for data and information products since 1960s. Facing the new challenges today, IODE has been actively exploring the effect way of improving its products and services. The demonstration on Clearing House mechanism for Transfer of Marine Technology and a prototype global Ocean Data and Information System (ODIS) last Tuesday are two successful steps.

We are aware that in translating one of the many aspirations of SDG-14 in Western Pacific region, there are the need for capacity building and good practices in oceanographic data and information system. This is of crucial importance to realize the Decade's six societal objectives, especially "A transparent and accessible ocean". In this context, China would like to reiterate our active participation in the regional CB. During the last inter-sessional period, two training courses were organized by OTGA RTC-Tianjin, one was co-organized with JCOMM with theme of Regional Climate Change and Coastal Disaster Mitigation, the other was about Regional Marine Observation and Quality Control. Both the training courses closely addressed the different needs from Member States in the region.

China will continue its commitment to support the IODE through promoting the activities of the National Marine Data and Information Service as an IODE NODC, and the operational running of ODINWESTPAC, and OTGA RTC-Tianjin for ocean data and information related training course, with closely communication with member states in the region. We'll also actively participate in the proposed IOC Ocean Best Practices System Project (OBPS) by submitting the ocean specifications, standards and best practices on observation and data management.

## **Colombia**

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En Colombia contamos con un Centro Colombiano de Datos Oceanográficos (CECOLDO) liderado por la Dirección General Marítima (DIMAR) y un Centro de Manejo de Información liderado por INVEMAR y adicionalmente cuenta con 3 Unidades de Datos Asociadas (ADU) activas desde 2015.

Y es que como Comisión Colombiana del Océano, estamos convencidos que el acceso a información de manera transparente contribuye a tener unos océanos seguros y sostenibles, por ello reconocemos los

progresos realizados por el Sistema de Información Biogeográfica de los Océanos (OBIS), especialmente en la elaboración de evaluaciones mundiales y regionales. En este contexto, nos preparamos para recibir en Colombia, entre los días 5 y 8 de noviembre en la sede de INVEMAR en Santa Marta, la próxima reunión del Comité Directivo de OBIS.

Cabe decir que desde 2015, Colombia ha llevado a cabo 10 cursos OBIS para Latinoamérica y el Caribe, tanto en la sede de INVEMAR en Santa Marta, como en Galápagos y México, extendiendo la cobertura y estrechando lazos científicos entre los países de la región y ampliando la cobertura del Centro Regional de Entrenamiento OTGA.

En este sentido consideramos relevante nuestra participación como región en las estrategias IODE, en particular OTGA y OBIS, y en la promoción de la base de datos OceanExpert del IODE.

Para terminar, deseamos agradecer especialmente al Gobierno de Flandes por el apoyo prestado al IODE y sus actividades regionales, como al Atlas Marino del Caribe, OTGA, OBIS, y por la decisión de continuar adelante con estas iniciativas.

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### **France**

La France soutient le maintien de la base de données « Ocean Expert » du programme international d'échange de données océanographiques " (IODE) qui vient d'accréditer le Systèmes d'informations scientifiques pour la Mer SISMER d'Ifremer comme un centre National de données pour les Océans qui contribue aux programmes européens Seadatanet et seadatacloud qui répondront aux demandes des USA. La France se félicite également du fonctionnement du programme "Oceanteacher" qui permet aux jeunes générations de se former aux besoins de connaissances sur les Océans qui reste une de nos priorités.

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### **India**

Our delegation recognizes the importance of data management and information. The Ocean Data Centre at INCOIS, India recognized by IODE is fully functioning and supporting the activities of IODE and disseminating data for use by researchers. The Centre is also hosting the mirror data site for OBIS.

On the front of capacity building, Government of India has extended the generous support by fully funding the working of International Training Centre for Operational Oceanography (ITCOcean), a C2C. In addition as an RTC of OTGA, IODE, the ITCOcean is conducting at least two training courses every year and conducted three during 2018. Some of these courses are fully or partially funded by Government of India and will continue to cooperate with IODE to conduct more such courses.

Finally, we thank the Government of Belgium for generously funding the activities of IODE and OTGA.

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### **Japan**

Japan fully supports the draft decision in the Action Paper, which is based on the recommendations from IODE-25 including annexes to the decision.

As pointed out in the previous interventions of Japan, oceanographic data and information is crucial for the successful UN Decade and all other activities of the Commission. In this connection, Japan continues its contribution to the IODE businesses mainly through those by JODC. At the same time, it is also really important for the data and information community of IODE to ensure a smooth transition and even enhancement of the IOC-WMO joint activities with the newly established cooperative framework between the IOC and WMO. In particular, those that have been successfully carried out under JCOMM for the last 20 years, including DMCG, ETDMP, and ETMC. Japan is pleased and ready to join the discussion in this regard toward enhanced collaboration with WMO in the field of ocean data and information management.

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### **Republic of Korea**

The Republic of Korea appreciates the efforts of the IODE committee for international data and information exchange and supports the recommendations from the IODE Scientific conference and results of IODE-25th Session

In particular, recognizing that the ocean observation and ocean data fields are closely related, we look forward to activating IODE-GOOS joint activities such as OBPS project and ODIS.

Korea will continue to operate the KODC, which received the status of "Accredited IODE National Oceanographic Data Center" in 2017, to contribute to the oceanographic data and information exchange under the IOC data exchange policy.

In addition, Korea will share our experience of establishing the quality management system with member countries to contribute to the quality improvement of data management organizations.

## **South Africa**

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We recognize and thank the Government of Flanders (Kingdom of Belgium) and others for their continued support of the IODE programme, including the many capacity development initiatives.

Data management forms the basis of all our work in the ocean space. It is our currency and turning that data into information makes that currency tradeable. The valuable work of the IODE should definitely be supported and the South African delegation supports the proposed draft decision. The IODE forms the foundation of all we do, but we must move more earnestly into product development to deepen the impact of the UN Decade.

Within a South African context, we are in an advanced stage of launching a National Ocean and Coastal Information Management System that will form a single entry into all data and information collected. We look forward to a smooth transition and as the interoperability with all the existing systems remain of paramount importance. The new Ocean & Coastal Information Management System will be given ongoing development due to the valuable engagements we have had with the Governments of India and Korea to ensure a robust and sustained system.

We are also happy to acknowledge that during the IIOE2, the Sub-Commission for Africa & Adjacent Island States designated the Kenyan Marine & Fisheries Research Institute as the Regional Data Centre due to the advances they have made within the IODE and ODIN programmes. As a result, all data will be housed by Kenya to ensure open and free data exchange...whether within IIOE2, its extension or the Ocean Decade.

The wonderful work done within the IODE can be seen in many developing countries and is a good model of how a global programme can make impacts at all levels. This is something we as member states should continue to support.

## **United Kingdom of Great Britain and Northern Ireland**

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Given the fundamental role data will play in achieving the goals of the UN Decade, the UK would like to make two comments:

- (i) On the IODE committee's recommendation '*...to include, as part of preparatory processes, the formulation of common guidelines/principles on flow, discovery, access, and re/use of data collected during the decade*', the UK would like to express support for this recommendation. The UK agrees, that if society is to maximize the impact of the Decade then appropriate effort is required in planning for the easy discoverability of, and access to, all collected data. The UK welcomes the IODE Committee's offer to contribute to this initiative.
- (ii) The UK would also like to commend the IODE Committee for establishing an inter-sessional working group to propose a strategy on ocean data and information stewardship for the UN Decade. The UK would like to offer its expertise in ocean data management, controlled vocabularies and other interoperability technologies. We also support the comments made by Argentina and the USA about the desirability of convening a dedicated meeting concerning data as part of the Decade planning.

## **United States of America**

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We appreciate the IODE having created an inter-sessional working group on data strategy for the UN Decade of Ocean Science. This delegation suggests that the IOC planning process for the UN Decade convene a broad meeting on all Data issues, including IODE and others, to address the full breadth of data issues and needs. The Decade provides an opportunity to set a course of consistency and universal availability of ocean data, from those who observe, those who are stewards, and those who need to use the data.

## **GEBCO**

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GEBCO Guiding Committee appreciates that Chair of the Guiding Committee was invited to participate in the 25th Session of the IODE Committee held in Tokyo. In terms of data management, data archaeology, stakeholders, etc., GEBCO and IODE share common experience, problems and technologies. In this context GEBCO Guiding Committee wishes to strengthen the relation and cooperation between IODE and GEBCO.

## **WMO**

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As stated previously, WMO realizes the critical importance of ocean data and their availability, for Earth System prediction.

In the context of the WMO Reform, and the new Joint WMO-IOC Collaborative Board, we therefore look forward to continuing and enhancing our collaboration with the IODE, in particular with regard to achieving the goals of, updating and implementing the Joint WMO-IOC Strategy for Marine Meteorological and Ocean Data Management, which has just been adopted by the Assembly.

## **7.2.2 Draft Concept for an Ocean Data and Information System (ODIS)**

### **China**

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One of the important milestones of IODE during the last intersessional period has been the preparation on ODIS. China acknowledges and appreciates the revised concept paper, implementation plan and benefit analysis on ODIS. The concept paper of ODIS describes an exciting blueprint of freely and conveniently access to high-quality oceanographic data, information and services for global users. We are positive that ODIS would improve the accessibility and interoperability of existing data and information, supporting individual science plans as well as the overall Decade's societal objectives. We applaud for the current progress of ODIS Prototype.

To ensure the sustainability of ODIS in the future, China would like encourage the IODE to strengthen the communication with member states, regional subsidiary bodies, GOOS and a broader range of stakeholders, seeking for broader engagement, in-cash and in-kind contributions to facilitate the future implementation of the system. China supports the establishment of the IOC Ocean Data and Information System Catalogue of Sources Project (ODISCat). We would also like to encourage the Member States to enhance the engagement and input to the ODIS.

### **France**

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La France soutient le projet de décision pour le système ODIS, mais comme l'a signalé le Royaume-Uni, il existe de nombreux systèmes nationaux et voudrait rappeler l'existence du réseau européen d'observation et de données marines (EMODnet) qui se compose de plus de 100 organismes qui rassemblent des données marines, des produits et des métadonnées pour rendre ces ressources fragmentés plus disponibles pour les utilisateurs publics et privés en se fondant sur les données marines de qualité assurée, standardisés et harmonisés qui sont interopérables et exempt de restrictions sur l'utilisation. Comme le souligne le Royaume Uni, nous pensons également qu'il est nécessaire de faire une cartographie des systèmes ouverts et interoperables qui permettront de répondre aux objectifs de la Decennie déjà soutenue par le groupe du G7 "future des Océans"

### **Republic of Korea**

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The Republic of Korea appreciates the IODE's efforts for developing the ODIS concept paper with implementation plan, and prototype system of ODISCat as well. We believe that IODE has presented the most feasible plan to develop a new ocean data and information system. However, we are also concerned about the current situation in which adequate budget has not been secured to realize the implementation plan in the future.

Recognizing that "Data and Information Portal" is one of the Seven R&D Priority areas of UN Decade and the ODIS can be the Portal to support UN Decade, we hope that the IOC will consider putting sufficient resources into ODIS development so that it can be implemented in accordance with the concept.

### **United Kingdom of Great Britain and Northern Ireland**

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The UK congratulates the IODE ODIS Inter-sessional Working Group on its progress to date in developing the ODIS concept and delivering a prototype ODISCatalogue. The ODISCat is a valuable first step in building out a fundamental piece of global marine data infrastructure required if we are to realize the vision of the UN Decade.

The UN Decade and ODIS provides IODE with a 'once in a life opportunity' to make step-change in the global availability of marine data. If successful, ODIS can and will make a profound contribution to the goals of the UN Decade by making data and information easily available.

Turning to the implementation of the ODIS concept, the UK welcomes and supports the adoption of the '...paradigm of distributed but interoperable informatics' as a robust and sustainable architectural design for ODIS.

The UK would suggest: when the IODE prepares the fully detailed and costed ODIS project proposal, they consider and engage with existing distributed data access systems, such as the UK's own national, distributed marine data access system: MEDIN: Marine Environmental and Information Network. The UK is happy to support MEDIN's engagement with IODE to ensure all the lessons the UK has learnt over the previous 10 years in building a national system are made available to the IODE and feed into ODIS implementation design.

The UK stands ready to contribute its expertise in marine data interoperability as required.

## **World Meteorological Organization (WMO)**

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In continuity with our previous statements with regard to importance of ocean data for Earth System prediction, and noting that ODIS is key within the Joint WMO-IOC Strategy for Marine Meteorological and Oceanographic Data Management, WMO is looking forward to development of ODIS, and is ready to collaborate with the IODE to determine how the WMO Information System (WIS) can contribute to ODIS and be interfaced with it, and how to realize synergies between the two. We concur with the recommendation of the JCOMM Inter-Program Expert Team for Integrated Marine Meteorological and Oceanographic Information Services within WMO and IOC Information Systems (IPET-MOIS), which met in Geneva in March 2019 that there should not be duplicate efforts when developing the linkage between ODIS and the WMO Information System (WIS).

### **8.1.1 Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System: 28th Session of ICG/PTWS, Montelimar, Nicaragua, 2–5 April 2019**

#### **Chile**

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Chile quiere exponer su compromiso con el Pacific Wave 2020 y participaremos de manera activa en este ejercicio.

Nuestro país fue el anfitrión del primer curso de entrenamiento del Centro Internacional de Información de Tsunamis (ITIC) dictado fuera de sus instalaciones en Hawai. Este evento denominado “ITIC Training Program, Hawai in Chile”, se llevó a cabo el año 2018, en las oficinas del Servicio Hidrográfico y Oceanográfico de la Armada, -SHOA-, en Valparaíso, y estuvo abierto, principalmente, a los países miembros del Pacífico y del Caribe, pero también se contó con la participación de representantes de países de otras regiones.

Esta iniciativa fue conducida conjuntamente por el Centro Internacional de Información de Tsunamis y el SHOA, usando el centro de alerta de tsunamis de Chile -, como un ejemplo de trabajo de un sistema de alerta y mitigación de tsunamis de principio a fin, demostrando la estrecha coordinación y colaboración de todos los actores involucrados en las actividades operacionales y de preparación.

Chile quiere agradecer la confianza depositada en nuestro país por haber sido elegido para llevar a cabo este programa de entrenamiento.

A partir de esto, quisiéramos destacar dos puntos importantes. Por una parte el desarrollo alcanzado por Chile en los aspectos operativos del sistema nacional de alerta de tsunamis y por la otra, la capacidad de transferir experiencias y conocimientos. Prueba de esto último es la demanda de pasantías de países de la región que solicitan concurrir al SHOA en Chile para adquirir experiencia en el tema.

Consciente de la importancia de este tema para nuestros ciudadanos, Chile continuará otorgándole alta prioridad al tema de los tsunamis.

Finalmente expresamos nuestro decidido y continuo apoyo al Programa de Tsunamis de la COI, y consideramos que es de gran relevancia que como se menciona en la decisión, la década de naciones unidas para las ciencias oceánicas para el desarrollo sostenible adopte una iniciativa que tenga por objeto elaborar una amplia evaluación del riesgo mundial de tsunamis.

#### **Colombia**

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La Comisión Colombiana del Océano, agradece la presentación del informe del Dr. Wilfried Strauch, Presidente del Grupo Intergubernamental de Coordinación del Sistema de Alerta contra los Tsunamis y Atenuación de sus Efectos en el Pacífico (ICG/PTWS) sobre los progresos recientes del ICG/PTWS, incluida la transición completa a los productos mejorados del Centro de Asesoramiento sobre los Tsunamis del Pacífico Noroccidental (NWPTAC) así como los resultados de la 28ª reunión del Grupo ICG/PTWS.

De la misma manera, agradece el reporte del Sr. Gérard Métayer, Vicepresidente del Grupo Intergubernamental de Coordinación del Sistema de Alerta contra los Tsunamis y otras Amenazas Costeras en el Caribe y Regiones Adyacentes (ICG/CARIBE-EWS) sobre el informe presentado por la Dra. Silvia Chacon Barrantes, Profesora e Investigadora del Sistema Nacional de Monitoreo de Tsunamis en Costa Rica (SINAMOT), que relaciona y resume las actividades de la 14ª reunión del Grupo ICG/CARIBE-EWS.

El esfuerzo de Colombia se ha enfocado en la producción, actualización y socialización de productos con información batimétrica de alta resolución, así como de los mapas de inundación en áreas de vulnerabilidad, para el Pacífico y Caribe Colombiano.

Por otra parte, queremos resaltar que nuestro país valora significativamente la importancia de la realización de los ejercicios PACWAVE y CARIBEWAVE reconociendo su impacto positivo en la articulación interinstitucional y en el estímulo al desarrollo de sus capacidades para beneficio de nuestras comunidades

costeras, y reafirma su compromiso con las actividades que buscan mitigar los riesgos propios de este tipo de amenazas, y en ese sentido, compartimos con el Secretariado de la Comisión las siguientes recomendaciones:

1. Es necesario fortalecer la estrategia de incluir la temática de tsunami en la Década de las ciencias oceánicas para el desarrollo sostenible.
2. Así mismo, y considerando que los últimos eventos de tsunami que se generaron por deslizamientos y erupciones volcánicas, se requiere apoyar una estrategia que para tener fondos de inversión en nuevas tecnologías que permitan monitorear estos eventos.
3. De la misma forma, es necesario invertir en programas de preparación y educación, en el marco de las actividades de Ocean Literacy, que contribuyan a formar comunidades resilientes en zonas expuestas a los riesgos del tsunami, aun cuando se cuente con sistemas de alerta temprana eficientes.
4. Por último, es pertinente desarrollar un lenguaje técnico accequible y con enfoques de comunicación adecuados a las comunidades que permitan el entendimiento claro de los productos científicos para mitigación de riesgo.

### **8.1.2 Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System: 12th Session of ICG/IOTWMS, Kish Island, Iran (I.R.), 9–12 March 2019**

#### **Kenya**

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Kenya appreciates the contribution of the IOC in supporting member states build capacity for sustainable Tsunami early warning Systems.

We also thank all those member states that are actively promoting regional and international cooperation as highlighted by the different presentations. Kenya recognizes that improved Tsunami warning is a concerted effort of all Member States.

Kenya has been active in maintenance of infrastructure and facilities along its coast for Tsunami Early warning. This makes Kenya a key contributor in the provision of data to the global center on Tsunami Warning and mitigation system.

However, Kenya recognizes the need to improve the detection systems currently in use and would wish to welcome partnerships towards continuous improvement and best practice.

#### **India**

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We thank the chair of IOTWMS and the Secretariat for coordinating and implementing several improvements in the existing system and reporting on the two ‘a typical tsunami events’ caused by the earthquake in Palu and by the eruption of Krakatoa volcano in Java Straight. Our delegation suggest to place more emphasis on learning to deal with such near-source tsunamis.

Government of India is committed to support the activities of Indian Tsunami Early Warning Centre at INCOIS. That Centre designated as Regional Tsunami Service Provider by IOC/UNESCO has provided tsunami early warning services to all countries on the Indian Ocean rim without fail and will continue to do so in future also. The Centre also shares the data from few chosen seismic and sea level stations in India and the data from the 7 tsunami buoys with IOC as well as with other countries. Government of India has committed the funding for all these observing systems to detect the earthquakes and the tsunami waves at the earliest.

Our delegation would like to thank IOC for coordinating the tsunami early warning services around the globe and making the globe much safer than that was in 2004.

