1

|  |  |
| --- | --- |
| Restricted distribution  notext-bw | **IOC-XXX/3 prov. Pt.2**  Paris, 03 July 2019  English only |

**INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION**

**(of UNESCO)**

**Thirtieth Session of the Assembly**

UNESCO, Paris, 26 June-4 July 2019

**DRAFT SUMMARY REPORT**

**Part 2**

(Agenda items 3.3, 4.1, 5.2 & 6)

*Decisions will be published separately in document IOC-XXX/Decisions   
at the end of the session*

1. **IOC MATTERS AND REPORTS**

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

* + 1. **IOC Sub-commission for the Western Pacific: 12th Session of Westpac, Manila, Philippines, 2-5 April 2019**

1. 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).
2. 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.
3. 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.
4. 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.
5. 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 workshop(s) 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 Conference as an essential regional platform to ensure a timely response to, and examine the outputs of the UN Decade.
6. 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.
7. 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 July 2019 on the “development of a 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.
8. 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.
9. 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 Government of Indonesia and Bangladesh for their strong willingness to host the 13th WESTPAC session in 2021.
10. 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.
11. 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.
12. The representatives of 8 Member States and 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: \_\_\_\_\_\_\_\_\_\_\_.
    * 1. **IOC Sub-commission for the Caribbean and Adjacent Regions: 15th Session of IOCARIBE, Oranjestad, Aruba, 6–10 May 2019**
13. 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.
14. 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.
15. 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.
16. 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, and promote IOCARIBE Member States’ participation in, the UN World Ocean Assessment.
17. 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 AtlantOS Program—“An All-Atlantic Ocean Observing System.”
18. 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.
19. 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).
20. 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.
21. 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.
22. 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.
23. 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 to seek collaboration to expand funding opportunities to create an operational ocean acidification observing system.
24. 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 Subcommissions.
25. The Assembly congratulated the newly elected IOCARIBE Board, Mr Arnulfo Sanchez (Panama) Chairperson, and the Vice-chairpersons Mr Marck Oduber (Aruba), Mr Francisco Brizuela (Mexico), and Mr Arthur Paterson (USA).
26. The Assembly recognised the efforts carried out by IOCARIBE in capacity development and institutional strengthening, the contribution of Ocean Teacher Global Academy Training Center located 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.
27. 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.
28. 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.
29. 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.
30. Member States recognised 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 organising and planning process.
31. The representatives of 9 Member States and 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: Colombia and the United Kingdom\_\_\_\_\_\_\_\_\_\_\_.
    * 1. **IOC Sub-commission for Africa and the Adjacent Island States:**

**5th Session of IOCAFRICA, Nairobi, Kenya, 25–27 March 2019**

1. 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.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. 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.
13. The representatives of 16 Member States 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: China, Cote d’Ivoire, Kenya, Spain, and the United Republic of Tanzania.
14. 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.
15. 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.
16. The Assembly welcomed these commitments and urged other Member States to provide support for the implementation of the programmes of the Sub-Commission.
17. The Assembly encouraged IOCAFRICA to strengthen its communication with WESTPAC and other Regional Subsidiary Bodiess for experience sharing and regional coordination.
    * 1. **IOC Regional Committee for the Central Indian Ocean:**

**7th Session of IOCINDIO, Hyderabad, India, 25–26 April 2019**

1. 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
2. At its 7th session, IOCINDIO (IOCINDIO-VII) 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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).
8. 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).
9. 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.
10. 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.
11. Several Member States commended the progress achieved in such a short time period after the reactivation of the Committee.
12. 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 31st IOC Assembly to make a decision.
13. 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.
14. The Representatives of 14 Member States and GEBCO took the floor. The following Member States chose to provide records of their plenary intervention for the informational annex to the meeting report: India, United Kingdom and Thailand.
15. **IOC AND THE FUTURE OF THE OCEAN: STRATEGIC DEVELOPMENTS**

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

1. 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 last May 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.
2. 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 51st 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.
3. 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.
4. 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 Decade’s messages. He also announced the launch of the new Decade website (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 catalyse partnerships and to drive commitments at the forthcoming 2nd UN Ocean Conference in 2020 to be co-hosted by the Governments of Kenya and Portugal.
5. 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.
6. In a video message, WMO Secretary-General Prof. Petteri Taalas expressed WMO full commitment to the success of the Decade.
7. A draft Resolution submitted by Norway and the Republic of Korea was presented to the Assembly for adoption at a later stage.
8. The representatives of 23 Member States took the floor, as well as those from SCOR and the Food and Agriculture Organization (FAO). The following Member States chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report: \_\_\_\_\_\_\_\_\_\_\_.
9. 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.
10. 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.
11. 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.
12. Several Member States reported on activities undertaken to raise awareness and to mainstream the Decade in their respective national ocean policy framework.
13. 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.
14. 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.
15. 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 in November 2019, focusing on the blue economy and the Decade.
16. 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.
17. 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.
18. 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.
19. India recalled that it offered to host a regional workshop for the Indian Ocean at the last session of the IOCINDIO Committee (May 2019).
20. 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.
21. 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 word without hunger.

**5. UNITED NATIONS PARTNERSHIPS**

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

1. 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, including on the need for research and observations in order to reduce the uncertainty in the ocean CO2 sink estimate and its variability on time-scales, for example through the consortium on ocean carbon research coordinated by the IOC.
2. 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 the Cryosphere in a Changing Climate (SROCC) and its forthcoming launch in Monaco in September 2019. Finally, the Executive Secretary referred to the forthcoming 25th session of the Conference of the Parties of the UNFCCC in 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 a success.
3. 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.
4. 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 to 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.
5. The representatives of 9 Member States and 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. 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, and United Kingdom.

**6. OCEAN RESEARCH**

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

1. 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 Biotoxin 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.
2. 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.
3. The representatives of 18 Member States took the floor.
4. 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 Panning 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 though IODE and OBIS.
5. 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.
6. 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. 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, China, Ireland, Spain, Thailand and PICES.

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

1. 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, WCRP Strategic and Implementation Plans have been 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.
2. The representatives of 2 Member States and WMO took the floor. The WMO and the following Member State provided a record of their plenary intervention on this agenda item for the informational annex to the meeting report: China.