

정부간해양학위원회(IOC) 제30차 총회 및 제52차 집행이사회 결과보고서



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결과보고서

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KIOST 한국해양과학기술원

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해양수산부, 외교부, 주유네스코대표부, 국립해양조사원,
국립수산과학원, 기상청, 해양수산과학기술진흥원,
한국해양과학기술원, 한국해양학위원회

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I 회의 개요

□ 기간 및 장소

- 회의장소 : 파리, UNESCO 본부
- 회의일정 : 2019.6.24(IOC 의장단 회의)
2019.6.25(제52차 IOC 집행이사회)
2019.6.26 ~ 7.4(제30차 IOC 총회)

□ 참석규모

- 150개 IOC 회원국 대표단 및 유네스코 사무국, 관련 국제기구 등 300여명

□ 정부대표단 : 총 15명

- 수석대표 : 안은주 주유네스코대표부 공사참사관
- 교체수석 : 유은원 해양수산부 해양개발과 과장,
김선하 해양수산부 해양개발과 사무관
- 대 표 : 기상청(변건영), 국립수산과학원(이준수), 국립해양조사원(이충호),
주유네스코대표부(이선경)
- 자 문 : 변상경 IOC 前 의장, 해양수산과학기술진흥원(조승환, 박윤이),
한국해양과학기술원(강현주, 이윤호, 엄경환, 문중호, 김새슬)

II IOC 의장단 회의 결과 보고

1. 2019년 IOC 의장단 회의

가. 회의 개요

- 회의명: 2019년 IOC 의장단 회의(2019 IOC Officers' Meeting)
- 일 시: 2019년 6월 24일 10:00~13:00
- 장 소: IOC본부(UNESCO 빌딩, Paris, France)

나. 참석자: 8인(IOC의장, 부의장, 전의장, 사무총장) 외 사무국 직원

- IOC의장(1인): Dr Peter Haugan(Norway)
- IOC부의장(5인)
 - Dr. Monika Breuch-Moritz(Germany, Group I)
 - Dr Alexander Postnov(Russian Federation, Group II)
 - Mr. Ariel Hernan Troisi(Argentina, Group III)
 - Dr Somkiat Khokiattiwong(Thailand, Group IV)
 - Dr. Ashley Johnson(South Africa, Group V)
- IOC전의장(1인): Dr. Sang-Kyung Byun(Republic of Korea)
- IOC사무총장(1인): Dr. Vladimir Ryabinin
- Observers: IOC사무국 부장급(7인)
 - Dr. Tokild Aarup(Head, Tsunami Section),
 - Dr. Albert Fisher(Head, Ocean Observations and Services section)
 - Mr. Julian Barbieri(Head, Marine Policy and Regional Implementation Section)
 - Dr. Salvatore Arico(Head, Ocean Science Section)
 - Mr. Peter Pissierssens(Head, IOC Project Office for IODE)
 - Ms. Xenia Yvinec(Finance and Administrative Officer)
 - Mr. Patrice Boned(Documentalist)

다. 토의 내용

1) 제52차 집행이사회 의제 검토

- 2019년 6월 25일 예정인 제52차 집행이사회는 제30차 IOC 총회를 위한 사전 회의 성격임으로 총회를 뒷받침할 내용을 검토함

2) 제30차 IOC 총회 의제 및 일정 검토

- 2019년 6월 26일부터 7월 4일까지 예정된 제30차 IOC 총회에서 토의할 내용과 일정을 의사 일정표에 따라 면밀히 검토하고 대안을 마련함

3) 기타 사항

- 개회식에는 UNESCO 사무총장의 부재로 부총장인 Mr. Qu Xing이 참석하여 축사를 할 예정이며 회의기간 중 예방도 불가함
- 6월 27일 Ocean Science Day에는 외부인사 175명과 IOC 총회 참석자들이 참석할 예정임
- 총회기간 중 차기 의장단이 선출(7월 3일)되어 새로운 의장단이 구성되기 때문에 금번 회의가 현 의장단에게는 마지막 회의임