### **8.1.3 Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions: 14th Session of the ICG/CARIBE-EWS, Punta Leona, Costa Rica, 8–11 April 2019**

#### **Costa Rica**

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*On behalf of the Government of Costa Rica, and regarding IOC report on the intergovernamental coordination group for the tsunami and other coastal hazards warning systems for the Caribbean and adjacent regions:*

- We would like to recognize the important efforts and results generated in warning systems.
- Costa Rica has lead, through Silvia Chacón great’s work as the national focal point, importante efforts towards the improvement of warning systems and actions plans when facing hazards such a tsunamis.
  - During 2017 and 2019, we were hosts of the 12th and 14th session of the ICG Caribe coordination group.
- Importance of capacity building in coastal communities, considering they are the most vulnerable of all. There is a need to strengthen their resilience to tsunamis and other natural disasters associated to climate

change. Tsunami ready communities are also resilient communities better prepared to face extreme weather events.

- The Ministry of Environment and Energy of Costa Rica has been key in addressing this issue. In strong coordination with the National Protected Areas System, we have been able to reach out to coastal communities and include in the local management plans, contingency actions for the immediate response to these natural phenomenon.
  - By promoting interinstitutional coordination with the National Emergency Commission, UNESCO and the National University of Costa Rica, it was possible to develop protocols and response capacities for the officials in charge of the protection of coastal communities and marine protected areas.
- We have identified 34 coastal communities in the Caribbean and the Pacific that will be benefiting by these capacity building programs.
- Ostional beach is the first community to receive the “Ocean-ready” certification from UNESCO.
  - Costa Rica wishes to develop a capacitation program for all Marine Protected Areas of Costa Rica that will benefit communities and tourists visiting our protected areas.

### **United Kingdom of Great Britain and Northern Ireland**

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The UK has worked extensively with the CARIBE-EWS to build capacity and engage with local multi-hazard response services in British Overseas Territories and Sovereign States in the Caribbean, delivering regional training workshops and infrastructure to improve coastal resilience.

This has included the provision of new tide gauges through the UK Government funded Commonwealth Marine Economies Programme in both Belize and Dominica, the latter of which was deployed to quickly restore sea level monitoring capability following the devastation resulting from Hurricane Maria, plus coastal management training in St Vincent and The Grenadines. This programme additionally co-funded regional workshops in St Lucia and Mexico City, training coastal monitoring agencies in the maintenance and operational use of tide gauges. Other UK initiatives have supported a new tide gauge installation in Anguilla and a tidal data training course in Grenada. The UK will also contribute to a ICG-CARIBE led poster at OceanObs’19 later this year.

#### **8.1.4 Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas: 15th Session of ICG/NEAMTWS, UNESCO, Paris, 26–28 November 2018**

##### **France**

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La France endosse les compte-rendus des 3 groupes intergouvernementaux de coordination (Atlantique-Nord-est et Méditerranée, Pacifique, Caraïbe et Océan Indien), ainsi que celui du Groupe Global (TOWS). Elle se dit favorable au renouvellement du mandat du Groupe Global.

La France poursuit sa contribution à la coordination des activités liées aux systèmes d’alerte aux tsunamis. La prochaine réunion du Groupe Atlantique nord-est et Méditerranée se tiendra à Cannes du 2 au 4 décembre 2019.

Elle souligne que les derniers tsunamis qui ont affecté récemment l’Indonésie, la Grèce et la Turquie démontrent à nouveau que tous les bassins océaniques peuvent être impactés, que les sources sont variées – séismes, glissements de terrain et éruptions volcaniques. Cela confirme que nous ne sommes pas en capacité de prédire dans quelle zone se produira le prochain événement, et que les systèmes d’alerte en place actuellement sont insuffisants pour une réponse rapide et efficace pour les zones côtières.

##### **Portugal**

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Portugal has been actively involved in the NE Atlantic, the Mediterranean and Connected Seas ICG, and has recently created a Tsunami Warning Center for the NE Atlantic, located at IPMA, Lisbon, that has been fully operating since Nov. 2017.

Since February 2018 it is a candidate to become an Accredited Tsunami Service Provider, waiting accreditation, which may take place a few months from now, as mentioned by M. Papadopoulos, Chair of the ICG-NEAMTWS.

This Center has been providing alert service since Nov 2017 at national level, and since the 1st of February 2018 at international level. Up to now, the services were subscribed by Spain, Morocco, Germany, Denmark, France, Italy, Greece and Turkey.



## **United Kingdom of Great Britain and Northern Ireland**

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With regards to the ICG/NE-Atlantic & Mediterranean -TWS, the UK Tsunami National Contact is working to increase UK participation in ICG/NEAM-TWS activity through attendance at the relevant meetings both the IOC/UNESCO Tsunami Symposium: Advances in Tsunami Warning to Enhance Community Responses, in February 2018 and the subsequent ICG-NEAM-TWS session 15 in November 2018.

Although the UK did not participate in the NEAMWave17 exercise, a press release was issued to raise public awareness of World Tsunami Awareness Day on the 5th of November and Plans are developing for UK involvement in NEAMWave20. The UK particularly welcomes the recommendations of ICG/NEAM-TWS Session 15 to increase the participation of Member States in the ICG activities and to reduce the sampling and latency of sea level monitoring systems to 1 minute or less.

### **8.2.1 Working Group on Tsunamis and Other Hazards Related to Sea-Level Warning and Mitigation Systems: 12th Meeting of TOWS-WG, UNESCO, Paris, 21–22 February 2019**

#### **Australia**

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Australia would like to begin our intervention by expressing our sympathy and concern to the people of Indonesia for the loss of life and damage to infrastructure caused by the devastating 2018 Palu and Sunda Strait tsunami events.

Australia expresses its strong support for the proposed Pacific Wave 2020 exercise. Australia positively influenced the decision to run these real-time regional scale tsunami exercises to provide an environment which will allow time-pressured testing of communication between Tsunami Service Providers and the National Tsunami Warning Centers. Lessons learnt through these very important exercises can save lives in real events.

Australia has engaged with its Pacific nations in preparing for this session and note that Pacific SIDS struggle to provide tsunami warnings. We hope that the establishment of a Working Group 2 Task Team as noted at paragraph 4 of the draft decision can address these needs alongside building competency in for tsunami operators in tsunami warning centers in the Pacific.

There were many other important decisions and recommendations made at the Pacific ICG and Australia proposes that one of these decisions be added to the draft decision text before the Assembly for clear visibility and has submitted text to the Secretariat for consideration. It relates to the ICG's decision to develop a draft PTWS Medium-Term Strategy for period 2022-2029. Australia believes that this is useful to highlight in the overall IOC Assembly draft decision as it will be a very important document for the PTWS and may have major impact on the future structure of the ICG/PTWS.

Australia welcomes the report of the 12th IOTWMS ICG meeting and congratulates all participants on the progress made in the intersessional period, including the successful IOWave 18 tsunami exercise.

Australia would like to reinforce paragraph 14 of the draft decision and strongly urge the Northwestern Indian Ocean countries to make their seismic data fully available in real time particularly to the three Tsunami Service Providers. This will allow the earliest possible detection and warning of tsunami events, particularly Makran Trench events which could affect Northwest Indian Ocean countries within 15-30 minutes of an earthquake.

Finally, with respect to the TOWS Working Groups report and work. Australia would like to draw the Assembly's attention to TOWS discussion of the "Tsunami Ready" pilot program. While Australia applauds the initiative of the IOC to encourage at-risk communities to build their capacity to be "Tsunami Ready" it must be remembered that completing the program and being awarded recognition as being tsunami ready is not the same as certifying readiness. It is strongly suggested that the IOC makes it very clear when awarding a community as being tsunami ready – that it is not the same as certifying their readiness. Rather it is an appreciation that the community took the initiative to build its capacity by following the developed Tsunami Ready Guidelines. For example, in Australia, while Christmas Island has been nominated to pilot the Tsunami Ready Program, we are not aiming for IOC recognition. Rather we use the program to guide the island to improve its capacity to deal with tsunami.

Australia would also like to comment on the tenure of the TOWS-WG and its two task teams. We support their renewal however Australia would like to query whether annual renewal of the working group and task teams is too frequent. Instead we recommend that these groups be renewed for a period of 2 years or longer.

Finally, Australia proposes to include one additional item from the 12th TOWS WG report to be added to the draft decision. Australia has submitted text to the Secretariat for the Assembly's consideration. This addition relates to accepting the reports from the Task Teams on Disaster Management and Preparedness and Watch Operations and instructed the Task Teams to continue efforts for monitoring and responding to tsunamis

generated by non-seismic sources and possible integration into Tsunami watch operation. Many important recommendations of global priorities and relevance are embedded in those two reports, including efforts towards handling non-seismic tsunami sources. Australia believes that it should be included in the draft decision before the Assembly for completeness.

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## **China**

China would like to congratulate Intergovernmental Coordination Groups for regional tsunami warning systems on their satisfactory progresses and achievements made during the intersessional period, and express our sincere appreciation and gratitude to the IOC Secretariat for their efforts and contribution towards the establishment and operation of the South China Sea Tsunami Advisory Center (SCSTAC), hosted by the National Marine Environmental Forecasting Center (NMEFC) of China, in the framework of the Intergovernmental Coordination Groups for Pacific Tsunami Warning and Mitigation System (ICG/PTWS). With great efforts by IOC Member States around the South China Sea region, the South China Sea Tsunami Advisory Center (SCSTAC) was officially inaugurated on 8th May 2018 and would commence its full operation in November, according to the approval of the Assembly.

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## **France**

La France rappelle que les déclarations du symposium intitulé : « Avancées des systèmes d'alerte aux tsunamis pour renforcer les réponses des communautés » comportent de nombreuses recommandations très importantes, en particulier la nécessité absolue de renforcer les réseaux d'observation des tsunamis et les méthodes en place dans les systèmes d'alerte, ainsi que la participation des services de sécurité civile et de secours. D'autres symposiums doivent être organisés régulièrement, et la France y contribuera.

Nous soulignons aussi l'importance des observations des marées dans les réseaux d'alerte aux tsunamis. Ces infrastructures et leur suivi opérationnel doivent être soutenus. Ils doivent également être accompagnés au moins d'un système de positionnement géodésique précis.

La prise de conscience par le grand public et les autorités de la menace potentielle de tsunami dans certains bassins maritimes tels que la Méditerranée et l'Atlantique nord reste faible parfois inexistante. Les actions de la COI-UNESCO et des Etats-membres en réponse à ce manque, en particulier celles qui pourront être insufflées par la Décennie 2021-2030, doivent constituer une priorité.

En conclusion, la France insiste pour que les systèmes d'alerte coordonnés par la COI-UNESCO à des fins de protection des vies humaines et des biens, doivent être pris en compte dans les processus globaux en matière de développement durable.

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## **Japan**

Japan has been issued NWPTA since 2005. NWPTA of Japan could be changed over to enhanced new products on Feb 28th in 2019. Enhanced products have been successfully issued four times since a full changeover. Japan welcomes inauguration of full operation of the South China Sea Tsunami Advisory Center of China this November. Japan has provided interim tsunami advisory to the South China Sea region in cooperation with the PTWC since 2006 and Japan would like to continue issuance of interim tsunami advisory up to full operation of the SCSTAC.

Japan also welcomes trial operation of the Central America Tsunami Advisory Center in August. Regarding establishment of the CATAC, Japan has conducted the project for strengthening of capacity of the CATAC through the Japan International Cooperation Agency (JICA) technical cooperation project.

Last year, non-seismic tsunamis caused by landslides and volcano activities occurred in Indonesia. Japan shared information about our tsunami warning issuance procedures against the tsunami caused by volcano activities in the last TOWS working group meeting.

Finally, Japan has suffered from tsunamis for a long time. Japan would like to continue contribution to tsunami disaster reduction based on our experiences and knowledge obtained for long time.

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## **Kenya**

Kenya appreciates the contribution of the IOC in supporting member states build capacity for sustainable Tsunami early warning Systems.

We also thank all those member states that are actively promoting regional and international cooperation as highlighted by the different presentations. Kenya recognizes that improved Tsunami warning is a concerted effort of all Member States.

Kenya has been active in maintenance of infrastructure and facilities along its coast for Tsunami Early warning. This makes Kenya a key contributor in the provision of data to the global center on Tsunami Warning and mitigation system.

However, Kenya recognizes the need to improve the detection systems currently in use and would wish to welcome partnerships towards continuous improvement and best practice.

### **General Bathymetric Chart of the Oceans (GEBCO)**

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As Prof. Gerard METAYER, Coordinator for Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions pointed out, high resolution bathymetry is crucial for the calculation of tsunami propagation and following inundation.

High resolution bathymetric data from the coast line to the deepest point of the world is what GEBCO aims to provide and what The Nippon Foundation-GEBCO Seabed 2030 Project will deliver by year 2030.

GGC wishes to strengthen the relation and cooperation with TOWS WG and Intergovernmental Coordination Groups through regional centres of Seabed 2030.

It is highly appreciated that GGC is informed and invited to the relevant meetings of TOWS WG and ICGs.

### **World Meteorological Organization (WMO)**

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WMO affirms collaboration with the IOC in joint activities relating to the Sendai Framework and Ocean Decade, both with intent to mitigate impacts of coastal inundation hazards. Recently, WMO Congress decided to strengthen early warning for flooding from all sources through integration into a multi-hazard early warning system, called Global Multi-hazard Alert System (GMAS).

The proposed Joint WMO-IOC Collaborative Board will strengthen our collaboration with the TOWS Working Group, enabling a stronger service to deliver early warnings for coastal inundation events.

To ensure the relevant data reaches WIS centres and that these are able to relay tsunami bulletins to relevant authorities and to follow up on transmission issues, WMO would like to participate in Tsunami Warning Service training and information sessions as well as exercises.

Recalling a decision from IOC EC-50 - where ICGs were asked to share communication tests with WMO - this has been well received by WMO Global Information System Centres (GISCs). WMO would like to continue monitoring and using the results.

Finally, the 2nd MHEWS Conference was held recently in May 2019 at WMO, and we would like to thank the IOC who were part of the Organizing Committee and who made significant contribution to the success of the Conference.

## **9.1 Report of the IHO-IOC GEBCO Guiding Committee**

### **Colombia**

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Colombia reconoce y asume la responsabilidad de producir levantamientos batimétricos con los más altos estándares de calidad, en beneficio no sólo de nuestros respectivos países, sino como aporte y soporte de muchos otros programas e iniciativas de interés general que nos congregan.

En este sentido queremos invitar a GEBCO y a la base batimétrica para integrarse en la iniciativa Atlas Marino del Caribe, en actual desarrollo a cargo de IOCARIBE, con el apoyo de INVEMAR.

De la misma forma, compartimos las actividades que se han venido realizando en el programa hidrográfico impulsado por Colombia, a través de la Dirección General Marítima:

- Dentro del proyecto SEABED 2030, para finales del presente año, se tiene previsto terminar el levantamiento hidrográfico del Caribe colombiano en su totalidad, y en la misma forma para el 2023 concluir lo propio en la cuenca del Pacífico colombiano.
- Se han generado, por otra parte, cartas batimétricas y geomorfológicas del Caribe Colombiano, con diversas aplicaciones, que han permitido visualizar y mejorar el conocimiento de las características del fondo marino, en apoyo a estas y otras iniciativas de la COI.

### **Brazil**

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Brazil has been participating in GEBCO Project since its beginning, in the early 20th century.

Regarding IOC, Physical and geological oceanography, while marine sciences, cannot be properly understood without the perfect knowledge of submarine relief, as saying, accurate bathymetry.

Brazil has participated in the former GEBCO Steering Committee, currently GEBCO Guiding Committee (GGC) in several opportunities. In November, we once again join the GGC as Captain Rodrigo de Sousa Obino, from DHN, was recently appointed to the GEBCO Guiding Committee for a 5-year term.

The participation of a DHN officer in the GGC happens in a very precious moment, along with the starting of the "Seabed 2030" project, co-sponsored by GEBCO and the Nippon Foundation, whose proposal is to obtain total bathymetric coverage of seabed by 2030, in support of the SDG 14. Further, IHO has also established a working group to promote the concept of crowdsourcing for the collection of bathymetric data by means of sailboats, fishing vessels, as well as merchant ships. With the due care regarding data quality control and of UNCLOS, Brazil also support this project.

Brazil has participated in the Subcommittee on Undersea Feature Names (SCUFN) until recent years. Considering the importance of this subcommittee, Brazil submitted this year the candidature of LT Lorena da Fonseca Sampaio, from Brazilian Navy Hydrographic Center.

According to Circular Letter No 2759, the result is expected to be issued during this Assembly.

Then, for the reasons stated above, Brazil supports the draft decision proposed under this Agenda item, and wishes to participate in the next assessment, to be conducted by the "Working Group on User Requirements and Contributions to GEBCO Products", as stated in its item 5 (iii).

## **China**

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China highly appreciates the complete and informative presentation. High quality bathymetry is important not only for navigation but also for many other scientific and operational purposes. Based work on evaluating the IOC's role and involvement in the GEBCO project, we all recognized the continued need for bathymetry products by the IOC scientific community. Chinese experts engaged in the GEBCO cooperation in the past year and China fully commits to the continuous support to IOC for GEBCO issues, we will strengthen the participants on GEBCO work including SCUFN and Seabed 2030 in the future. For supporting IOC's engagement in GEBCO, China would like to allocate 10,000 USD to GEBCO related work in our 2019 contribution to IOC.

## **Côte d'Ivoire**

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Dans la plaine abyssale compte tenu des moyens énormes à mettre en oeuvre pour faire la bathymétrie peu de pays peuvent le faire d'où la pertinence du GEBCO. Ce qui préoccupe la Côte d'Ivoire c'est ce qui se passe, pas loin des côtes. Dans cette zone Compte tenu de la souveraineté des états sur leurs zones exclusives, il est souvent difficile d'accéder aux données même si certains pays n'ont pas encore réalisé une cartographie de qualité.

Mais des pistes de solution existent. Aujourd'hui tous les pays qui ont soumis leur demande d'extension de la limite de leur plateau continental à la commission du plateau continental des nations unies ont en leur possession des cartes bathymétriques de grande précision. C'est le cas de la Cote d'Ivoire qui a une bathymetrie de grande precision jusque dans la zone abyssale. La Côte d'Ivoire invite le comité GEBCO à trouver les mécanismes pour accéder à ces données.

Pour ce qui concerne le mandat du comité, la Côte d'Ivoire soutient la reduction de 5 ans à 3 ans mais reconductible une fois.

## **France**

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La GEBCO est une représentation bathymétrique des océans consultable et utilisable par le grand public. Elle a été réalisée conjointement par la COI-UNESCO et l'Organisation hydrographique internationale.

En France, le Service hydrographique et océanographique de la Marine (SHOM) soutient les initiatives de GEBCO, notamment Seabed2030, visant à mieux connaître les zones profondes ainsi que les profondeurs inférieures à 200 m et les zones polaires.

La délégation française fait valoir que le manuel de référence sur la construction de grilles bathymétriques préparé par un groupe de travail GEBCO sera un document extrêmement utile pour aider au développement de grilles bathymétriques globales, et que sa traduction en plusieurs langues devrait être encouragée.

## **India**

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India has a major program for bathymetry survey in our region. With a coast of more than 7500 km, we are concentrating on near shore bathymetry, which is of utmost importance in storm surge and tsunami warning. India is keen to support the Seabed 2030 initiative by sharing data as necessary.

IOCINDIO would like to partner with GEBCO in supporting the countries in the region to get benefitted by the capacity of GEBCO. IOCINDIO is pleased to send a formal invitation to this effect.

### **Ireland**

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Following a successful high-resolution deep-sea mapping in Irish waters, a strategic, long term programme was established for inshore mapping of the EEZ. Such has been its success, the INFOMAR programme is due for completion in 2026. Co-managed by Geological Survey Ireland and the Marine Institute, Ireland's strategic national seabed mapping continues to provide critical, high-resolution baseline datasets for numerous economic sectors and societal needs. INFOMAR remains aligned with national and European policies and directives. As referenced yesterday by France, it exemplifies our commitment to EMODnet.

The Atlantic Seabed Mapping International Working Group was established to identify the steps required to implement a seabed mapping strategy to underpin the objectives of the Galway Statement. In conjunction with many Member States present here who make substantial contributions to the group, Ireland commits to cooperate to advance basin-scale campaign mapping and accelerate general knowledge of the ocean in particular by supporting and contributing to the GEBCO Seabed 2030 Project. Internationally coordinated seabed mapping has to become an "Operational Programme" with allocated multi-annual funding thereby making a tangible contribution to the objectives of the Ocean Decade.

### **Portugal**

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Seabed 2030 is a major global initiative that will change our image of the ocean floor, and therefore of the Earth system, which deserves the full support of Member States. A growing and firm involvement of IOC in support of GEBCO, a joint initiative between IOC and IHO, with the support of institutions such as the Nippon Foundation, is essential. Ocean mapping is fundamental to fully understand the ocean system, map deep sea ecosystems and for marine hazard modelling, in particular as concerns tsunamis, for which high resolution bathymetric information is critical, not only in deep water, but also at shallow depths. IOC should continue to encourage Member States to contribute with national bathymetric data to GEBCO, which will be openly shared and therefore for the benefit of all. Portugal has been strongly involved in mapping the area under national jurisdiction, has been contributing regularly to GEBCO with bathymetric data and has been developing oceanographic and hydrographic capacity among Portuguese speaking Countries.

### **Republic of Korea**

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As a member state of the IOC and IHO and a member of the GEBCO Guiding Committee, Republic of Korea would like to appreciate the proactive activities of the GEBCO Guiding Committee.

Republic of Korea serves as a member of the Sub-Committee on Undersea Feature Names (SCUFN) and the Sub-Committee on Communications, Outreach and Public Engagement (SCOPE), in particular, supported the development of "SCUFN undersea feature terms and definitions ([www.scufnterm.org](http://www.scufnterm.org))", "submission ([www.scufn.submission.org](http://www.scufn.submission.org)) and review of proposals ([www.scufnreview.org](http://www.scufnreview.org))", "Beta-gazetteer" and an outreach website ([www.gebco-outreach.net/index.do](http://www.gebco-outreach.net/index.do)). Republic of Korea will continue to support the GEBCO Guiding Committee for its development.

### **United Republic of Tanzania**

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Tanzania particularly appreciates the involvement of users, through the IOC Working Group, in guiding the improvement of GEBCO products.

Tanzania recognizes the importance of bathymetry data as primary geophysical data, which also help us to understand other fundamental processes of the ocean basins such as ocean circulation, weather systems, tides and so on.

Mapping of the world's ocean floor is therefore very important to us. And we believe this would form one of the major contributions to the UN Decade of Ocean Science. My Delegation would like to know how Member States could actively participate in the Seabed 2030 project, and whether the project, which became operational in February 2018, is already operational in the Indian Ocean basin, which is a relatively poorly studied Ocean Basin. Finally, Tanzania strongly supports the Decision brought forward for consideration by this Assembly.

### **United Kingdom of Great Britain and Northern Ireland**

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The United Kingdom is encouraging to see GEBCO continuing its important work in making bathymetric data freely available.

The UK would also like to congratulate The Nippon Foundation in demonstrating its insight into the fundamental importance of ocean bathymetry and its enthusiasm in collaboratively partnering with GEBCO to undertake

the Seabed 2030 Project. We also extend our thanks to the IOC and the IHO for their continued support and co-sponsorship of GEBCO and the Seabed 2030 Project. The UK looks forward to Seabed 2030 making a major contribution to the UN Decade and, particular, to Research & Development Priority Area 1: A Comprehensive digital atlas of the ocean.

The UK welcomes the report from the IOC Working Group on GEBCO User Requirements. It is important GEBCO bathymetric products align closely with the needs of the global community and we would encourage all users of bathymetric products to engage with GEBCO, and the Seabed 2030 Project, to contribute in shaping the next generation of GEBCO bathymetric products. The next GEBCO Guiding Committee meeting, hosted by the University of New Hampshire, USA, in early November 2019, provides a suitable forum for bathymetry users to articulate their requirements to GEBCO.

We note that the UK's Maritime 2050 Strategy (2019) has recommended that UK to commence charting its own seabed and EEZ seabed using autonomous vessels to understand the potential economic benefits of the seafloor, and on a longer time-scale to contribute to international efforts to chart the international seabed area.

With reference to the Annex to the decision which concerns proposed changes to the GEBCO Guiding Committee Terms of Reference and Rules of Procedure - the UK supports the proposal to reduce the tenure of the Chair and Vice-Chair of the Guiding Committee from 5 to 3 years, with a maximum extension of 1 further term.

### **World Meteorological Organization (WMO)**

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WMO would like to thank GEBCO and both the IHO and the IOC for their hard work and efforts in the past year. WMO continues to support the outcomes of GEBCO, noting that coastal bathymetric data in particular, is vital for developing ocean and coastal models that contribute to accurate prediction of coastal inundation and the marine weather state, especially in ports and harbours, and with direct relevance to the protection of life and property on the coast and at sea. We'd like to emphasize that as ocean and coastal models move to higher resolution, there is an increased demand for high resolution coastal bathymetry, which is also a focus of the UN Ocean Decade. It is clear that the GEBCO work is critical to this effort and WMO looks forward to seeing these excellent efforts gain momentum in the future, for the benefit of our common WMO, IOC and IHO Members and Member States.

### **10.1 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**

#### **Chile**

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Como ya se ha mencionado durante esta asamblea, este es uno de los temas más importantes en relación con el océano a nivel mundial. Este nuevo tratado que se está negociando marca un antes y un después en la gobernanza del océano.

Chile ha participado activamente en el proceso de negociación de BBNJ, sus cuatro elementos de negociación y su futura interacción con aquellos regímenes y organismos regionales y sectoriales actualmente vigentes, representan hoy, un desafío para la Comunidad Internacional.

Debemos ser capaces de complementar lo ya existente, con lo que se regulará a futuro, reconociendo que el resultado no debe ir en detrimento de los instrumentos y marcos jurídicos existentes ni de los órganos mundiales, regionales y sectoriales competentes., desafío que, sin lugar a dudas, estamos dispuestos a participar.

Creemos que la COI, debe seguir jugando un rol constructivo en esa negociación, aportando toda su experiencia en el ámbito de promover la cooperación internacional y coordinación de los programas de investigación, servicios y creación de capacidades, con la finalidad de aumentar de mayor y mejor manera los conocimientos sobre el océano para mejorar la gestión, el desarrollo sostenible y la protección del medio marino. Tal contribución, basada en la ciencia, es sin lugar a dudas, un factor importante en el futuro instrumento de BBNJ.

Hoy, no es una novedad que el océano enfrenta amenazas que lo dañan y lesionan, debemos buscar soluciones concretas, que tengan por objeto prevenir, desalentar y finalmente, eliminar estas amenazas, de la mano con los procesos internacionales.

Chile continuará contribuyendo en su rol activo en este proceso, como articulador de ideas, y seguiremos planteando puntos y temas, con la finalidad de generar un futuro instrumento que tenga un balance equilibrado entre la conservación y el uso sostenible de la biodiversidad marina más allá de la jurisdicción de los Estados,

y que permita un complemento efectivo entre este nuevo acuerdo de implementación con los instrumentos ya existentes.

Creemos que es vital que la COI posea un rol en el futuro acuerdo de BBNJ, para esto es necesario que alcancemos acuerdos sobre como esta Comisión puede asumir este rol y sobre como se aplicarán los mandatos en esta nueva institucionalidad que se creará para este instrumento.

## **China**

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China highly appreciate IOC's efforts on BBNJ negotiation. We are also the party of BBNJ negotiation and actively participated in the first and second session of the intergovernmental conference held in September 2018 and March 2019.

In March, representatives from more than 140 countries, relevant intergovernmental organizations and regional bodies, attended the second session of IGC on BBNJ. Intensive discussion were made on the proposed text of the legally binding instrument on the basis of the President's Aid to Negotiations throughout the two week sessions. During the conference, in particular in the exchange of views for the issue of capacity-building and transfer of marine technology, many states and international organizations have expressed their expectations for IOC on making active contributions to assist member states on enhancing capacities to protect and benefit from BBNJ, and facilitate transfer of marine technology, on the basis of IOC Criteria and Guidelines on the Transfer of Marine Technology.

China understands IOC have been working positively on capacity development for long time and reach huge achievement and supports IOC making further efforts to link its work with the demands of BBNJ negotiation by integrating its existing resources and platforms and develop capacity development programs tailed for the conservation and sustainable use of BBNJ. Concrete actions could be taken by IOC to help increase, disseminate and share knowledge on the conservation and sustainable use of BBNJ; developing the marine scientific and technological capacity of member states; and provide practicable modalities for Marine Technology Transfer based on the IOC Criteria and Guidelines on the Transfer of Marine Technology. In this Assembly, we are delighted to acknowledge the latest progress of IOC Capacity Development, particularly Clearing House Mechanism, which would lay solid foundation to IOC's engagement to BBNJ.

In addition, during the second session of IGC, ISA and IMO submitted statements under relevant items and express their positions regarding the BBNJ instrument from their point of view, based on the mandate of organizations. China suggest IOC also considering submitting a statement to IGC, through which to express IOC's positive position to contribute to the BBNJ negotiation and address the need and requirement from international community.

## **Costa Rica**

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Las negociaciones del Tratado BBNJ nos presentan una oportunidad histórica de cambiar positivamente nuestra relación con el océano. Costa Rica hace un llamado para que aprovechemos al máximo las próximas dos sesiones de la Conferencia Intergubernamental, con el objetivo de cumplir con el plazo establecido en la Resolución 72/249 de la Asamblea General de Naciones Unidas, y lograr el establecimiento de un Tratado robusto, que cambie el status-quo, y que asegure la sostenibilidad de la biodiversidad y los servicios ecosistémicos de los que dependemos como humanidad.

Tomar decisiones informadas y basadas en ciencia para el aprovechamiento sostenible de nuestros recursos naturales, es un pilar del Gobierno de Costa Rica, y por ello reconocemos la importancia crítica de contar con organizaciones y mecanismos que faciliten datos e información científica.

El gobierno de Costa Rica reconoce el rol fundamental del OBIS, facilitando el acceso abierto y gratuito a la información sobre biodiversidad y datos biogeográficos. Recientemente CR lanzó el SINIA, un sistema de información ambiental que esperamos enlazar con el OBIS.

En el marco de las negociaciones del Tratado BBNJ, se ha discutido el papel esencial de contar con un clearing-house mechanism, el cual facilite el intercambio de información a los Estados miembros del nuevo Tratado. En este contexto, podríamos pensar en el IOC como un posible candidato que pueda fungir como un clearing-house mechanism.

Algunas de las funciones primordiales que un clearing-house mechanism debería cumplir incluyen:

- Proporcionar un punto de acceso centralizado de información, facilitando su difusión e intercambio, así como la coordinación sobre conocimientos, datos, publicaciones y evaluaciones realizadas en el marco del Tratado.
- Apoyar los vínculos y la coordinación entre clearing-house mechanisms existentes (ej: CBD).
- Facilitar la cooperación científica internacional, incluso ampliando redes de monitoreo global existentes.

- Brindar apoyo a los Estados Partes, través de un sitio web para proporcionar información sobre mejores prácticas, expertos y profesionales entre los Estados Partes y socios.

Finalmente, sin embargo, debe resaltarse y estamos conscientes que para llevar a cabo este tipo de funciones, un clearing-house mechanism viable dentro del Tratado BBNJ requerirá de apoyo y financiamiento adecuado, previsible y sostenible. Por esto la importancia de fortalecer a la COI y asegurar su fortalecimiento.

### **Germany**

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During the whole BBNJ process, the IOC was and is regarded as a trustworthy partner with an excellent reputation in the field of marine scientific research. The ad hoc report for the 4th PrepCom meeting, which focused on the transfer of marine technology and a possible clearing house mechanism, is the best example of the IOC's reputation. During the last two years, further developments occurred within IOC as well as in the BBNJ-process. We would thus consider it useful to bring the new development within IOC to the attention of the IGC. Yesterday we heard about the excellent work of the Task Teams of the IOC Group of Expert on Capacity Development in this area, which is certainly of great interest to the Intergovernmental Conference. IOC should also be prepared to react to the needs expressed in the 3rd session of the IGC.

Germany therefore supports the draft decision and encourages IOC to further support the BBNJ process within its mandate in all areas related to marine scientific research.

### **Ireland**

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As an island state adjacent to vast areas of high seas, Ireland has a significant interest in the BBNJ process and we support the draft decision.

Ireland is a strong supporter of the BBNJ process and, through our membership of the European Union, we shall continue to participate positively and actively.

Ireland supports the future BBNJ agreement recognising the special needs of developing countries, in particular Small Island Developing States, and is in favour of ambitious provisions on capacity building and transfer of marine technology.

We will support IOC in this process based on the excellent work of the Capacity Development Group of Experts and the application of IOC Criteria and Guidelines for the Transfer of Marine Technology. We stand ready to share our experiences given Ireland's unique position in Europe - as an island at the centre of the world with significant marine resources, research knowledge and capacity.

### **Japan**

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Japan appreciates the very informative report done by Mr Troisi and notes the information contained in the document INF 1378 Rev. Japan would like to make clear that Japan is consistent to support the commitment of the IOC to the BBNJ process as materialised in the draft Decision 10.1. Japan also believes that the BBNJ process and its results should not undermine existing legal instruments and frameworks as provided in the UNGA documentations.

### **Mexico**

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México reconoce la importancia de las aportaciones de la COI-UNESCO en las negociaciones para la elaboración de un instrumento internacional jurídicamente vinculante sobre la conservación y el uso sostenible de la diversidad biológica marina de las zonas situadas fuera de la jurisdicción nacional BBNJ, particularmente en lo relacionado con la distribución equitativa de los beneficios derivados del acceso a los recursos genéticos marinos y a la creación de capacidad y transferencia tecnológica.

La distribución de beneficios no monetarios comparte características con la creación de capacidades y transferencia de tecnología (CCTT). En este sentido, se apoyan aquellos mecanismos que proporcionen no sólo la adquisición de conocimientos a través de programas académicos y de capacitación, sino también a la puesta en práctica y desarrollo en campo con el apoyo de la innovación, el uso de tecnologías y la colaboración.

Se considera necesario establecer y desarrollar una plataforma o mecanismo que permita el intercambio de información bajo los principios de cooperación, transparencia y acceso público general.

Resultaría de utilidad conocer con mayor detalle la posibilidad que tendría la COI-UNESCO para conectar distintas bases de datos, especialmente sobre recursos genéticos marinos, a fin de asegurar un acceso fácil, estandarizado y completo, a dicha información.

Se estima igualmente valioso conocer y recoger las prácticas de la COI-UNESCO en el uso de conocimiento tradicional.



También resulta necesario tener en cuenta cuáles son los vacíos y retos que ha identificado la COI-UNESCO en materia de desarrollo de capacidades y transferencia de tecnología CCTT.

Los Clearing House Mechanism, en el caso de la promoción del desarrollo de capacidades y transferencia de tecnología CCTT, deben mantener un objetivo y función claramente establecidos, contar con herramientas de coordinación tanto regional como global que permitan la articulación de las necesidades específicas de los Estados –particularmente de los pequeños Estados Insulares en Desarrollo (SIDS) y los Países Menos Desarrollados (LDC)- y establecer vínculos de acceso sencillos y claros entre los generadores de información y tecnología y los receptores y usuarios de ellas.

En este sentido, se estima útil un mecanismo Clearing House Mechanism como depositario de la información en términos de BBNJ-CIG, para atender las funciones principales de; 1) proporcionar información y asegurar que todas las partes tengan acceso a la información y a la tecnología que efectivamente necesitan; y 2) promover y facilitar la cooperación técnica y científica que proporcione un acceso equitativo a la información y a la tecnología.

Ello en concordancia con las obligaciones derivadas de otros foros e instrumentos internacionales. Como la Parte XIV de la CONVEMAR, el Decenio para la Ciencia y el Desarrollo Sostenible, el Convenio de Diversidad Biológica, el Protocolo de Nagoya para el Acceso y Distribución de Beneficios, la Agenda 2030 –Objetivo 14-, entre otros, tal como lo propone el Grupo de Expertos en su informe.

Finalmente, solicitamos que se nos siga informando sobre la contribución de la COI al BBNJ-CIG.

#### **Norway**

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Norway appreciates the update on the ongoing process, and we would like to underline the following aspects:

- It is important that the new BBNJ agreement builds on and utilizes existing structures and organizations in order to avoid duplication and confusion. IOC has experience and knowledge that will be of high value for the future BBNJ regime.
- In order for negotiators to be aware of IOC as a resource, IOCs physical presence in New York is essential, even if this of course is demanding on scarce resources.
- IOC, its officers and its chair have done a tremendous job in providing factual and timely information which has contributed to negotiations being based on facts and awareness of existing mechanisms

#### **United Kingdom of Great Britain and Northern Ireland**

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The United Kingdom expresses its appreciation to the IOC Officers for their ongoing participation and promotion of the IOC and its programmes at the IGC on BBNJ (Intergovernmental Conference on Conservation and Sustainable Use of Biological Diversity in Areas Beyond National Jurisdiction). For this reason the UK supports decision 10.1.

### **10.2 Integrated Coastal Area Management Programme (ICAM) Strategy Implementation**

#### **Chile**

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Como ustedes saben, nuestro país posee una larga costa de aproximadamente 6.400 kilómetros, por lo cual este es un tema de gran relevancia para nosotros y para las comunidades que ahí residen.

En este contexto, también queremos destacar el trabajo que se ha realizado en el marco del proyecto SPINCAM, generando información clave en nuestra región y expresamos nuestro agradecimiento al gobierno de Flandres del reino de Bélgica por su apoyo en esto.

En la actualidad, nuestro país se encuentra en un proceso de evaluación de las herramientas de gestión posibles de implementar en nuestras zonas costeras. Continuaremos trabajando, tanto a nivel nacional como a nivel regional con el objeto de evaluar estas herramientas y llegar a la conclusión de cuáles son las más aptas de aplicar en nuestras zonas costeras, y de esta forma ordenar las diferentes actividades que se dan en estas zonas.

Para esto es vital que podamos continuar con la generación de capacidades en nuestros países, con esto lograremos que la toma de decisiones con respecto a estos temas sea con el mayor conocimiento posible de estos procesos.

#### **Côte d'Ivoire**

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La gestion intégrée des zones côtière est ce processus qui met en scène les lois, les programmes les efforts d'évaluation et de prise de décision sur le mode d'exploitation, de préservation et d'évaluation des ressources et des opportunités de la zone côtière. Dans une zone où les intérêts des parties prenantes sont souvent antagonistes, une approche scientifique est fondamentale.

En Afrique ce concept est d'autant plus délicat à mettre en œuvre que ce sont de façon générale les populations pauvres qui vivent sur la côte à la différence des pays développés ou ce sont les populations les plus riches qui y habitent. De sorte que des alternatives doivent être proposées à ces populations pauvres pour leur permettre une vie décente.