〈IOC 의장단회의 사진〉

III 제52차 IOC 집행이사회 결과 보고

1. 개회

- Peter Haugan 의장은 2019년 6월 25일(화) 오전 10시, 제4회의실에서 개최된 제52차 집행이사회 개회를 선언함

2. 회기 구성

2.1. 의제 채택

- 집행이사회는 제안된 의제를 원안대로 채택함
- 의제 외에 해양기술 이전을 위한 정보공유시스템(Clearing House System), 해양자료·정보시스템(ODIS), 2020년 전지구해양과학보고서(GOSR) 관련 발표 후 집행이사회 재개

2.2. 서기 지정

- 일본, 중국, 인도네시아, 한국의 추천으로 Suree Satapoomin(태국)를 서기로 임명함

3. 제30차 IOC 총회 준비

3.1 위원회 및 회기중 작업반 임명

- 의장은 각 위원회(선거관리위원회, 결의안위원회, 재정위원회)의 역할을 소개하고 임명함

1) 재정위원회

위원장: Ariel H. Troisi(아르헨티나, 부의장)

간사: Ksenia Yvinec

2) 결의안위원회

위원장: Yutaka Michida(일본)

간사: Julian Barbieri

3) 선거관리위원회

위원장: 변상경(한국, IOC 前 의장)

간사: Thorkild Aarup, Salvatore Aricó

- 회기중 작업반 구성에 대한 요청을 구하였으나, 추가 의견 없음

3.2 추가 안건 요청에 관한 고려

- 의장은 제30차 총회 개최 2개월 전인 2019년 4월 26일까지 추가 안건 요청이 없었음을 보고함

3.3 일정표 및 조직 관련 사안

- 의장은 제30차 총회 의제와 일정표, 주요 부대행사에 대하여 간략히 발표함. 총회 1~2일차는 회의실 1, 나머지는 회의실 2에서 개최될 예정임. 특히 2일차에는 일반인도 참석할 수 있는 해양의 날 행사를 통해 ‘지속가능한 발전을 위한 UN 해양과학 10개년 계획(2021~2030)’에 집중적으로 논의될 예정임
- 번역비 및 시간적 제약, 지원인력 부족으로 인하여, 총회기간 중 사무국에 의해 기술되는 부분은 영문으로만 작성되고, 결의문 및 결의안은 4개 국어로 번역/채택, 총회 이후 4개국어로 채택 예정임

4. 차기 IOC 집행이사회 및 총회 일시 및 장소 안내

- 차기 집행이사회 및 총회도 최근 2년과 동일한 일정(scheme)으로 구성하여, 사무총장은 제53차 집행이사회를 2020년 6월 29일~7월 3일(3.5일) 개최할 것을 권고. 2021년 제31차 총회는 해양과학의 날(Ocean Science Day)와 연계하여 6월/7월 중 집행이사회 1일, 총회 6일로 구성할 것 권고

5. 요약보고서 채택

6. 폐회

IV 제30차 IOC 총회 결과 보고

회의 의 제

1. 개회

2. 회기 구성

- 2.1 의제 채택 및 기타 조직과 관련된 의안(organizational matters)
- 2.2 서기 지정
- 2.3 회기별 위원회 및 실무작업반 구성
- 2.4 회의 일정 및 문서, 기념강연 소개

3. IOC 사안 및 보고

- 3.1 IOC 의장 보고
- 3.2 제51차 집행이사회 이후 완료된 작업 및 예산 집행(2018.07~2019.05)에 대한 사무총장 보고
- 3.3 IOC 산하 분과위원회 및 지역위원회 의장 보고
 - 3.3.1 IOC 서태평양 분과위원회
 - 제12차 WESTPAC 총회(2019.4.2~5, 필리핀 마닐라)
 - 3.3.2 IOC 카리브해 및 인접지역 분과위원회
 - 제15차 IOCARIBE 총회(2019.5.6~10, 아루바 오랑예스타트)
 - 3.3.3 IOC 아프리카 및 인접 도서국 분과위원회
 - 제5차 IOCAFRICA 총회(2019.3.25~27, 케냐 나이로비)
 - 3.3.4 IOC 중앙 인도양 지역위원회
 - 제6차 IOCINDIO 총회(2019.4.25~26, 인도 하이데라바드)
- 3.4 제40차 UNESCO 총회에 2018~2019년도 IOC 활동 보고