En Côte d'Ivoire à l'instar des pays engagés dans le programme WACA, la gestion intégrée de la zone côtière est implémentée. Des réflexions sont en cours pour délocaliser les populations vivant sur la côte menacée par l'érosion côtière. Conscient de l'importance de l'adoption de cette approche intégrée, la délégation de la Côte d'Ivoire soutient le programme ICAM de la COI.

## **India**

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India is happy to inform that an Integrated Coastal Management plan is already in place and its implementation throughout the coast of India is proceeding. In view of the geographic location, we have tropical cyclones which affect the coasts leading to erosion and loss of beach. We would like to inform that after scientific study, sustainable shore protection and beach restoration has been successfully done in many areas.

Ecosystem modelling is also taken up in various regions.

We also have an exclusive Institute to take care of coastal area management in the country, which also takes up capacity building in this area. India will be happy to provide training program for Integrated Coastal Management for member states.

India has taken up an ambitious Deep Ocean Mission which highlights, among other things, Blue Economy for sustainably harvesting of ocean resources.

As reported earlier during this session, IOCINDIO conducted a coastal vulnerability workshop in May this year in order to train participants in preparing coastal vulnerability index.

## **Netherlands**

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On behalf of the Netherlands, I'd like to thank the IOC secretariat for the trust and encouragement they gave us to develop a travel version of the MSP Challenge board game training tool for MSPglobal – in different languages.

Since Marine Spatial Planning is a neutral tool, the MSP Challenge also is created in a way that it is a Level Playing Field.

We have had great pleasure in the development, which is still ongoing, and are pleasantly surprised by the overwhelming positive feedback from all the training session given by the IOC staff in the past year.

Marine Spatial Planning is not only about allocating space at sea and looking into relations with humans living on land. MSP is a policy tool, which can be applied to achieve societal and political goals. Goals like the UN Sustainable Development Goals. To discuss these goals in MSP training additional game materials have been produced –which will be available from now on.

Early next year we will organise a training session for trainers in cooperation with the IOC secretariat and MSPglobal.

The 2019 version of the MSP Challenge will be ready for translations in other languages, like Arabic.

As a spin-off of the cooperation with IOC-UNESCO for MSPglobal a Chinese version of the MSP Challenge for the Bohai Bay has been co-produced this year with the university of Dalian.

The approach we like to follow with the MSP Challenge is that of community building. This means translations are done by members in the MSP community themselves.

We will keep on collecting feedback from participants in the trainings, so we can continue writing scientific papers, which may inform others developing game based training tools.

We look forward to hear - in more detail - how we can further support IOC and the Member States in using this marine/maritime spatial planning learning tool.

Netherlands propose to explore further the role Marine or Maritime Spatial Planning can act as a gateway for enhanced Ocean Literacy.

We thank the IOC-UNESCO for our cooperation and will contribute as best as we can to the international guidance for transboundary and cross-border MSP worldwide – as identified in the joint MSP roadmap from 2017.

## Spain

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La Planificación Espacial Marina es una herramienta fundamental para analizar las interacciones entre los diferentes sectores que desarrollan su actividad en los mares, determinar sus necesidades y conflictos y conjugar así los intereses económicos, sociales y de conservación a largo plazo, en definitiva para poder acometer un uso sostenible de los océanos. La implicación de la COI en esta disciplina es especialmente importante en dos aspectos, tal como se refleja en el informe: en el desarrollo de capacidades y en la implementación de metodologías y estrategias comunes que faciliten un marco común de aplicación transfronteriza pero con la suficiente flexibilidad para adaptarse a las particularidades de cada zona.

España agradece toda la actividad realizada y prevista en esta estrategia, como el proyecto SPINCAM, y está particularmente dispuesta a colaborar y contribuir en el desarrollo de la iniciativa MSPglobal, como ya estamos haciendo, habiendo facilitado la celebración del tercer Foro de Planificación Espacial Marina en la ciudad de Vigo, en España. Y estamos abiertos a seguir contribuyendo con nuestra participación activa en la iniciativa, tanto a nivel técnico como para facilitar el desarrollo de reuniones, grupos de trabajo, etc. Así mismo valoramos muy positivamente los resultados y productos del proyecto AQUACROSS.

En clara relación con lo anterior, también apoyamos las actividades y planteamiento de la iniciativa sobre LME y estamos de acuerdo en que una parte importante de la degradación de los ecosistemas está relacionada con deficiente gobernanza de los sectores relevantes, incluyendo legislaciones y políticas inadecuadas e insuficiente implicación de la sociedad en la toma de decisiones. En este sentido es especialmente relevante tener en cuenta también el deficiente conocimiento que tenemos del funcionamiento de los ecosistemas. En los programas de desarrollo de capacidades consideramos especialmente relevante la inclusión del estado de conocimiento de los ecosistemas marinos y de las necesidades de investigación y observación para abordar retos futuros. Esta labor debe estar enfocada a todos los sectores, pero particularmente aquellos relacionados con la toma de decisiones para favorecer políticas que impulsen la observación y la investigación científica y permitan avanzar en un aprovechamiento sostenible de los recursos.

### 11.1 Report of the IOC Capacity Development Group of Experts

#### Colombia

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De la misma manera, agradecer y felicitar el rol del Grupo de Expertos en su continuado esfuerzo por apoyar a los programas regionales en la ejecución de las evaluaciones de necesidades de capacidades, así como los métodos para desarrollarlas y movilizar recursos. Este apoyo ha contribuido por conducto de IOCARIBE y su proyecto Atlas Marino del Caribe, al desarrollo de un prototipo regional para el mecanismo de intercambio de información de la COI para la transmisión de tecnología marina (CHM-TMT).

Desde la Comisión Colombiana del Océano y con las capacidades del INVEMAR puestas al servicio de la Región de Latinoamérica y el Caribe, continuaremos apoyando la preparación de la propuesta detallada con un enfoque progresivo modular, en colaboración con el IODE, para continuar con el prototipo de CHM proyectado para la Década de las Ciencias de los Océanos.

Por otra parte, acuerdo con los resultados de la encuesta organizada por el Grupo de Expertos en Fortalecimiento de Capacidades durante el presente año, en Colombia se destacan necesidades compartidas por muchos de nuestros países, como la del aumento en número y cubrimiento de equipos de observación oceánica, en el mejoramiento e integración de la infraestructura de capacidades instaladas y en el fortalecimiento de la educación en ciencias oceánicas.

En lo que respecta al fortalecimiento de capacidades en recursos humanos, y teniendo en cuenta las recomendaciones que coinciden en la importancia y la necesidad de "apoyo para la organización de cursos de formación", agradecemos se continúe apoyando los Centros Regionales de Entrenamiento de OTGA, en particular el de nuestra región. Colombia a través del INVEMAR se compromete a continuar y aumentar su apoyo con becas nacionales.

Deseamos reiterar nuestro agradecimiento al Gobierno de Flandes por el apoyo prestado al IODE para OTGA, y por la decisión de continuar adelante.

#### Côte d'Ivoire

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S'il y a un domaine qui intéresse l'Afrique, au plus haut niveau, c'est le renforcement des capacités. Le renforcement des capacités recouvre deux aspects qui constituent un binôme indissociable:

Les capacités humaines et les capacités infrastuturales.

Au niveau du renforcement des capacités humaines, la délégation de la Côte d'Ivoire suggère que le renforcement des capacités concerne la Formation de haut niveau (Master et PHD). Entendu que ceux-ci se

chargeront de la formation des techniciens. Pour la Côte d'Ivoire, les formations de 3 jours et une semaine organisées ça et là sont inopérentes.

Au niveau de la Côte d'Ivoire des programmes universitaires en Océanologie (physique, biologique) et utilisant l'outil télédétection existent.

Au niveau des infrastructures, la délégation de la Côte d'Ivoire estime qu'un renforcement des capacités en ressources humaine qui ne s'accompagne pas de d'investissement en infrastructure apparaît comme un coup d'épée dans l'eau.

A ce niveau du développement des infrastructures, la délégation de la Côte d'Ivoire voudrait saluer les pays qui se sont distingués par leur aide à l'Afrique notamment: la République de Corée, La Chine, la Belgique, l'Allemagne et la France. Enfin la Côte d'Ivoire soutient les efforts déployés par la COI dans le développement des infrastructures.

### **Belgium**

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Belgium strongly supports, and is active in, the work of this Group of Experts that fosters the implementation of the Capacity Development Strategy. We consider that the core infrastructures of the Ocean Teacher Global Academy established in recent years give many IOC Member States new opportunities to address capacity development needs in their regional context. We also welcome the recent dialogue initiated between OTGA and another relevant initiative at the European scale, [marinetraining.eu](http://marinetraining.eu), undertaken in the context of the Belgian contribution, by Ghent University, to the European Marine Biological Resource Centre EMBRC ERIC, a biodiversity

Belgium is also encouraged by the uptake of Capacity Development activities in many IOC regional subsidiary bodies and large projects, such as in WESTPAC and in the LME-LEARN project. Emphasising paragraph 6 of the draft decision, we call on the Group of Experts to ensure a good dialogue on all forms of capacity development across the entire span of IOC, seeking to make capacity development delivery effective and efficient, and so that the central capacity development function of IOC can itself develop and learn from experiences, readying all capacity development providers for their important role in the Ocean Decade.

### **China**

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China would like to join other member states to reiterate the importance of Capacity Development. In recent year, IOC and its RSBs made great efforts and progress in Capacity development through different mechanisms and platforms, including the networking of Regional Training and Research Centers (RTRC) and the establishment of OTGA. Following the decision made by 29th session of the IOC Assembly, IOC established Expert Group of Capacity Development and lead constructive discussions on capacity development including the Clearing House Mechanism in 2017, in which Chinese experts engage actively.

China appreciated IOC's achievements, and also noticed the rising demands from both member states and the international communities on ocean-related capacity development. In recent years, major global environmental processes, such as Conference of the Parties of CBD, Climate Change negotiations, and the on-going negotiations on international binding legal instrument on BBNJ, have been attaching ascending attentions to the capacities of ocean research and services, and requiring the development of capacity building system to enhance marine scientific knowledge, provide data management, and facilitate transfer of marine technology. It means that capacity development is not only an internal work but also important outreach issue for IOC.

China expects, IOC, as the only competent organization on marine research in UN system, to take further concrete actions and to make larger contribution to join the international collective efforts on ocean-related capacity development. China encourages IOC to make use of existing diverse resources to increase coordination and synergies among IOC programs, and work towards a global capacity development framework.

### **Republic of Korea**

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Korean government plans to designate the Korea Oceanographic Commission as a focal point of capacity building efforts in Korea and is willing to proactively cooperate and respond to every efforts by the IOC Group of Experts on Capacity Development.

As demonstrated in the results of Clearing House Mechanism online surveys, sustainable capacity building requires both relevant equipment and facility as well as educational programs and instructors. And also organization that can systematically support and manage the scheme would be more important.

In this regard, the Republic of Korea has been conducting ODA capacity building projects for small island nations in the Pacific through events like Yeosu Academy and actively building rapport with those countries

and discussing support measures. In addition, Marine Environmental Training and Education Center (AMETEC) established within KIOST has been offering a variety of educational training programs for APEC countries since 2003 to date. Also a master degree program in management engineering of IMO London Protocol launched last year. Korea is also seeking strengthening capacity building schemes under the IOC, by jointly pursuing with FAO an establishment of World Fisheries University.

The Marine Science Section of the IOC publishes the Global Ocean Science Report (GOSR) with support of Korean government which contains general information of relevant organizations by country, which can help the member countries' decision-making process. Once the GOSR portal is established, it is expected to become an effective platform for dissemination of information. Korea has been supported preparation of the GOSR and anticipate the new system should be integrated and systematic so that the relevant information is shared in an efficient manner.

### **United Republic of Tanzania**

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Tanzania particularly appreciates the modalities used by the Group of Experts in identifying Capacity Development needs of Member States, in relation to the IOC Capacity Development Strategy.

Tanzania recognizes the importance of Capacity Development particularly for the Least Developed Countries, and we strongly believe that in order for Capacity Development to be successful a clear understanding, identification and prioritization of Capacity Development Requirements is critical. That is why we strongly commend the Capacity Development Group of Experts for the approach they used, and for the good recommendations they have put forward.

The Tanzanian Delegation also believes that the planned Clearing-House Mechanism (CHM) for the Transfer of Marine Technology (TMT), Capacity development, training and education & ocean literacy would be instrumental to further the development of ocean science capacity in Member States within the framework of UN Decade of Ocean Science for Sustainable Development 2021–2030.

Tanzania is grateful to the UK for the capacity being built right now in Tanzania through a collaborative SOLSTICE project between UK, SA, Kenya and Tanzania in ocean Sciences, especially the application of Marine Robotics.

Tanzania therefore strongly supports the Decision brought forward by the Group of Experts for Capacity Development, for consideration by this Assembly.

### **United Kingdom of Great Britain and Northern Ireland**

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The UK applauds the efforts of the Capacity Development Group of Experts under the expert leadership of its Chair Mr Ariel Troisi, in particular for recognising the importance of supporting countries not normally captured by IOC regional offices or IOC programmes.

Whilst the UK recognises the valuable efforts undertaken under the umbrella of the IOC Capacity Development Programme, we encourage recognition of efforts by Member States delivering capacity development programmes not always aligned to IOC initiatives.

The UK is committed to providing 0.7% of its GDP to Official Development Assistance and includes funds being used to deliver science programmes for that purpose, such as via UK Global Challenges Research Fund. This has resulted in an increase in the number of projects delivering capacity development aligned to local research requirements. An example of one being the SOLSTICE Programme that's delivering support in the western Indian ocean working with Tanzania, Kenya, Mozambique, Madagascar and South Africa, and the previously mentioned UK Government funded Commonwealth Marine Economies Programme delivering projects in the Caribbean and the Pacific. And it is in this vein that we believe that an understanding of such efforts must be captured if a holistic understanding of capacity development initiatives are to be recognised, so that gaps are accurately identified and needs addressed.

### **Pacific Community**

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I have the honour of delivering this contribution on behalf of the Pacific Community. I would like to speak in support of the recommendation to organise a regional conference on capacity development requirements of Pacific Small Island Developing States involving IOC Member States as well as other stakeholders active in the region.

The Pacific Community is the principal scientific and technical organisation in the Pacific region, supporting development, owned and governed by our 26 country and territory members. We are big ocean states with large exclusive economic zones.

We would like to offer our Pacific Community Centre for Ocean Science (PCCOS) as a platform for partnerships, knowledge exchange and action, and as a key partner in capacity development initiatives and for the UN Decade of Ocean Science.

It is essential that capacity development is based on a regional needs assessment and is designed in partnership with all stakeholders, including the regional organisations of the Pacific and other coordinating bodies such as the Office of the Pacific Ocean Commissioner. It must also be supported by sustained long-term resources and funding. This is critical.

### **World Meteorological Organization (WMO)**

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WMO appreciates the capacity development efforts by the IOC and through our partnership together, particularly with JCOMM, and the Joint Capacity Development Group comprising the IOC, WMO, IMO, IHO, IALA (International Association of Marine Aids to Navigation and Lighthouse Authorities) and the IAEA (International Atomic Energy Agency).

In the last year, WMO conducted a marine services survey which has identified clear gaps in the marine meteorological capacity of WMO Members and IOC Member States. This led to a Congress decision to strengthen marine and coastal service delivery with development of a 2 phase training program, that includes training on wave forecasting plus a significant component on understanding maritime and coastal customer needs, impact based forecasts and warnings, and efficient communications to reach the end user. The course will be a contribution to the UN Ocean Decade, and we have already received requests for it in Africa, South America and the Pacific and Caribbean SIDS.

Regarding the IOC proposal for a Pacific SIDS regional conference, WMO wishes to collaborate given our current capacity development activities there. Indeed, the aforementioned marine service delivery training is being developed in consultation with the Pacific SIDS, and Tonga has offered to host the regional marine training next year.

More generally, WMO has in the past, invited IOC to connect in the contribution for marine capacity development, through promoting events via the global Events Calendar, sharing resource links in the WMOLearn Library, course models and innovative approaches for training via other Global Campus mechanisms.

## **11.2 IOC's Contribution to Ocean Literacy In 2018–2021: Action Plan**

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### **Colombia**

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El Gobierno de Colombia agradece por el detallado informe presentado por la Sra. Francesca Santoro, especialista del programa encargada de los conocimientos básicos sobre los océanos, en el que recordó que una mayor notoriedad y sensibilización es uno de los resultados previstos de la Estrategia de Desarrollo de Capacidades de la COI, así como impulsar el desarrollo de un programa de conocimientos básicos sobre los océanos de la COI y para intercambiar experiencias de las comunidades de prácticas en las regiones y entre las regiones para lograrlo.

De la misma manera, agradecer y felicitar los continuos esfuerzos de la Comisión por estimular la enseñanza de conocimientos básicos y en especial por motivar el desarrollo de la cultura del océano.

Colombia, a través de la Comisión Colombiana del Océano, se encuentra interesado en implementar en todo el territorio nacional, las diferentes actividades en el marco de Ocean Literacy. En especial, el programa Ocean School, considerando que es una buena herramienta para educar en asuntos de océano y generar cultura al respecto.

Colombia con el objetivo de acercar el océano a todos los colombianos, a través de la Comisión Colombiana del Océano ha venido desarrollando iniciativas didácticas y pedagógicas enfocadas a todas las edades, generando un vínculo al mundo marino desde una amplia perspectiva que comprende todos los aspectos y usos que los océanos de Colombia ofrecen, entre estas iniciativas se encuentran publicaciones como: Cartilla para colorear “Una aventura llamada Océano”, Libro “El océano en las ciencias sociales y en las ciencias naturales” y Libro “Océano maravilla terrestre”.

Recientemente se puso en ejecución una iniciativa piloto que enlazó vía “streaming” a una plataforma de investigación en el mar, durante la 1ª versión de la Expedición Pacífico, en el año 2018, con una serie de colegios en diferentes lugares del país, para que pueda eran interactuar con los investigadores y tripulación, brindándoles una perspectiva muy cercana a la realidad, de lo que es hacer ciencia desde y para el mar.

Otra de las estrategias que ha implementado el país para divulgar conocimientos referentes al territorio marino-costero, llevada a un nivel superior, fue la creación del diplomado “Introducción a Ocenopolítica”, con

el fin de unificar los criterios necesarios para entender claramente el ámbito estratégico marino del país y facilitar la interacción entre funcionarios e instituciones nacionales, en contribución a un mejor proceso de toma de decisiones de impacto en las comunidades.

Incluso, la iniciativa en apoyo a la gobernanza de nuestros espacios marino costeros, de preparar una cátedra dirigida a los funcionarios públicos de nivel regional y local, recién elegidos, de forma que tengan herramientas para la mejor toma de decisiones en sus jurisdicciones con enfoque marino-costero.

Teniendo en cuenta estos avances didácticos y pedagógicos, Colombia se encuentra interesada en implementar el kit pedagógico, permitiendo que Colombia siga avanzado en la generación de una verdadera cultura de los océanos

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### **Costa Rica**

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Costa Rica felicita a la señora Francesca Santoro por su extraordinario trabajo elaborando el plan de acción para conocimiento de los océanos, y la cultura oceánica.

Hacemos respetuosamente, un llamado a incorporar no solo a la juventud en estos procesos sino también a incluir expresamente el enfoque de género para cumplir con el ODS 5 y generar decisiones que sean realmente de alto impacto para el manejo sostenible de los recursos marino costeros.

Sabemos que en el momento en que dejamos fuera de la ecuación la visión de género en el manejo de los ecosistemas marinos y la ciencia marina estamos dejando por fuera la mitad de la historia, limitando entonces nuestra capacidad de tomar decisiones efectivas para asegurar mares sanos y productivos.

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### **Japan**

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Japan has been keen in promoting ocean literacy at national level, and been carrying out a wide range of actions including a 'national summit' on education of oceans in February 2019 organized by the Center for Ocean Education of the University of Tokyo, and also many UNESCO associated schools in Japan participated in the IOC pilot project using the 'Ocean Literacy for All - A Toolkit'. Japan plans to translate the publication 'Toolkit' into Japanese in 2019 to be widely used in various opportunities of ocean related education.

Japan, as a nation surrounded by the oceans, is aiming at establishment of an ocean literacy taking well into account cultural history including fisheries and marine hazards such as repeated hits of tsunamis. In this context, Japan would keep and enhance collaboration with the IOC and other players in promotion of ocean literacy.

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### **Kenya**

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Kenya concurs on the importance of promoting ocean literacy as an important tool to enhance ocean knowledge and to encourage citizens and stakeholders to play an active role in fostering actions for sustainable oceans. In this regard, we wish to strongly support the efforts to empower youth in the co-design and implementation of actions towards the realization of SDG14 on the ocean and related SDGs.

Kenya also welcomes the intersectoral approach supported by a strong communication policy on ocean literacy.

Finally, Kenya welcomes the important role of the OceanTeacher Global Academy. Kenya is pleased to host one of these academies which has been instrumental in fostering ocean literacy not only in Kenya but in the region.

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### **Republic of Korea**

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In 2017, Republic of Korea established 5 year comprehensive road map of marine education at a national level to enhance the ocean literacy of the general public and for the systematic and organizational implementation of marine education.

Also, on the basis of Ocean Literacy, Korea is building a National Marine Science Education Museum to provide systematic and practical education, scheduled to be open in June 2020. This Museum addresses the theme Ocean Literacy for the first time in the world, and the exhibition will provide experience-based, program-oriented marine education rather than focusing on physical facilities. The Museum is expected to contribute to promoting Ocean Literacy by presenting scientific facts about various phenomena in the ocean and their relations with human, thereby identifying the value and the future of ocean protection.

In an attempt to promote Ocean Literacy and capacity building, the Korea Oceanographic Commission holds an annual workshop for future marine scientists which students whoever interested in the ocean science in Korea can participate in, and is planning to publish a commentary for SDG 14 in conjunction with Korean

National Commission for UNESCO. We hope that these efforts will become the stepping stone for enhanced Ocean Literacy not just in Korea but globally as well.

### **United Republic of Tanzania**

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Tanzania supports and requests the IOC to assist Member States in streamlining ocean science and ocean literacy in formal education starting with the lower levels, that is, starting at kindergarten upwards.

Tanzania would like to suggest that better ways to streamline ocean literacy down to local communities in Member States should be explored. Ocean literacy can convey better the importance of ocean science and knowledge for sustainable development to the society. Indeed, Ocean literacy is the best interface between science, society and policy.

At this juncture, Tanzania would like to appreciate the support by the Government of Sweden to Ocean Literacy activities – indeed the Govt of Sweden has provided 40 years of Support to Tanzania on issues of Marine and Ocean sciences, which is a big capacity Development and has enhanced Ocean Literacy in the Country; for this we are very grateful to the Govt. of Sweden.

### **Portugal**

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Portugal considers ocean literacy and the awareness of the importance and objectives of the Decade fundamental, in particular for the younger generations. As such, both during the planning phase (until the end of 2020) and throughout the Decade (2021-2030), Portugal will strengthen the already well established ongoing outreach actions targeted at schools, at all teaching levels, taking advantage and based on the experience of the highly successful national initiatives such as the Blue School PT educational program of the Ministry of the Sea, the UNESCO Associated Schools Project Network and the extensive nationwide network of Science Outreach Centers of the National Program “Live Science”, as well as on the participation in several European and international funded joint initiatives and projects (e.g. Sea for Society, Sea Change, CETUS, AORA-CSA, AANChOR).

Student training at sea is also considered a priority. Based on more than 10 years of experience of participation in the UNESCO/IOC Training Through Research Program (TTR) – Floating University, Portugal strongly believes that the access of young students and researchers to international ocean research facilities, and in particular to scientific training at sea, in a multicultural and multidisciplinary environment, is fundamental. Therefore, we will develop efforts at national level, through the IOC and in collaboration with other ongoing national and international initiatives to provide seagoing experience to students, to promote the creation through IOC of an International Network of Training Through Research – Floating University Centers. Such centers will promote mobility and exchange of students at international level, to participate in multidisciplinary research cruises with a strong training component.

Portugal will also take advantage of the initiatives that will take place in the commemorations of the 500 years of the first circumnavigation voyage carried out by the Portuguese navigator and ocean explorer *Fernão de Magalhães*, completed by the Spanish navigator Sebastian Elcano, to promote, at national and international level, ocean literacy, awareness of the importance and vulnerability of the oceans, and the objectives of the Decade in the context of Agenda 2030.

### **Ocean Frontier Institute**

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Ocean literacy is a key pillar of OFI's strategy to find effective solutions for the sustainable development of the ocean frontier – we promote ocean literacy largely through our Ocean School program, which I have to day does indeed ‘spark fascination’ for the ocean among ALL ages, but in particular school children. And we thank the IOC and Sweden for their support of Ocean School, as well as all who attended the side event last evening.

OFI is fostering existing and new partnerships with the IOC and a number of international and national organizations. Most recently, we were invited to join the International Association of Universities SDG14 Team, led by the University of Bergen, where we will support ocean literacy.

OFI is a member of the recently formed Canadian Ocean Literacy Coalition, which is actively working on the draft Canadian Ocean Literacy Strategy mentioned earlier by Canada, which will address gender, youth engagement, and indigenous inclusion among others as mentioned by Costa Rica.

OFI believes strongly that the UN Decade of Ocean Science for Sustainable Development should apply innovative approaches for current and future generations to expand their ocean literacy; and as host of the upcoming North Atlantic Regional workshop for the Decade, OFI will propose Ocean Literacy as a key topic.



Finally, we would urge Member States and other relevant organizations to provide funding for ocean literacy, to craft mechanisms for the exchange of good practices, and to help generate resources for educators in various languages which also embrace different cultural perspectives.

### **12.3 Draft Medium-Term Strategy 2022–2029: Preliminary Proposals by the Secretariat**

#### **Chile**

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Esta delegación valora este documento, ya que nos entrega una hoja ruta para la comisión de cara a los desafíos que enfrenta el océano en el presente y estamos de acuerdo con este documento de manera general.

Creemos que es necesario que este documento aborde en más profundidad lo referente establecer de mejor manera la coordinación que tendrá la comisión con aquellas zonas geográficas en las cuales la comisión no posee representación.

Apoyamos lo establecido por la distinguida delegación de España de incluir en la década de manera profunda las materias relacionadas a las ciencias sociales.

Finalmente, queremos destacar la importancia de la relación entre cambio climático y océanos y esto debe asumirse como una prioridad en el mediano plazo.

#### **Côte d'Ivoire**

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Ce que la côte d'Ivoire a particulièrement apprécié dans la présentation du secrétaire exécutif c'est son désir de revoir la façon de travailler avec les régions et les pays.

Dans cette stratégie, La Côte d'Ivoire suggère :

- d'insister sur l'impact des programmes et projets en place
- de prendre en compte les initiatives en cours dans les pays et les régions.

M. Le Secrétaire exécutif, vous avez dit qu'en Afrique on insiste davantage sur le renforcement des capacités qui se traduisent par des ateliers au lieu de s'intéresser à l'océan lui-même.

La Côte d'Ivoire fait remarquer qu'aujourd'hui beaucoup de pays africains disposent d'universités et de centres de recherches de sorte que dans la stratégie à moyen terme, la Côte d'Ivoire suggère que s'appuyer sur ces institutions pour mettre en lien les programmes de la COI et les programmes nationaux aurait pour résultat de produire un impact bénéfique pour les pays.

#### **France**

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Concernant la priorité globale Afrique, la France remarque qu'il pourrait être pertinent de préciser davantage les zones ciblées. La délégation française s'interroge par ailleurs sur le fait que les zones polaires (arctique et antarctique) ne semblent pas être citées.

Concernant le point B : "entretenir, renforcer et intégrer les systèmes mondiaux d'observation" elle suggère un élargissement du concept afin de prendre en compte les navires océanographiques.

#### **Ireland**

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Ireland appreciates and endorses the approach of the IOC for the Mid-Term Strategy, taking into account the referenced significant developments in the global environmental and ocean management sphere – namely the 2030 Agenda; the Paris Agreement; the Sendai Framework for Disaster Risk Reduction and the Samoa Pathway.

Ireland supports the five High Level Objectives identified in the strategy, the Global Priority for Africa, appreciates the Global Priority on Gender Equality and leadership shown by Canada in this regard and the priority for SIDS or Large Ocean States.

Ireland currently places a particular emphasis on the SIDS Action Plan and SAMOA Pathway as we co-chair with Belize the Steering Committee on Partnerships for SIDS.

Ireland looks forward to working with the IOC to build on the momentum around the Galway Statement, the Belem Statement, the Atlantic Ocean Research Alliance and to participating constructively at the regional workshop for the North Atlantic which Canada will host next year.

We recognise the major responsibility of IOC to support and facilitate the Decade implementation and recognise some of the challenges faced in terms of resourcing.

Ireland looks forward to the final version being presented to the Assembly at its 31st session in 2021.

## **Japan**

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Japan supports 5 high level objectives defined in the draft medium-term strategy for 2022-2029. Japan then welcomes the draft medium-term strategy 2022-2029, which includes the strategy for the UN Decade, as the period of next mid-term is completely overlapped with that for the Decade. Certainly the UN Decade is one of the key components in the mid-term strategy. Japan is also happy to see the regional perspective that has been explicitly included in the draft. While the Commission needs to examine the detailed wordings later, the following comments are delivered by Japan.

The roles of regional subsidiary bodies have been becoming more and more important, in particular, in the implementation of UN Decade and other global issues related to the ocean. Recently having attended the 25th Session of IODE in Tokyo and 12th Session of WESTPAC in Manila, we felt the importance of the enhancement of regional activities through IOC's subsidiary bodies, and future promotion of an inter-regional cooperation as well. Based on this context, we would need to add some words in the paragraph talking about the regions properly to reflect the discussions and perspective on the future of the regional subsidiary bodies.

## **Philippines**

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Our delegation supports in principle the proposed high level objectives and priorities in the draft medium-term strategy. But like any plan or strategy, the key factor is implementation. The broad areas of the implementation strategy specified in the proposal (namely, building scientific knowledge, applying knowledge for societal benefit, and improving governance) must be backed by a clear work plan and sufficient resources, and underpinned by an effective Capacity Development Strategy.

We also support IOC's thrust to improve the delivery of its mandates on the ground through regional subsidiary bodies, WESTPAC in the case of the Western Pacific. Think globally, act locally, as highlighted by the Executive Secretary.

Finally, we wish to emphasize the importance of Communication and Visibility of the IOC with our direct stakeholders and society-at-large. During a brainstorming session held on the sidelines of the 12th WESTPAC, Member States recognized that communicating our work and engaging our stakeholders remain a challenge.

We have to be more creative and proactive in our approach in order for us to bridge gaps between science and policy. By engaging all stakeholders, we can boost understanding, expand ownership, and strengthen utilization of IOC's work and ocean action in general. In this regard, we support the development of a comprehensive, effective and practical IOC Communications Strategy

## **Russian Federation**

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The IOC Secretariat has done substantial work in preparing preliminary proposals for IOC Medium-Term Strategy 2022-2029. This document largely corresponds to the goals and objectives of the IOC Strategy 2014-2021 and provides continuity with the IOC's activities in the next eight years. It should be noted the growing threats to society in connection with the pollution of the marine environment and the depletion of the resources of the oceans. Addressing this issue, the UN General Assembly has made the important step proclaiming the UN Decade of Ocean Science for sustainable development (2021-2030) and mandating the IOC to prepare an Implementation Plan in consultation with Member States, UN partners and other relevant stakeholders. In this way, it seems constructive to clarify High-level Objectives (HLOs) of the IOC Medium-Term Strategy 2022-2029 goals in such a way as to explicitly link them to the objectives of the Implementation Plan of the UN Decade of Ocean Science for sustainable development (2021-2030).

In addition, the most important statutory tasks of the IOC is capacity building and the Transfer of Marine Technology. Such IOC activity in the context of rapid change in technological structure of marine research and services (creating new microprocessors, new instruments and observational platforms, mobile means of communication, Big Data technologies, etc.) require a high-level goal with a high priority - "Scientific and technical capacity development and education; the Transfer of Marine Technology".

Recognizing the enormous role of maritime services to improve the safety of people's lives and the sustainable development of the ocean-related economy, it seems appropriate to allocate "Services" as an independent function of the IOC. Service is always customer oriented. Therefore, it would be logical to explicitly indicate in the Strategy the main areas of practical implementation of the IOC activities outcomes ("Social-Economic Benefit Areas"). Such areas may include:

- Marine Ecosystems-based Management and Sustainability: by bridging multiple types of observation data and knowledge to provide information on the health of Ocean's biological and ecological systems and their services to society; by strengthening measures for the conservation, environmental management and restoration of marine ecosystems; by fighting against pollution of the marine environment with toxicants and plastic waste.

- Tsunamis and other ocean-related hazards preparedness: by encouraging communities to implement effective early warning systems and increasing capacity to prepare, forecast, mitigate, manage and recover from ocean-related disasters.
- Marine Transportation Management: by providing support for planning, monitoring and management of infrastructure and transportation; by providing advice on choosing the best and safest routes for ships.
- Food security; Marine Aquaculture and Fishing: by providing information for the development of marine aquaculture, including the preparation of recommendations for the breeding and cultivation of fish, invertebrates and algae; by facilitating the implementation of more effective means of combating maritime poaching, which can significantly reduce illegal, unreported and unregulated fishing;

It is stated in the Preface that Ocean is a Common Heritage of Humanity. However, the 1982 UN Convention on the Law of the Sea defined that "The Area and its resources are the common heritage of mankind" (Article 136). No state can claim for their sovereign rights (Article 137. Legal status of the Area and its resources). So, the Common Heritage of Humanity concept is not applicable to the World Ocean or its ecosystems. Therefore, it is better to exclude this thesis from the document.

### **United States of America**

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The United States follows Spain in endorsing the suggestion for social science to be included in the work of the IOC in order to achieve Sustainable Development Goals. The inclusion of the subject of climate is appropriate as it is well proven and scientifically established. Regarding the paragraph on the Evolution of Partnerships, we support this as well particularly with the use and reference of Articles 10 and 11 of the IOC Statutes. This is very appropriate in support of this direction, and will strengthen the ability of the IOC to reach the Sustainable Development Goals through a greater institutional connection to other members of the United Nations family.

## **12.5 Preparation for the Commemoration of the 60th Anniversary of the IOC (1960–2020)**

### **Chile**

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Chile quiere expresar su compromiso con el trabajo de la COI en la celebración de sus 60 años. En este contexto queremos hacer ver que el año 2020 es una gran oportunidad ya que tendremos la segunda conferencia de naciones unidas para la implementación del ODS 14 denominada "Ocean Conference", creemos que esta es una gran oportunidad para que la COI pueda celebrar este aniversario en este marco de alto nivel y dar visibilidad a su trabajo y su rol. Es por esto que hacemos un llamado a que la COI pueda realizar algún evento en este contexto para celebrar este aniversario.

### **India**

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India is happy to associate with IOC at this time when it attains the age of 60 years. Our work in oceanography started more than 50 years back and we will continue to support all activities of IOC.

### **Republic of Korea**

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Korean Delegation wishes to express strong support to the IOC History Project as one of possible core activities commemorating the 60th anniversary of IOC.

The contribution of IOC has been tremendous and wonderful for the development of oceanography in Korea. Korean National Commission (KNC) for UNESCO which was founded in 1954 decided to create the Korea Oceanographic Commission (KOC) for IOC in 1961 based upon the recommendation of UNESCO to have their national counterpart for IOC.

The programme "Cooperative Study of the Kuroshio and Adjacent Regions (CSK)" initiated during the 3rd IOC Assembly in July 1964 raised the issues of Capacity Development in human resources in Korea. As a result the Korean Society of Oceanography (KSO) was founded in 1966 after in depth discussion among the Korean participants to CSK. From the view point of experts' education, Korean Government opened, in 1968, the Department of Oceanography at the Seoul National University for bestowing the title of oceanography in Bachelor. Now the Korean Society of Oceanography (KSO) has grown to accommodate more than 2500 members and the course lectures on oceanography were offering in more than 15 universities in Korea.

Korean oceanographers are appreciating very much the role of IOC which has been rendered to Korea since its creation. In this regards, we wish to express again strong support to the IOC History Project.

### **World Meteorological Organization (WMO)**

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WMO would like to note that the former Co-President of JCOMM, Dr Peter Dexter of Australia, has written a history of JCOMM.

This was submitted to JCOMM MAN last year who noted it as a significant personal memory and historical account of the partnership between WMO and IOC. The recommendation is for a joint publication by WMO and IOC, and WMO would like to suggest that we try and advance the publication aiming for next year as a contribution to the IOC 60th anniversary .

## **12.6 Elections of the Officers of the Commission and Members of the Executive Council**

### **Ukraine**

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Taking in the account the official position of Ukraine concerning the candidatures of the representatives of Russian Federation to the bodies of the international organizations, we would like to state that Ukraine disassociates the consensus of the appointment of the Russian representative A. Frolov to the post of the Vice-Chair of the Executive Council of the Intergovernmental Oceanographic Commission.

### **United States of America**

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Regarding the formal leadership roles in this important body, this Delegation pauses to contemplate the importance of Member State's meeting their responsibilities through active and energetic engagement; we remind Member States that the effort made to support the IOC is more important than simply holding a leadership title.

The United States is a founding and leading member of the IOC. As the Executive Secretary showed in his Report to the Assembly, the United States contributes significantly to IOC missions, in many cases with greater resources than the IOC itself, and through investments that are not visible in the current accounting methods of the IOC. This includes GOOS, Tsunami, TPOS, Go-Ship global cruises, Ocean Data Centers of IODE, Ocean Acidification, and other IOC missions.

In each case, the United States showed leadership by establishing a national program in these areas and chose to bring these programs to the IOC for expansion and for the benefit of the international community. Through this forum, we and the IOC have built amazing global partnerships resulting in most of the IOC programs that we have today. The United States is an actively participating and contributing leader in the IOC.

The United States encourages every Member State in IOC desiring a titled position, to show up, contribute, and do something beyond holding a title. To underscore this point, and to deliver the harmony of a clean slate, the US withdraws our candidacy for the Group 1 Executive Council seat and requests the Secretariat adjust the election agenda item 12.6, accordingly.

ANNEX V

**IOC MEMORIAL LECTURES**

**A. THE A. BRUUN MEMORIAL LECTURE, 2019**

**Time Series and their Contribution to the Prediction of the State of the Oceans**

(28 June 2019)

**Professor Peter A. Thompson**

*CSIRO, Australia*

Peter Thompson graduated from the Department of Oceanography at the University of British Columbia (Canada) and has since conducted research for the Department of Fisheries and Oceans (Canada), the University of Tasmania, (Australia) and Commonwealth Scientific Industrial Research Organization (CSIRO, Australia). He has gladly participated in a number SCOR and IOC working groups and very much appreciates the global leadership provided by the UN-IOC.