4. IOC와 해양의 미래: 전략 개발

의제4는 특별 해양과학의 날(0.5일) 전에 UN Decade 관련 과학적인 문제에 대한 토론의 장을 열 예정임

4.1 지속가능한 발전을 위한 UN 해양과학 10개년(UN Decade) 준비에 대한 경과 보고

4.2 지속가능한 발전과 2030 아젠다를 위한 UN 해양과학 지지를 위해 IOC 해양과학 포드폴리오의 일관성, 영향력 및 미래지향중심의 증진

5. UN과의 협력

5.1 세계기상기구(WMO)와의 협력

5.2 유엔기후변화협약(UNFCCC)에 대한 IOC의 기여

6. 해양연구

6.1 유해조류 대량발생(HAB): 제14차 IPHAB 총회, 2019.4.20~26, 파리 유네스코

6.2 WMO-IOC-ISC 세계기후연구계획(WCRP) 보고

7. 관측시스템 및 데이터관리

7.1 관측시스템

7.1.1 전지구 해양관측시스템(GOOS): 전략, 이행, 그리고 거버넌스

7.1.2 WMO-ISC-IOC-UNEP 세계기후관측시스템(GCOS) 10년 전략

7.1.3 WMO-IOC 해양학 및 해양기상 공동기술위원회(JCOMM)

7.2 데이터 관리

7.2.1 국제 해양자료 및 정보교환위원회

: 제25차 IODE 총회, 2019.2.18~22, 일본 도쿄

7.2.2 해양자료 · 정보시스템(ODIS) 초안

8. 조기경보 및 서비스

8.1 지역별 지진해일(쓰나미) 경보 시스템

8.1.1 태평양 지진해일 경보 및 저감시스템 정부간 협력그룹:

제28차 IGC/PTWS 총회, 2019.4.2~5, 니카라과 몬테리마르

8.1.2 인도양 지진해일 경보 및 저감시스템 정부간 협력그룹:

제12차 ICG/IOTWS 총회, 2019.3.9~12, 이란 키시섬

8.1.3 카리브해 및 주변지역 지진해일 및 연안지역 위험 지진해일 조기경보 정부간 협력그룹(ICG/CARIBE):

제14차 ICG/CARIBE-EWS 총회, 2019.4.8~11, 코스타리카 폰타 레오나

8.1.4 북동대서양, 지중해와 그 관련지역 지진해일 저감시스템 정부간 협력그룹:

제15차 ICG-NEAMTWS 총회, 2018.11.26~28, 파리 유네스코

8.2 해양위험 경보 및 저감 시스템 국제적 협력

8.2.1 지진해일, 해수면 등 기타 위험 경보 및 저감시스템에 대한 실무작업반:

제12차 TOWS-WG 회의, 2019.2.21~22, 파리 유네스코

9. 정책을 위한 평가 및 정보

9.1 IHO-IOC GEBCO 운영위원회(guiding committee) 보고

10. 지속가능한 관리 및 거버넌스

10.1 IOC와 관련 있는 국가관할관외영역 해양생물다양성 보존 및 지속가능한 이용 (BBNJ) 이슈

10.2 통합연안지역관리계획(ICAM) 전략이행

11. 역량강화

11.1 IOC 역량강화 전략을 위한 회기간 실무작업반 보고

11.2 2018~2021 해양적 소양(Ocean Literacy)에 대한 IOC의 기여: 액션플랜

12. 행정 및 관리

12.1 재정 및 규정, 거버넌스, 작업방식과 절차 - 회기간 재정자문그룹 의장의 보고(집행이사회 결의안 후속조치)

12.2 2020~2021 프로그램 및 예산(안)

12.3 2022~2029 중기 전략(안): 사무국 예비 제안서

12.4 재정위원 의장 보고

12.5 IOC 60주년(1960~2020) 기념행사 준비

12.6 의장단 및 집행이사국 선거 결과

12.7 제31차 총회 및 제53차, 제54차 집행이사회(일시 및 장소 준비)