Peter has spent years studying how phytoplankton live and grow in the laboratory, in estuaries and oceans. He has completed many field campaigns including ~ 20 oceanic research voyages to the Pacific and Indian Oceans. He has served the Australian government as an expert on ocean dumping and provided advice on creation of national and state marine protected areas. Peter has published ~ 120 peer-reviewed papers. His current scientific passion is using time series data to understand the effects of environmental change on phytoplankton ecology and thereby better support the sustainable use of our oceans.

**Abstract**

The world's oceans contain an amazing diversity of life that is a bountiful source of oxygen & food plus a sink for CO<sub>2</sub>. Oceanic phytoplankton are the primary source of organic carbon in the ocean. They consume some 50 gigatonnes of CO<sub>2</sub> and produce ~ 40% of global oxygen every year. Over the last few billion years plants, primarily phytoplankton, have removed ~99% of the CO<sub>2</sub> from the atmosphere and replaced it with oxygen. The exponential rise of humans has put these natural processes under stress from increasing pollution and overexploitation.

Our predictions of the future state of our oceans come mostly from models. For phytoplankton these models predict a decline due to oceans that will be warmer, more acidic, increasingly stratified and have less nutrients in the euphotic zone. There is an increasing amount of laboratory evidence regarding the magnitude of these risks for phytoplankton associated with changes in temperature, light, nutrients, pH and CO<sub>2</sub>. A brief synopsis shows these factors have substantial potential to reduce phytoplankton abundance and biodiversity. While laboratory studies provide a strong basis for predicting the future of phytoplankton the complex interactions of many factors that vary in time and space makes reliable extrapolation challenging. A more reliable method of predicting the future may come from examining the past. Examples of regional and global changes in phytoplankton that can be associated with proximal factors will be presented. Some of these changes are complex and appear to be determined by factors not well represented in our global models.

At regional scale the increasing strength central oceanic gyre currents appears to be driving the translocation of phytoplankton populations. A strengthening East Australia Current has moved phytoplankton populations, and some aspects of their preferred environment, thousands of kilometres over several decades. Some of these translocated species have achieved complete dominance in their new locations. In the Tasman Sea changes to stratification have also produced a new autumn phytoplankton bloom. Changing patterns of precipitation are driving changes in phytoplankton communities within estuaries and our coastal seas. Long term drying, or droughts, are reducing nutrients in the ocean thousands of kilometres away from their riverine inputs. The impacts of these changes on higher trophic levels are not known.

Satellites measuring ocean colour provide a magnificent picture of global phytoplankton biomass. They tell us that over the past 20 years 57% of the ocean has shown a decline in phytoplankton, primarily in the central gyres. At the same time, however, only 10% of the ocean is both warming and declining in phytoplankton while 22% is warming and increasing in phytoplankton. Therefore, temperature alone is not enough to predict phytoplankton ecology. The best global data for understanding mechanisms and impacts on taxa comes from the ~ 350 long-term time-series laboriously compiled as part of the UN IOC Working Group IGMETS. They also show that climate impacts on phytoplankton are often different from our predictions. For example, the time-series indicate there have been significant long-term changes in the phytoplankton taxa with diatoms increasing and dinoflagellates decreasing. These observations are in strong contrast to model predictions.

The existing dichotomy between models and observations strongly suggests that both are needed to properly manage our marine resources in a changing world. The adage “you can't manage what you can't measure” is very applicable.

Powerpoint presentation:

[http://www.ioc-unesco.org/index.php?option=com\\_oa&task=viewDocumentRecord&docID=24859](http://www.ioc-unesco.org/index.php?option=com_oa&task=viewDocumentRecord&docID=24859)

## **B. THE N.K. PANIKKAR MEMORIAL LECTURE, 2019**

### **Science Capacity Development in support of Societal Goals in Western Africa**

(2 July 2019)

**Dr Jacqueline Uku**

*President of the Western Indian Ocean Marine Science Association (WIOMSA)*

Dr. Uku is a Senior Research Scientist and Research Coordinator at the Kenya Marine and Fisheries Research Institute (KMFRI). She holds a PhD in Plant Physiology from Stockholm University and a MSc in Biology of Conservation from the University of Nairobi.

She is currently the President of the Western Indian Ocean Marine Science Association (WIOMSA).

She has been leading the initiative focusing on the Network for Women in Marine Science (WIMS), which addresses the gender equality issues facing women marine scientists in the Western Indian Ocean region, since 2018. She has also been focusing on providing a space for Early Career Scientists in the Association through the development of a network that can provide mentorship and guidance for career development in the unique field of marine and coastal research.

She is Co-chairing the Global Ocean Science Report 2020 Editorial Board – which in line with the Panikkar lecture - has a new focus area on capacity building.

In the recent past, she has also been the Project Coordinator of the World Bank funded Kenya Coastal Development Project.

Her work is focused on strengthening research, resource mobilization and fostering linkages between scientists and policy makers as well as raising awareness of marine issues within the Western Indian Ocean Region.

### **Abstract**

The Western Indian Ocean Marine Science Association (WIOMSA) was established as a regional professional, non-profit, membership organization, in 1993. With a view toward sustaining the use and conservation of its marine resources, WIOMSA is dedicated to promoting the educational, scientific and technological development of all aspects of marine sciences throughout the Western Indian Ocean (WIO) 10-country region: Somalia, Kenya, Tanzania, Mozambique, South Africa, Comoros, Madagascar, Seychelles, Mauritius, Réunion (France).

The development of capacity in marine science in the WIO region can be traced back to the pre-1970 period where there were few research Institutions with little or no involvement of nationals in the national and regional research programs. There were few marine scientists and majority of them were fisheries biologists. Amongst the research institutions there was also an absence of research priority setting mechanisms. There was poor dissemination and communication of research results limited research collaboration amongst scientists and linkage to priority management issues were sporadic.

Several research granting programmes were initiated between 1990 and 2000 that responded to priority needs of the region and national Universities starting offering MSc and PhD degree programs that focused on marine and coastal ecosystems. There were several competitive research programmes initiated, regional collaboration increased and there were more scientific outputs from the region.

Between 2000 and 2018, there has been a move towards the consolidation of knowledge from publications into regional reports and programmes that can move the science beyond scientific publications to the realm of policy makers. The focus of the region is changing and scientists are working to become more responsive to societal needs. There is also greater dialogue on how to influence policy makers for the protection and maintenance of critical marine habitats in the face of national development initiatives.

Effective science to policy dialogues are dependant on a number of factors including adequate capacity for trans-disciplinary research; mechanisms for coordinating the inputs of the scientific community and boundary organizations to support cross linking and communications between the scientific research and the policy communities.

The lecture will highlight the journey of WIOMSA since its establishment and the partnerships that have led to the development and growth of the scientific dialogue in the WIO region.

Powerpoint presentation:

[http://www.ioc-unesco.org/index.php?option=com\\_oe&task=viewDocumentRecord&docID=24887](http://www.ioc-unesco.org/index.php?option=com_oe&task=viewDocumentRecord&docID=24887)

ANNEX VI

**RESULT OF ELECTIONS  
AND LIST OF IOC MEMBER STATES**

**I. Officers**

<b>Chair</b>	Mr Ariel Hernán Troisi (Argentina)	Group
<b>Vice Chairs</b>	Monika Breuch-Moritz (Germany)	Group I
	Alexander Frolov (Russian Federation)	Group II
	Frederico Antonio Saraiva Nogueira (Brazil)	Group III
	Satheesh Chandra Shenoi (India)	Group IV
	Karim Hilmi (Morocco)	Group V

**II. Seats on the Executive Council**

Electoral Group I:	Canada, France, Germany, Greece, Italy, Portugal, Spain, Sweden, Turkey, and United Kingdom of Great Britain and Northern Ireland.
Electoral Group II:	Bulgaria and Russian Federation.
Electoral Group III:	Argentina, Brazil, Chile, Colombia, Grenada, Mexico, Peru, Saint Vincent and the Grenadines, and Uruguay.
Electoral Group IV:	Australia, China, India, Iran (Islamic Republic of), Japan, Pakistan, Philippines, Republic of Korea, and Thailand.
Electoral Group V:	Cote d'Ivoire, Egypt, Kenya, Kuwait, Madagascar, Morocco, Oman, Senegal, and South Africa.



**INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (of UNESCO)**  
**Member States of the Commission (150)**  
(as of 5 April 2019)

AFGHANISTAN	(11 March	1991)	JORDAN	(06 April	1975)
ALBANIA	(26 January	1993)	KAZAKHSTAN	(24 March	2005)
ALGERIA	(Jul. 1964/Nov.	1965)	* KENYA	(Nov. 1971/Nov.	1973)
ANGOLA	(26 October	1982)	KIRIBATI	(10 May	2012)
* ARGENTINA	(Before November	1961)	* KUWAIT	(13 November	1974)
* AUSTRALIA	(Before November	1961)	LEBANON	(Oct. 1962/Jun.	1964)
AUSTRIA	(Oct. 1962/Jun.	1964)	LIBYA	(11 March	1974)
AZERBAIJAN	(27 January	1998)	MADAGASCAR	(Dec. 1965/Oct.	1967)
BAHAMAS	(29 January	1979)	* MALAYSIA	(Jul. 1964/Nov.	1965)
BANGLADESH	(29 October	1982)	MALDIVES	(20 May	1987)
BARBADOS	(18 December	1985)	MALTA	(Oct. 1969/Nov.	1971)
* BELGIUM	(Before November	1961)	MAURITANIA	(Before November	1961)
BELIZE	(22 September	1995)	MAURITIUS	(Oct. 1969/Nov.	1971)
BENIN	(23 October	1986)	* MEXICO	(Before November	1961)
* BRAZIL	(Before November	1961)	MONACO	(Before November	1961)
* BULGARIA	(Oct. 1967/Dec.	1969)	MONTENEGRO	(04 October	2011)
CABO VERDE	(20 August	1984)	* MOROCCO	(Before November	1961)
CAMEROON	(Nov. 1971/Nov.	1973)	MOZAMBIQUE	(08 April	1981)
* CANADA	(Before November	1961)	MYANMAR	(07 June	1988)
* CHILE	(Before November	1961)	NAMIBIA	(25 April	2001)
* CHINA	(Before November	1961)	NAURU	(11 February	2016)
* COLOMBIA	(Oct. 1967/Dec.	1969)	NETHERLANDS	(Before November	1961)
COMOROS	(08 February	2000)	NEW ZEALAND	(Nov. 1961/Sep.	1962)
CONGO	(Nov. 1961/Sep.	1962)	NICARAGUA	(17 November	1977)
COOK ISLANDS	(25 Jan.	2006)	NIGERIA	(Nov. 1971/Nov.	1973)
COSTA RICA	(28 February	1975)	NIUE	(01 March	2011)
* CÔTE D'IVOIRE	(Before November	1961)	* NORWAY	(Before November	1961)
CROATIA	(24 December	1992)	* OMAN	(16 November	1982)
CUBA	(Before November	1961)	PAKISTAN	(Before November	1961)
CYPRUS	(05 December	1977)	* PALAU	(24 March	2014)
CZECHIA	(20 June	2005)	PANAMA	(Oct. 1967/Sep.	1969)
DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA	(31 October	1978)	PAPUA NEW GUINEA	(10 April	2006)
DEMOCRATIC REPUBLIC OF THE CONGO	(23 April	2010)	* PERU	(Dec. 1965/Oct.	1967)
DENMARK	(Before November	1961)	* PHILIPPINES	(Oct. 62/Jun.	1964)
DJIBOUTI	(6 January	2006)	POLAND	(Before November	1961)
DOMINICA	(21 September	1999)	* PORTUGAL	(Oct. 1969/Nov.	1971)
DOMINICAN REPUBLIC	(Before November	1961)	QATAR	(20 July	1976)
* ECUADOR	(Before November	1961)	* REPUBLIC OF KOREA	(Before November	1961)
* EGYPT	(Oct. 1969/Nov.	1971)	ROMANIA	(Before November	1961)
EL SALVADOR	(16 February	1993)	* RUSSIAN FEDERATION	(Before Nov.	1961)
EQUATORIAL GUINEA	(5 April	2019)	SAINT KITTS AND NEVIS	(28 June	2011)
ERITREA	(12 November	1993)	SAINT LUCIA	(14 September	1992)
ESTONIA	(10 March	1992)	SAINT VINCENT AND THE GRENADINES	(21 January	2013)
ETHIOPIA	(05 March	1976)	SAMOA	(10 April	1978)
FIJI	(09 July	1974)	SAUDI ARABIA	(14 June	1978)
FINLAND	(Before November	1961)	* SENEGAL	(Oct. 1967/Sep.	1969)
* FRANCE	(Before November	1961)	SERBIA	(23 May	2005)
GABON	(26 October	1977)	SEYCHELLES	(27 February	1979)
GAMBIA	(30 August	1985)	SIERRA LEONE	(19 April	1974)
GEORGIA	(09 July	1993)	SINGAPORE	(Dec. 1965/Oct.	1967)
* GERMANY	(Before November	1961)	SLOVENIA	(16 June	1994)
GHANA	(Before November	1961)	SOLOMON ISLANDS	(11 May	1982)
* GREECE	(Oct. 1962/Jun.	1964)	SOMALIA	(10 July	1974)
* GRENADA	(10 November	2009)	* SOUTH AFRICA	(Oct. 1967/Sep.	1969)
GUATEMALA	(Dec. 1965/Oct.	1967)	* SPAIN	(Before Nov.	1961)
GUINEA	(01 May	1982)	SRI LANKA	(Jun. 76/Jan.	1977)
GUINEA-BISSAU	(26 January	1984)	SUDAN	(26 August	1974)
GUYANA	(20 July	1977)	SURINAME	(21 January	1977)
HAITI	(23 March	1976)	SWEDEN	(Jul. 1964/Nov.	1965)
HONDURAS	(15 March	2012)	SWITZERLAND	(Before Nov.	1961)
ICELAND	(Oct. 1962/Jun.	1964)	SYRIAN ARAB REPUBLIC	(Oct. 1969/Nov.	1971)
INDIA	(Before November	1961)	* THAILAND	(Before Nov.	1961)
* INDONESIA	(Oct. 1962/Jun.	1964)	TIMOR-LESTE	(19 October	2005)
IRAN, Islamic Republic of	(03 June	1975)	TOGO	(22 October	1975)
IRAQ	(Oct. 1969/Nov.	1971)	TONGA	(03 January	1974)
IRELAND	(07 November	1978)	TRINIDAD & TOBAGO	(Oct. 1967/Sep.	1969)
ISRAEL	(Before November	1961)	TUNISIA	(Before Nov.	1961)
* ITALY	(Before November	1961)	* TURKEY	(Nov. 1961/Sep.	1962)
JAMAICA	(Oct. 1967/Dec.	1969)	TURKMENISTAN	(8 January	2018)
* JAPAN	(Before November	1961)	TUVALU	(20 June	2011)
			UKRAINE	(Nov. 1961/Sep.	1962)

UNITED ARAB EMIRATES	(02 June	1976)	* URUGUAY	(Before Nov.	1961)
UNITED KINGDOM OF			VANUATU	(2 September	2013)
GREAT BRITAIN &			VENEZUELA,		
NORTHERN IRELAND	(Before Nov.	1961)	Bolivarian Republic of	(Oct. 1962/Jun.	1964)
* UNITED REPUBLIC OF			VIET NAM	(Before Nov.	1961)
TANZANIA	(Oct. 1967/Sep.	1969)	YEMEN	(Before Nov.	1961)
UNITED STATES OF					
AMERICA	(Before Nov.	1961)			

## ANNEX VII

## LIST OF DOCUMENTS

Document Code	Title	Agenda Items	Languages available
<b>WORKING DOCUMENTS</b>			
IOC-XXX/1 Prov. Rev	Revised Provisional Agenda	2.1	E F R S
IOC-XXX/1 Add. Prov. Rev	Revised Provisional Timetable	2.1, 2.4	E only
IOC-XXX/2 Prov.	Provisional Action Paper	All	E F R S
IOC-XXX/4 Prov.	Provisional List of Documents	2.4	E only
IOC-XXX/2 Annex 1	Report of the IOC Executive Secretary on the work accomplished since the previous session (July 2017–May 2019)	3.2	E F R S
IOC-XXX/2 Annex 2	Report on budget execution 2018 and outline of 2019 budget	3.2., 11.1	E F R S
IOC-XXX/6	Report of the IOC activities (2018–2019) to the Fortieth General Conference	3.4	E F R S
IOC-XXX/2 Annex 3	Progress of the Implementation Plan of the Decade Roadmap	4.1	E F R S
IOC-XXX/2 Annex 3 Add.	Post-2020 Coordination and Implementation Mechanisms	4.1	E F R S
IOC-XXX/2 Annex 4	Global Ocean Observing System (GOOS) 2030 Strategy	7.1.1	E F R S
IOC-XXX/2 Annex 5	<i>Cancelled</i>	7.1.1	
IOC-XXX/2 Annex 6	IOC Ocean Data and Information System (ODIS): Concept; Implementation Plan and Cost benefit Analysis	7.2.2	E F R S
IOC-XXX/2 Annex 7	IOC's Contribution to Ocean Literacy in 2018–2021: Action Plan	11.2	E F R S
IOC-XXX/2 Annex 8	Recommendations on Governance, Working Methods and Procedures of the Commission – Report on progress by the Chair of the Intersessional Financial Advisory Group	12.1	E F R S
IOC-XXX/2 Annex 9	Draft Programme and Budget for 2020–2021 (Draft 40 C/5)	12.2	E F R S
IOC-XXX/2 Annex 10 Rev.	Draft Medium-Term Strategy for 2022–2029	12.3	E F R S
<b>REPORTS OF IOC AND COOPERATIVE BODIES REQUIRING ACTION</b>			
IOC/EC-LII/3s	Executive Summary report of the 52nd Session of the IOC Executive Council, UNESCO, Paris, 25 June 2019	2.1	E F S R
IOC/SC-WESTPAC-XII/3s	Executive Summary Report of the 12th Session of the IOC Sub-Commission for the Western Pacific (WESTPAC), Manila, Philippines, 2–5 April 2019	3.3.1	E F S R
IOC/SC-IOCARIBE-XV/3s	Executive Summary Report of the 15th Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions	3.3.2	E F S R

	(WESTPAC), Oranjestad, Aruba, 6-10 May 2019		
IOCAFRICA-V/3s	Executive Summary Report of the 5th Session of the IOC Sub-Commission for the for Africa and the Adjacent Island States, Nairobi, Kenya, 25–27 March 2019	3.3.3	E F
IOCINDIO-VII/3s	Executive Summary Report of the 7th Session of the IOC Regional Committee for the Central Indian Ocean, Hyderabad, India, 25-26 April 2019	3.3.4	E only
IOC/IPHAB-XIV/3s	Executive Summary Report of the 14th Session of the IOC Intergovernmental Panel on Harmful Algal Blooms, Paris, 20–26 April 2019	6.1	E F S R
IOC/IODE-XXV/3s	Executive Summary Report of the 25th Session of the IOC Committee on International Oceanographic Data and Information Exchange, Tokyo, Japan, 18–22 February.	7.2.1	E F S R
IOC/IODE-XXV/3	Report of the 25th Session of the IOC Committee on International Oceanographic Data and Information Exchange, Tokyo, Japan, 18–22 February.	7.2.1	E (summary in F R S)
ICG/PTWS-XXVIII/3	Twenty-eighth session of the Intergovernmental Coordination Group for the for the Pacific Tsunami Warning and Mitigation System (ICG/PTWS-XXVI), Montelimar, Nicaragua, 2–5 April 2019	8.1.1	E (summary in F R S)
ICG/IOTWMS-XII/3	Twelfth session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS-XII), Kish Island, Iran (I.R.), 9–12 March 2019	8.1.2	E (summary in F R S)
ICG/CARIBE-EWS-XIV/3	Fourteenth session of the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning (ICG/CARIBE-EWS-XIV), Punta Leona, Costa Rica, 8–11 April 2019	8.1.3	E (summary in F R S)
ICG/NEAMTWS-XV/3	Fifteenth 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-XIII), Paris, 26–28 November 2018	8.1.4	E (summary in F R S)
IOC/TOWS-WG-XII/3	Twelfth meeting of the Working Group on Tsunamis and Other Hazards Related to Sea-Level Warning and Mitigation Systems, Paris, 21–22 February 2019	8.2.1	E (summary in F R S)
IOC/GE-CD-TT-I/3	First Session of the Task Teams of the IOC Group of Experts on Capacity Development, Paris, 13-14 March 2019	11.1	E only

#### INFORMATION DOCUMENTS

IOC-XXX/Inf.1	Working Arrangements of the session	2.4	E only
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IOC-XXX/Inf.1 Add.	Template for submission of written records to the Assembly summary report	2.4	E only
IOC-XXX/Inf.2	Programme of IOC memorial lectures 2019	2.4	E only
IOC/INF-1366	Preparation of Global Ocean Science Report II (GOSR-II)	3.2	E only
IOC/INF-1367	Draft Policy brief on multiple ocean stressors “Ocean Under Stress: A Changing Ocean at All Locations”	3.2	E only
IOC/INF-1368	Update on IOC Custodianship Role in relation to SDG 14 Indicators, 2019	3.2	E only
IOC/INF-1351 Part 3	Progress report on the Second International Indian Ocean Expedition (2015–2020)	3.2	E only
IOC/INF-1370	Reports of C2C Category 2 centre and institutes of UNESCO	3.2	E only
The UN Decade Series, 1	Report of the First Executive Planning Group (EPG) Meeting (17–19 December 2019)	4.1	E only
The UN Decade Series, 2	First Global Planning Meeting: UN Decade of Ocean Science for Sustainable Development (13–15 May, Copenhagen, Denmark)	4.1	E only
The UN Decade Series, 3	Accelerating Ocean Science for a Better World: The UN Decade of Ocean Science for Sustainable Development 2021–2030	4.1	E only
IOC/INF-1371	Proposed modification to the Decade Roadmap	4.1	E only
IOC-XXX/Inf.5	G7 Future of the Seas and Oceans Working Group Statement to the International Community	4.1, 7.1.1	E only
IOC/INF-1372	Overview of the IOC programmatic integration with, and contributions to, the Decade	4.2	E only
IOC/INF-1373	Report of the Co-chairs of the Joint WMO-IOC Consultation Group on the future of JCOMM	5.1	E only
IOC-XXX/Inf.3	Letter of Intent and Draft Memorandum of Understanding between WMO and IOC	5.1	E only
WMO Resolution 4(4)/3 (Cg-18)	Joint WMO-IOC Collaborative Board	5.1	E F S R
IOC/INF-1374	Update of the IOC Contribution to the UNFCCC	5.2	E only
IOC-XXX/Inf.4	Draft FAO-WHO-IOC Memorandum of Understanding on Ciguatera Poisoning	6.1	E only
IOC/INF-1375	Report on the WMO-IOC-ISC World Climate Research Programme (WCRP)	6.2	E only
WMO Resolution 6.1(3)/4 (Cg-18)	Ocean observations in support of Earth System Prediction and WMO support to GOOS Strategy 2030 (incl. Tropical Pacific Observing System 2020)	7.1.1	E F S R
WMO Resolution 6.1(3)/2 (Cg-18)	Ensuring Adequate Marine Meteorological and Oceanographic Observations and Data Coverage for the Safety of Navigation and the Protection of Life and Property in Coastal and Offshore Areas	7.1.1	E F S R

WMO Resolution 6.1(3)/3 (Cg-18)	Future Collaboration Between WMO and IOC on Facilitating Oceanographic Observations in Coastal Regions in Support of Earth System Prediction and Climate Services	7.1.1	E F S R
IOC/INF-1376	Initial Global Ocean Observation System Implementation Plan	7.1.1	E only
IOC/INF-1377	WMO-ISC-IOC-UNEP Global Climate Observing System (GCOS) Status Report and Work Plan	7.1.2	E only
JCOMM Tech. Report no 40, rev.5	Joint World Meteorological Organization (WMO) and Intergovernmental Oceanographic Commission (IOC) of UNESCO Strategy for Marine Meteorological and Oceanographic Data Management (2018-2021)	7.1.3	E only
JCOMM Technical Report No. 93	2018 Review of the JCOMM in situ Observations Programme Support Centre (JCOMMOPS Review 2018)	7.1.3	E only
GGC35/13	Thirty Fifth Meeting of the GEBCO Guiding Committee (GGC35), 15–16 November 2018, Canberra, Australia	7.1.3	E only
IOC/INF-1381	GEBCO Guiding Committee Biennial Report to the IOC Assembly for the period 2017-2019	9.1	E only
IOC/INF-1378	Update on the UN process on Conservation and Sustainable Use of Biological Diversity of Areas Beyond National Jurisdiction	10.1	E only
IOC/INF-1379	Progress in the implementation of the Integrated Coastal Area Management (ICAM) Strategy, including Marine Spatial Planning, Sustainable Blue Economy and Large Marine Ecosystems	10.2	E only
IOC/INF-1380	Strengthening Global Governance Of Large Marine Ecosystems and their coasts in the context of IOC Activities	10.2	E only
NOM/inf.2	Updated listing of the IOC electoral groups and listing of the distribution of seats on the Executive Council among the electoral groups	12.6	E only
NOM/inf.3	List of candidates for Elections	12.6	E only
NOM/inf.4	Report of the Chair of the Nominations Committee	12.6	E only

## REFERENCE DOCUMENTS

IOC/BRO/2019/6	The Second International Indian Ocean Expedition (2015-2020): The New Frontier of Indian Ocean Science	3.2	E only
CL-2760	United Nations Decade of Ocean Science for Sustainable Development (2021-2030) - Update on the engagement of nations to the preparatory phase	4.1	E F S R
WMO Draft Resolution 4(4)/3 (Cg-18)	Joint WMO-IOC Collaborative Board	5.1	E only
Brad DeYoung et al. Frontiers in Marine Science. 2019	All-Atlantic Ocean Observing System vision document	7.1.1	E only

GOOS-234	Executive Summary of the Second report of the Tropical Pacific Observing System (TPOS 2020)	7.1.1	E only
JCOMM MAN-15	Report of the 15th Session of the JCOMM Management Committee [Cancelled]	7.1.3	
IOC/EC-LI/2 Annex 7	First Report of the IOC Regular Working Group on User Requirements and Contributions to GEBCO Products	9.1	E only
A/CONF.232/2019/1	President's aid to negotiations (3 December 2018)	10.1	E F S R
IOC/INF-1203	IOC Criteria and Guidelines on the Transfer of Marine Technology	11.1	E F
Resolution EC-LI.2	Financial Matters of the Commission, and in particular Annex 1 'Implementation Plan of the Recommendations of the UNESCO Open-ended Working Group on Governance and Annex 2 'Financial Regulations applicable to the Special Account for the Intergovernmental Oceanographic Commission (IOC) of UNESCO.	12.1	E F S R

ANNEX VIII

LIST OF PARTICIPANTS

**I. OFFICERS OF THE COMMISSION/ BUREAU  
DE LA COI**

**Chairperson**

Prof. (Mr) Peter M. HAUGAN  
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**Vice-Chairperson (Group I)**

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**Vice-Chairperson (Group II)**

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ANNEX IX

**LIST OF ACRONYMS**

<b>ADUs</b>	Associate Data Units
<b>AECID</b>	Spanish Agency for International Development Cooperation
<b>AIUs</b>	Associate Information Units
<b>ANAMAR</b>	National Authority of Marine Affairs
<b>AOML</b>	Atlantic Oceanographic and Meteorological Laboratory
<b>ASEAN</b>	Association of South-East Asian Nations
<b>BBNJ</b>	Biodiversity Beyond National Jurisdiction
<b>CARI-Coast</b>	Climate change Impacts, Adaptation and Resilience for IOCINDIO Coastal areas
<b>CATAC</b>	Central America Tsunami Advisory Center
<b>CCLME</b>	Canary Current Large Marine Ecosystem
<b>CD</b>	capacity development
<b>CHM</b>	Clearing House Mechanism
<b>CIFDP-C</b>	Coastal Inundation Forecasting Demonstration Project in the Caribbean
<b>CMA2</b>	Caribbean Marine Atlas Phase 2
<b>COP</b>	United Nations Climate Change Conference
<b>CSK-2</b>	2nd Cooperative Study of Kuroshio
<b>DEA</b>	South African Department of Environmental Affairs
<b>DIPECHO</b>	European Union Directorate-General for European Civil Protection and Humanitarian Aid Operations
<b>DMPA</b>	Data Management Programme Area
<b>EC</b>	Executive Council
<b>EEZ</b>	Exclusive Economic Zone
<b>EPG</b>	Executive Planning Group
<b>FAO</b>	Food and Agriculture Organization of the United Nations
<b>GCOS</b>	Global Climate Observing System
<b>GEBCO</b>	General Bathymetric Chart of the Oceans
<b>GESAMP</b>	Group of Experts on the Scientific Aspects of Marine Environmental Protection
<b>GGC</b>	GEBCO Guiding Committee
<b>GOA-ON</b>	IOC-coordinated Global Ocean Acidification Observing Network
<b>GOOS</b>	Global Ocean Observing System
<b>GOSR</b>	Global Ocean Science Report
<b>HAB-ANCA</b>	Harmful Algae Blooms for the Caribbean and Adjacent Regions
<b>IAEA</b>	International Atomic Energy Agency
<b>IBCCA</b>	International Bathymetric Chart of the Caribbean Sea and the Gulf of Mexico



<b>ICAM</b>	Integrated Coastal Area Management Programme
<b>ICG/CARIBE-EWS</b>	Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions
<b>ICG/IOTWMS</b>	Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System
<b>ICG/NEAMTWS</b>	Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas:
<b>ICG/PTWS</b>	Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System
<b>IFAG</b>	Intersessional Financial Advisory Group
<b>IHO</b>	International Hydrographic Organization
<b>IIOE-2</b>	Second International Indian Ocean Expedition
<b>IMO</b>	International Maritime Organization
<b>INCOIS</b>	Indian Centre for Ocean Information Services
<b>INEMAR</b>	Marine and Coastal Research Institute
<b>IOC</b>	Intergovernmental Oceanographic Commission
<b>IOCAFRICA</b>	IOC Sub-Commission for Africa and the Adjacent Island States
<b>IOCARIBE</b>	OC Sub-Commission for the Caribbean and Adjacent Regions
<b>IOCINDIO</b>	IOC Regional Committee for the Central Indian Ocean
<b>IODE</b>	International Oceanographic Data and Information Exchange
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>IPHAB</b>	IOC Intergovernmental Panel on Harmful Algal Blooms
<b>ISA</b>	International Seabed Authority
<b>ITCOOcean</b>	International Training Centre on Operational Oceanography
<b>ITIC</b>	International Tsunami Information Center
<b>JCOMM</b>	Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology
<b>JCOMMOPS</b>	JCOMM in situ Observations Programme Support Centre
<b>JICA</b>	Japan International Cooperation Agency
<b>KIMST</b>	Korea Institute of Marine Science & Technology promotion
<b>LAOCA</b>	Latin American Ocean Acidification Network
<b>LME</b>	Large Marine Ecosystems
<b>MCDS</b>	JCOMM Marine Climate Data System
<b>MEXT</b>	Ministry of Education, Culture, Sports, Science and Technology of Japan
<b>MoU</b>	Memorandum of Understanding
<b>MSP</b>	Marine Spatial Planning
<b>NDCs</b>	Nationally Determined Contributions
<b>NEAM</b>	the North-Eastern Atlantic, the Mediterranean and Connected Seas

<b>NEAMTIC</b>	NEAM Tsunami Information Centre
<b>NGO</b>	non-governmental organization
<b>NOAA</b>	National Oceanic and Atmospheric Administration
<b>NODCs</b>	National Oceanographic Data Centres
<b>NTWC</b>	National Tsunami Warning Centre
<b>NWPTAC</b>	North West Pacific Tsunami Advisory Center
<b>OBIS</b>	Ocean Biogeographic Information System
<b>ODINAFRICA</b>	Ocean Data and Information Network for Africa
<b>ODINCARSA</b>	Ocean Data and Information Network for the IOCARIBE and South America Regions
<b>ODIS</b>	Ocean Data and Information System
<b>ODISCat</b>	IOC Ocean Data and Information System Catalogue of Sources Project
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>ONAMET</b>	Dominican Republic National Office for Meteorology
<b>OTGA</b>	Ocean Teacher Global Academy
<b>PCCOS</b>	Pacific Community Centre for Ocean Science
<b>PICES</b>	North Pacific Marine Science Organization
<b>QMF</b>	Quality Management Framework
<b>RCVF</b>	Regional Coastal Vulnerability Framework
<b>RTRC</b>	Training and Research Centre
<b>RTRC- MarBEST</b>	First Institute of Oceanography, State Oceanographic Administration of China, and Regional Training and Research Center on Marine Biodiversity and Ecosystem Health
<b>RTRC-ODC</b>	Regional Training and Research Center on Ocean Dynamics and Climate
<b>SBSTA</b>	Subsidiary Body for Scientific and Technological Advice
<b>SC</b>	Steering Committee
<b>SCOR</b>	Scientific Committee on Oceanic Research
<b>SCSTAC</b>	South China Sea Tsunami Advisory Center
<b>SDG</b>	Sustainable Development Goal
<b>SOPs</b>	Standard Operating Procedures
<b>SPINCAM</b>	Southeast Pacific Data and Information Network in support to Integrated Coastal Area Management
<b>SROCC</b>	Special Report on Oceans and the Cryosphere in a Changing Climate
<b>TEMPP</b>	Tsunami Evacuation Maps, Plans and Procedures
<b>TMT-CHM</b>	Transfer of Marine Technology Clearing-House Mechanism
<b>TOWS-WG</b>	Working Group on Tsunamis and Other Hazards Related to Sea-Level Warning and Mitigation Systems
<b>TPOS 2020</b>	Tropical Pacific Observing System in 2020
<b>TSP</b>	Tsunami Service Provider

<b>TT</b>	Task Team
<b>UN</b>	United Nations
<b>UNCLOS</b>	United Nations Convention on the Law of the Sea
<b>UNDP</b>	United Nations Development Programme
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organization
<b>UNFCCC</b>	UN Framework Convention on Climate Change
<b>VMDC</b>	Flanders Marine Institute
<b>WCRP</b>	World Climate Research Programme
<b>WESTPAC</b>	IOC Sub-Commission for the Western Pacific
<b>WHO</b>	World Health Organization
<b>WIOMSA</b>	Western Indian Ocean Marine Science Association
<b>WMO</b>	World Meteorological Organization

In this Series	Languages
<b>Reports of Governing and Major Subsidiary Bodies</b> , which was initiated at the beginning of 1984, the reports of the following meetings have already been issued:	
1. Eleventh Session of the Working Committee on international Oceanographic Data Exchange	E, F, S, R
2. Seventeenth Session of the Executive Council	E, F, S, R, Ar
3. Fourth Session of the Working Committee for Training, Education and Mutual Assistance	E, F, S, R
4. Fifth Session of the Working Committee for the Global Investigation of Pollution in the Marine Environment	E, F, S, R
5. First Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions	E, F, S
6. Third Session of the <i>ad hoc</i> Task team to Study the Implications, for the Commission, of the UN Convention on the Law of the Sea and the New Ocean Regime	E, F, S, R
7. First Session of the Programme Group on Ocean Processes and Climate	E, F, S, R
8. Eighteenth Session of the Executive Council	E, F, S, R, Ar
9. Thirteenth Session of the Assembly	E, F, S, R, Ar
10. Tenth Session of the International Co-ordination Group for the Tsunami Warning System in the Pacific	
11. Nineteenth Session of the Executive Council, Paris, 1986	E, F, S, R, Ar
12. Sixth Session of the IOC Scientific Committee for the Global Investigation of Pollution in the Marine Environment	E, F, S
13. Twelfth Session of the IOC Working Committee on International Oceanographic Data Exchange	E, F, S, R
14. Second Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions, Havana, 1986	E, F, S
15. First Session of the IOC Regional Committee for the Central Eastern Atlantic, Praia, 1987	E, F, S
16. Second Session of the IOC Programme Group on Ocean Processes and Climate	E, F, S
17. Twentieth Session of the Executive Council, Paris, 1987	E, F, S, R, Ar
18. Fourteenth Session of the Assembly, Paris, 1987	E, F, S, R, Ar
19. Fifth Session of the IOC Regional Committee for the Southern Ocean	E, F, S, R
20. Eleventh Session of the International Co-ordination Group for the Tsunami Warning System in the Pacific, Beijing, 1987	E, F, S, R
21. Second Session of the IOC Regional Committee for the Co-operative Investigation in the North and Central Western Indian Ocean, Arusha, 1987	E, F
22. Fourth Session of the IOC Regional Committee for the Western Pacific, Bangkok, 1987	E only
23. Twenty-first Session of the Executive Council, Paris, 1988	E, F, S, R
24. Twenty-second Session of the Executive Council, Paris, 1989	E, F, S, R
25. Fifteenth Session of the Assembly, Paris, 1989	E, F, S, R
26. Third Session of the IOC Committee on Ocean Processes and Climate, Paris, 1989	E, F, S, R
27. Twelfth Session of the International Co-ordination Group for the Tsunami Warning System in the Pacific, Novosibirski, 1989	E, F, S, R
28. Third Session of the Sub-Commission for the Caribbean and Adjacent Regions, Caracas, 1989	E, S
29. First Session of the IOC Sub-Commission for the Western Pacific, Hangzhou, 1990	E only
30. Fifth Session of the IOC Regional Committee for the Western Pacific, Hangzhou, 1990	E only
31. Twenty-third Session of the Executive Council, Paris, 1990	E, F, S, R
32. Thirteenth Session of the IOC Committee on International Oceanographic Data and Information Exchange, New York, 1990	E only
33. Seventh Session of the IOC Committee for the Global Investigation of Pollution in the Marine Environment, Paris, 1991	E, F, S, R
34. Fifth Session of the IOC Committee for Training, Education and Mutual Assistance in Marine Sciences, Paris, 1991	E, F, S, R
35. Fourth Session of the IOC Committee on Ocean Processes and Climate, Paris, 1991	E, F, S, R
36. Twenty-fourth Session of the Executive Council, Paris, 1991	E, F, S, R
37. Sixteenth Session of the Assembly, Paris, 1991	E, F, S, R, Ar
38. Thirteenth Session of the International Co-ordination Group for the Tsunami Warning System in the Pacific, Baja California, 1991	E, F, S, R
39. Second Session of the IOC-WMO Intergovernmental WOCE Panel, Paris, 1992	E only
40. Twenty-fifth Session of the Executive Council, Paris, 1992	E, F, S, R
41. Fifth Session of the IOC Committee on Ocean Processes and Climate, Paris, 1992	E, F, S, R
42. Second Session of the IOC Regional Committee for the Central Eastern Atlantic, Lagos, 1990	E, F
43. First Session of the Joint IOC-UNEP Intergovernmental Panel for the Global Investigation of Pollution in the Marine Environment, Paris, 1992	E, F, S, R
44. First Session of the IOC-FAO Intergovernmental Panel on Harmful Algal Blooms, Paris, 1992	E, F, S
45. Fourteenth Session of the IOC Committee on International Oceanographic Data and Information Exchange, Paris, 1992	E, F, S, R
46. Third Session of the IOC Regional Committee for the Co-operative Investigation in the North and Central Western Indian Ocean, Vascoas, 1992	E, F
47. Second Session of the IOC Sub-Commission for the Western Pacific, Bangkok, 1993	E only
48. Fourth Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions, Veracruz, 1992	E, S
49. Third Session of the IOC Regional Committee for the Central Eastern Atlantic, Dakar, 1993	E, F
50. First Session of the IOC Committee for the Global Ocean Observing System, Paris, 1993	E, F, S, R
51. Twenty-sixth Session of the Executive Council, Paris, 1993	E, F, S, R
52. Seventeenth Session of the Assembly, Paris, 1993	E, F, S, R
53. Fourteenth Session of the International Co-ordination Group for the Tsunami Warning System in the Pacific, Tokyo, 1993	E, F, S, R
54. Second Session of the IOC-FAO Intergovernmental Panel on Harmful Algal Blooms, Paris, 1993	E, F, S
55. Twenty-seventh Session of the Executive Council, Paris, 1994	E, F, S, R
56. First Planning Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Melbourne, 1994	E, F, S, R
57. Eighth Session of the IOC-UNEP-IMO Committee for the Global Investigation of Pollution in the Marine Environment, San José, Costa Rica, 1994	E, F, S
58. Twenty-eighth Session of the Executive Council, Paris, 1995	E, F, S, R
59. Eighteenth Session of the Assembly, Paris, 1995	E, F, S, R
60. Second Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, 1995	E, F, S, R