13. 요약 보고서 및 결의안 채택

14. 폐회

1. 개회

- Peter Haugan 의장은 2019년 6월 26일 오전 10시, UNESCO 본부 제1회의실에서 제30차 IOC 총회가 개최되었음을 선언함. IOC 총회 역사 상 처음으로 UNESCO 메인홀에서 개최하는 뜻깊은 기회임을 언급함. 아울러, 적도뉴기니가 150번째 IOC 회원국으로 가입하였음을 안내함. Audrey Azoulay 유네스코 사무총장을 대신하여 Qu Xing 유네스코 사무부총장이 개회사를 통해 유해조류대발생, 해양산성화, 기후변화 등 주요 이슈에 대한 해양과학의 중요성에 대하여 언급함. 그리고 생물다양성, 생태계 보전의 중요성을 강조하며, 해양자원의 보전, 해양자원을 지속가능한 방법으로 사용함으로써 기후변화 영향을 줄이고, 생태계 보전에 기여해야함을 강조함. 지난 60년 간 IOC가 효율적인 과학기반 통합 해양 관리를 위하여 회원국 뿐만 아니라 민간 부문을 포함하는 광범위한 이해관계자 및 정부 정책결정 시스템, 그리고 주요 해양 이니셔티브를 결속시키는 중심적인 역할을 해왔음을 언급하며, ‘지속적인 발전을 위한 UN 해양과학 10개년 계획(2021~2030)(이하 UN Decade)’를 기획하는 데 IOC가 깊이 기여하고 있는 바, UN Decade는 IOC 프로그램으로부터 발생하는 사회적 이익을 부각시킬 수 있는 뛰어난 기회가 될 것임을 강조함
- 2018~2019 동안 세상을 떠난 Frederick Grassle(미국), Angus McEwan(호주), Walter Munk(미국), Joanna Toole(영국)에 대한 명복을 빌며 묵념함
- 의장은 금번 총회 일정을 소개함. 아울러, 금번 총회 기간 중 커피브레이크 공여예정인 일본, 미국, 영국, 한국, 인도에 감사를 표함

2. 회기 구성

2.1 의제 채택 및 기타 조직과 관련된 의안

- 의장은 2개의 기념강의(A.Btuun, N.k.Panikkar)를 포함한 총회 일정을 간략히 소개하고, 원안대로 의제를 채택하였음
- IOC 사무총장은 입후보 마감시간(6.28(금) 18:00) 안내

2.2 서기 지정

- 필리핀의 추천 및 일본, 한국, 인도네시아, 케냐, 중국의 재청(seconded by)으로 Ms. Suree Satapoomin(태국)을 서기로 임명함

2.3 회기별 위원회 및 실무작업반 구성

1) 재정위원회

위원장: Ariel H. Troisi(아르헨티나, 부의장)
간사: Ksenia Yvinec

2) 결의안위원회

위원장: Yutaka Michida(일본)
간사: Julian Barbrière
역할: 의제 4.1, 5.1에 대한 결의안 검토

3) 선거관리위원회

위원장: 변상경(한국, IOC 前 의장)
간사: Thorkild Aarup, Salvatore Aricó
참여국: 칠레, 중국, 미국, 인도, 아일랜드, 일본, 한국, 포르투갈, 세네갈, 콩고, 쿠바, 불가리아, 모로코, 나이지리아, 태국

- 회기중 작업반은 구성되지 않음

2.4 회의 일정 및 문서, 기념강연 소개

- 사무총장은 총회 일정 및 기념강연에 대해 안내함

3. IOC 사안 및 보고

3.1 IOC 의장 보고

- IOC 의장은 최근 IOC의 성과와 향후 계획을 보고
 - UN Decade가 하나의 모멘텀이 되어 UN Decade 이행계획 수립을 위한 집행기획위원회(Executive Planning Group, EPG)가 구성되었으며, 금년도 UN 비공식협의(ICP) 주제로 UN Decade를 선정하여 논의가 진행되었음을 보고. 이외에 WMO와의 협의 결과, BBNJ에 IOC의 참여 등 성과 보고. IOC가 1960년 설립된 이래로 IOC는 정부간 의사결정 조정을 관장하는 기구로 활동해왔으며, 비정부 파트너도 크게 확대되었음. 특히 UN Decade 이행에 IHO, DOALOS, FAO 등 다양한 UN 산하기구 및 국제기구를 참여시킴으로써 협력하고, UN dialogue에서 UN Decade를 주제로 다뤄질 수 있도록 노력함. 아울러, 여성 리더십 확대, 관측데이터 공유의 중요성 등을 강조함
 - UN Decade가 이행되는 2030년까지 UN 및 회원국에 매우 중요한 시기로, 해양과학 기반 해결책이 필요함을 강조
- 아르헨티나, 미국, 케냐, 그라나다, 포르투갈, 영국, 코르티부아르, 마다가스카르, 노르웨이, 이탈리아, 칠레, 프랑스 등이 발언을 통해 의장의 리더십과 의장단의 활동에 대한 사의를 표함
- 특히 금년 새로운 회원국으로 가입한 적도 뉴기니는 발언을 통해 향후 생물다양성에 대한 기여를 기대한다고 밝힘