61.	Third Session of the IOC-WMO Intergovernmental WOCE Panel, Paris, 1995	E only
62.	Fifteenth Session of the International Co-ordination Group for the Tsunami Warning System in the Pacific, Papete, 1995	E, F, S, R
63.	Third Session of the IOC-FAO Intergovernmental Panel on Harmful Algal Blooms, Paris, 1995	E, F, S
64.	Fifteenth Session of the IOC Committee on International Oceanographic Data and Information Exchange	E, F, S, R
65.	Second Planning Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, 1995	E only
66.	Third Session of the IOC Sub-Commission for the Western Pacific, Tokyo, 1996	E only
67.	Fifth Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions, Christ Church, 1995	E, S
68.	Intergovernmental Meeting on the IOC Black Sea Regional Programme in Marine Sciences and Services	E, R
69.	Fourth Session of the IOC Regional Committee for the Central Eastern Atlantic, Las Palmas, 1995	E, F, S
70.	Twenty-ninth Session of the Executive Council, Paris, 1996	E, F, S, R
71.	Sixth Session for the IOC Regional Committee for the Southern Ocean and the First Southern Ocean Forum, Bremerhaven, 1996	E, F, S,
72.	IOC Black Sea Regional Committee, First Session, Varna, 1996	E, R
73.	IOC Regional Committee for the Co-operative Investigation in the North and Central Western Indian Ocean, Fourth Session, Mombasa, 1997	E, F
74.	Nineteenth Session of the Assembly, Paris, 1997	E, F, S, R
75.	Third Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, 1997	E, F, S, R
76.	Thirtieth Session of the Executive Council, Paris, 1997	E, F, S, R
77.	Second Session of the IOC Regional Committee for the Central Indian Ocean, Goa, 1996	E only
78.	Sixteenth Session of the International Co-ordination Group for the Tsunami Warning System in the Pacific, Lima, 1997	E, F, S, R
79.	Thirty-first Session of the Executive Council, Paris, 1998	E, F, S, R
80.	Thirty-second Session of the Executive Council, Paris, 1999	E, F, S, R
81.	Second Session of the IOC Black Sea Regional Committee, Istanbul, 1999	E only
82.	Twentieth Session of the Assembly, Paris, 1999	E, F, S, R
83.	Fourth Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, 1999	E, F, S, R
84.	Seventeenth Session of the International Coordination Group for the Tsunami Warning System in the Pacific, Seoul, 1999	E, F, S, R
85.	Fourth Session of the IOC Sub-Commission for the Western Pacific, Seoul, 1999	E only
86.	Thirty-third Session of the Executive Council, Paris, 2000	E, F, S, R
87.	Thirty-fourth Session of the Executive Council, Paris, 2001	E, F, S, R
88.	Extraordinary Session of the Executive Council, Paris, 2001	E, F, S, R
89.	Sixth Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions, San José, 1999	E only
90.	Twenty-first Session of the Assembly, Paris, 2001	E, F, S, R
91.	Thirty-fifth Session of the Executive Council, Paris, 2002	E, F, S, R
92.	Sixteenth Session of the IOC Committee on International Oceanographic Data and Information Exchange, Lisbon, 2000	E, F, S, R
93.	Eighteenth Session of the International Coordination Group for the Tsunami Warning System in the Pacific, Cartagena, 2001	E, F, S, R
94.	Fifth Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, 2001	E, F, S, R
95.	Seventh Session of the IOC Sub-commission for the Caribbean and Adjacent Regions (IOCARIBE), Mexico, 2002	E, S
96.	Fifth Session of the IOC Sub-Commission for the Western Pacific, Australia, 2002	E only
97.	Thirty-sixth Session of the Executive Council, Paris, 2003	E, F, S, R
98.	Twenty-second Session of the Assembly, Paris, 2003	E, F, S, R
99.	Fifth Session of the IOC Regional Committee for the Co-operative Investigation in the North and Central Western Indian Ocean, Kenya, 2002 (* Executive Summary available separately in E, F, S & R)	E*
100.	Sixth Session of the IOC Intergovernmental Panel on Harmful Algal Blooms, St. Petersburg (USA), 2002 (* Executive Summary available separately in E, F, S & R)	E*
101.	Seventeenth Session of the IOC Committee on International Oceanographic Data and Information Exchange, Paris, 2003 (* Executive Summary available separately in E, F, S & R)	E*
102.	Sixth Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, 2003 (* Executive Summary available separately in E, F, S & R)	E*
103.	Nineteenth Session of the International Coordination Group for the Tsunami Warning System in the Pacific, Wellington, New Zealand, 2003 (* Executive Summary available separately in E, F, S & R)	E*
104.	Third Session of the IOC Regional Committee for the Central Indian Ocean, Tehran, Islamic Republic of Iran, 21-23 February 2000	E only
105.	Thirty-seventh Session of the Executive Council, Paris, 2004	E, F, S, R
106.	Seventh Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, 2005 (* Executive Summary available separately in E, F, S & R); and Extraordinary Session, Paris, 20 June 2005	E*
107.	First Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS), Perth, Australia, 3-5 August 2005	E only
108.	Twentieth Session of the Intergovernmental Coordination Group for the Tsunami Warning System in the Pacific, Viña del Mar, Chile, 3-7 October 2005 (* Executive Summary available separately in E, F, S & R)	E*
109.	Twenty-Third Session of the Assembly, Paris, 21-30 June 2005	E, F, S, R
110.	First 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), Rome, Italy, 21-22 November 2005	E only
111.	Eighth Session of the IOC Sub-commission for the Caribbean and Adjacent Regions (IOCARIBE), Recife, Brazil, 14-17 April 2004 (* Executive Summary available separately in E, F, S & R)	E*
112.	First Session of the Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean Sea and Adjacent Regions (ICG/CARIBE-EWS), Bridgetown, Barbados, 10-12 January 2006	E only
113.	Ninth Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE), Cartagena de Indias, Colombia, 19-22 April 2006 (* Executive Summary available separately in E, F, S & R)	E S*

114.	Second Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS), Hyderabad, India, 14–16 December 2005	E only
115.	Second Session of the WMO-IOC Joint Technical Commission for Oceanography and Marine Meteorology, Halifax, Canada, 19–27 September 2005 (Abridged final report with resolutions and recommendations)	E, F, R, S
116.	Sixth Session of the IOC Regional Committee for the Western Indian Ocean (IOCWIO), Maputo, Mozambique, 2–4 November 2005 (* Executive Summary available separately in E, F, S & R)	E*
117.	Fourth Session of the IOC Regional Committee for the Central Indian Ocean, Colombo, Sri Lanka 8–10 December 2005 (* Executive Summary available separately in E, F, S & R)	E*
118.	Thirty-eighth Session of the Executive Council, Paris, 20 June 2005 (Electronic copy only)	E, F, R, S
119.	Thirty-ninth Session of the Executive Council, Paris, 21–28 June 2006	E, F, R, S
120.	Third Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS), Bali, Indonesia, 31 July–2 August 2006 (*Executive Summary available separately in E,F,S & R)	E*
121.	Second 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), Nice, France, 22–24 May 2006	E only
122.	Seventh Session of the IOC Intergovernmental Panel on Harmful Algal Blooms, Paris, France, 16–18 March 2005 (* Executive Summary available separately in E, F, S & R)	E*
123.	Fourth Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS-IV), Mombasa, Kenya, 30 February-2 March 2007 (* Executive Summary available separately in E, F, S & R)	E*
124.	Nineteenth Session of the IOC Committee on International Oceanographic Data and Information Exchange, Trieste, Italy, 12–16 March 2007 (* Executive Summary available separately in E, F, S & R)	E*
125.	Third Session of the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North Eastern Atlantic, the Mediterranean and Connected Seas, Bonn, Germany, 7–9 February 2007 (* Executive Summary available separately in E, F, S & R)	E*
126.	Second Session of the Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean Sea and Adjacent Regions, Cumaná, Venezuela, 15–19 January 2007 (* Executive Summary available separately in E, F, S & R)	E*
127.	Twenty-first Session of the Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System, Melbourne, Australia, 3–5 May 2006 (* Executive Summary available separately in E, F, S & R)	E*
128.	Twenty-fourth Session of the Assembly, Paris, 19–28 June 2007	E, F, S, R
129.	Fourth Session of the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North Eastern Atlantic, the Mediterranean and Connected Seas, Lisbon, Portugal, 21–23 November 2007 (* Executive Summary available separately in E, F, S & R)	E*
130.	Twenty-second Session of the Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System, Guayaquil, Ecuador, 17–21 September 2007 (* Executive Summary available in E, F, S & R included)	E*
131.	Forty-first Session of the Executive Council, Paris, 24 June–1 July 2008	E, F, R, S
132.	Third Session of the Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean Sea and Adjacent Regions, Panama City, Panama, 12–14 March 2008 (* Executive Summary available separately in E, F, S & R)	E*
133.	Eighth Session of the IOC Intergovernmental Panel on Harmful Algal Blooms, Paris, France, 17–20 April 2007 (* Executive Summary available separately in E, F, S & R)	E*
134.	Twenty-third Session of the Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System, Apia, Samoa, 16–18 February 2009 (*Executive Summary available separately in E, F, S & R)	E*
135.	Twentieth Session of the IOC Committee on International Oceanographic Data and Information Exchange, Beijing, China, 4–8 May 2009 (*Executive Summary available separately in E, F, S & R)	E*
136.	Tenth Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE), Puerto La Cruz, Bolivarian Republic of Venezuela, 22–25 October 2008 (*Executive Summary available separately in E, F, S & R)	E, S*
137.	Seventh Session of the IOC Sub-Commission for the Western Pacific (WESTPAC-VII), Sabah, Malaysia, 26–29 May 2008 (*Executive Summary available separately in E, F, S & R)	E*
138.	Ninth Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, France, 10–12 June 2009 (* Executive Summary available separately in E, F, S & R);	E*
139.	Fifth Session of the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North Eastern Atlantic, the Mediterranean and Connected Seas, Athens, Greece, 3–5 November 2008 (* Executive Summary available separately in E, F, S & R)	E*
140.	Fourth Session of the Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean Sea and Adjacent Regions, Fort-de-France, Martinique, France, 2–4 June 2009 (* Executive Summary available separately in E, F, S & R)	E*
141.	Twenty-fifth Session of the Assembly, Paris, 16–25 June 2009	E, F, R, S
142.	Third Session of the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology, Marrakesh, Morocco, 4–11 November 2009	E, F, R, S
143.	Ninth Session of the IOC Intergovernmental Panel on Harmful Algal Blooms, Paris, France, 22–24 April 2009 (* Executive Summary available separately in E, F, S & R)	E*
144.	Fifth Session of the Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean Sea and Adjacent Regions, Managua, Nicaragua, 15–17 March 2010 (* Executive Summary available in E, F, S & R)	E*
145.	Sixth Session of the IOC Regional Committee for the Central and Eastern Atlantic Ocean, Accra, Ghana, 28–30 March 2010 (* Executive Summary available in E, F, S & R)	E*
146.	Forty-second Session of the Executive Council; Paris, 15, 19 & 20 June 2009	E, F, R, S
147.	Forty-third Session of the Executive Council; Paris, 8–16 June 2010	E, F, R, S
148.	Sixth Session of the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North Eastern Atlantic, the Mediterranean and Connected Seas, Istanbul, Turkey, 11–13 November 2009 (* Executive Summary available separately in Ar, E, F, S & R)	E*
149.	Seventh Session of the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North Eastern Atlantic, the Mediterranean and Connected Seas, Paris, France, 23–25 November 2010 (* Executive Summary available separately in Ar, E, F, S & R)	E*
150.	Sixth Session of the Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean Sea and Adjacent Regions, Santo Domingo, Dominican Republic, 26–29 April 2011 (* Executive Summary available in E, F, S & R)	E*

151.	Twenty-fourth Session of the Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System, Beijing, China, 24–27 May 2011 (*Executive Summary in E, F, S & R included)	E*
152.	Twenty-first Session of the IOC Committee on International Oceanographic Data and Information Exchange, Liège, Belgium, 23–26 March 2011 (*Executive Summary available separately in E, F, S & R)	E*
153.	Eighth Session of the IOC Sub-Commission for the Western Pacific (WESTPAC-VIII), Bali, Indonesia, 10–13 May 2010 (*Executive Summary available separately in E, F, S & R)	E*
154.	Tenth IOC Intergovernmental Panel on Harmful Algal Blooms, Paris, France, 12–14 April 2011 (* Executive Summary available separately in E, F, S & R)	E*
155.	Forty-fifth Session of the Executive Council, Paris, 26–28 June 2012 (* Decisions available in E, F, S & R)	E*
156.	Seventh Session of the Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean Sea and Adjacent Regions, Willemstad, Curacao, 2–4 April 2012 (*Executive Summary available in E, F, S & R)	E*
157.	Eleventh Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE), Miami, USA, 17–20 May 2011 (*Executive Summary available separately in E & S)	E, S*
158.	Eight Session of the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE EWS-VIII), Trinidad & Tobago, 29 April–1 May 2013 (*Executive Summary available in E, F, S & R)	E*
159.	Twenty-seventh Session of the Assembly, Paris, 26 June–5 July 2013 and Forty-sixth Session of the Executive Council, Paris, 25 June 2013	E, F, R, S
160.	Twenty-fifth Session of the Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System (ICG/PTWS), Vladivostok, Russian Federation, 9–11 September 2013 (*Executive Summary in E, F & R)	E*
161.	Ninth Session of the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions, US Virgin Islands, 13-15 May 2014 (*Executive Summary available in E, F, S & R)	E*
162.	Forty-seventh Session of the Executive Council, Paris, 1–4 July 2014 (* Decisions available in E, F, S & R)	E*
163.	Ninth Session of the IOC Sub-Commission of the Western Pacific (WESTPAC-IX), Busan, Republic of Korea, 9–12 May 2012	E
164.	Eleventh Session of the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North Eastern Atlantic, the Mediterranean and Connected Seas, 12–14 November 2014, Nicosia, Cyprus (*Executive Summary available in E, F, S & R)	E*
165.	Twenty-sixth Session of the Intergovernmental Coordination Group for the for the Pacific Tsunami Warning and Mitigation System (ICG/PTWS-XXVI), Hawaii, USA, 22–24 April 2015 (*Executive Summary available in E, F, S & R)	E*
166.	Tenth Session of the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS), Philipsburg, Sint Maarten, Kingdom of the Netherlands, 19–21 May 2015 (*Executive Summary available in E, F, S & R)	E*
167.	Tenth Session of the IOC Sub-Commission of the Western Pacific (WESTPAC-X), Phuket, Thailand, 12–15 May 2015	E
168.	Twenty-eighth Session of the Assembly, Paris, 18–25 June 2015	
169.	Twelfth 12th 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-XII), Dublin, Ireland, 16-18 November 2015 (*Executive Summary available in E, F, S & R)	E*
170.	Eleventh Session of the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE EWS-XI), Cartagena, Colombia, 5-7 April 2016 (*Executive Summary available in E, F, S & R)	E*
171.	Tenth Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS), Muscat, Oman, 24–26 March 2015	E*
172.	Forty-ninth Session of the Executive Council, Paris, 7–10 June 2016 (* Decisions available in E, F, S & R)	E*
173.	Thirteenth Session of the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions, Bucharest, Romania, 26–28 September 2016 (*Executive Summary available in E, F, S & R)	E*
174.	Twenty-seventh Session of the Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System (ICG/PTWS-XXVII), Tahiti, France, 28-31 March 2017 (*Executive Summary available in E, F, S & R)	E*
175.	Twelfth Session of the Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS), Puntarenas, Costa Rica, 10–12 May 2017 (*Executive Summary available in E, F, S & R)	E*
176.	Eleventh Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS), Putrajaya, Malaysia, 18–20 April 2017 (*Executive Summary available in E, F, S & R)	E*
177.	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), Lisbon, Portugal, 21–23 November 2017 (*Executive Summary available in E, F, S & R)	E*
178.	Twenty-ninth Session of the Assembly, Paris, 21–29 June 2017 and Fiftieth Session of the Executive Council, Paris, 20 June 2017 (*Executive Summary available in E, F, S & R)	E*
179.	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 (*Executive Summary available in E, F, S & R)	E*
180.	Twenty-fifth Session of the IOC Committee on International Oceanographic Data and Information Exchange, Tokyo, 2019 (* Executive Summary available separately in E, F, S & R)	E*
181.	Fifteenth 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), Paris, France, 26–28 November 2018 (*Executive Summary available in E, F, S & R)	E*
182.	Twelfth Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS), Kish, Islamic Republic of Iran, 9–12 March 2019 (*Executive Summary available in E, F, S, R)	E*
183.	Twenty-eighth Session of the Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System (ICG/PTWS-XXVIII), Montelimar, Nicaragua, 2–5 April 2019 (*Executive Summary available in E, F, S & R)	E*
184.	Fourteenth session of the Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS-XIV/3), Punta Leona, Costa Rica, 8–11 April 2019 (*Executive Summary available in E, F, S & R)	E*
185.	Fifth Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS-V/3), Putrajaya, Malaysia, 8–10 April 2008	E

<b>186</b>	Sixth Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS-VI/3), Hyderabad, India, 7–9 April 2009	E
<b>187</b>	Eighth Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS-VIII/3), Melbourne, Australia, 3–6 May 2011	E
<b>188</b>	Thirtieth Session of the IOC Assembly, Paris, 26 June–4 July 2019 and Fifty-second session of the IOC Executive Council, Paris, 25 June 2019	