3.2 제51차 집행이사회 이후 완료된 작업 및 예산 집행 보고

- 사무총장은 제51차 집행이사회 이후 추진된 프로그램 및 집행된 예산에 대해 보고함

- 2017년 제29차 총회 이후 프로그램 및 예산 집행(budget implementation)에 대해 보고함
- 보고 중 기존 IOC의 역할과 함께, 현재 개발하고 있는 UN Decade, 최신 이슈로 떠오르고 있는 BBNJ, 향후 기후변화에 대한 역할을 강조
 - 기존 과학을 넘어서 인류차원, 사회차원(Human dimension, Social dimension)과 관련된 사회과학의 중요성이 확대됨
 - IOC의 5가지 기능에 따른 성과를 보고함. 특히 SDG 이행을 위한 IOC의 기여로써, SDG 지표 개발(특히, 14.3.1 해양산성화 지표 개발), 14.a.1 달성 평가를 위한 방법으로 활용하기 위하여 GOSR 2판(GOSR 2020) 발간을 추진, IODE, ODIS, GOOS/IOCES joint system, IODE와 해양과학 섹터 협력 증진, OceanTeacher Global Academy 향후 확대 계획 등 해양관측, 데이터 정보 관리 기능 수행하였음을 보고. UN ICP 금번 주제로 UN Decade 논의
 - 지역위원회 성과 소개. 서태평양지역(IOC/WESTPAC)에 대해서는 신규 지역훈련연구센터(RTRC) 설립, 쿠로시오 2차 공동연구(CSK-2) 개시 등을 주요성으로 소개함
- 일본, 필리핀, 러시아, 중국, 스페인, 캐나다, 콜롬비아, 독일, 코르티부아, 케냐, 미국, 호주, 마다가스카르, 오만, 노르웨이, 남아프리카, 세이셸, 인도네시아, 이탈리아, 아일랜드, 한국, 영국, 페루, 인도, 그라나다(grenade), 태국, 모로코, WMO 등 발언
- 일본은 IIOE-2에 대한 자국의 기여를 발언을 통해 언급하며, IIOE-2 활동이 UN Decade에 기여할 수 있을 것이라 중요성을 강조함
 - 우리나라는 발언을 통해 UN Decade에 대한 우리나라의 기여, GOSR 발간, 전지구 해양관측 프로그램(GOOS) 참여와 Argo float의 주기적 배치, 2차 인도양국제탐사연구(IIOE-2) 참여 등 기여사항을 홍보함
 - 러시아는 IOC가 해양오염, 재해재난 관리에 대한 좋은 성과를 치하하며, 향후 지진해일 경보시스템과 극지연구를 위한 젊은 과학자의 양성의 필요성을 강조함. 그리고 새로이 건조중인 선박의 활용을 통해 UN Decade에 기여할 수 있을 것이라 밝힘
 - 중국은 서태평양지역위원회(IOC/WESTPAC) RTRC 중 하나인 해양관측센터(RTRC ODC)의 활동을 홍보하고, 추가로 미세플라스틱 RTRC 설립이 승인되었음을 알림
 - 캐나다에서는 GOSR 2판 작업 개시에 대해 치하하며, 다중스트레스 요인에 대한 UN Dialogue를 헬리팩스에서 개최예정임을 안내

- 독일, 호주, 남아프리카, 영국, 인도, 인도네시아 등에서는 IIOE-2 프로젝트의 중요성과 참여의사를 발언을 통해 밝힘
- 세이셸, 이탈리아 등은 UN Decade와 블루이코노미 연결지어 발전시켜야 함을 강조
- 필리핀, 노르웨이는 발언을 통해 BBNJ의 중요성을 강조

○ 결의문 원안대로 승인

3.3 IOC 산하 분과위원회 및 지역위원회 의장 보고

3.3.1 IOC 서태평양 분과위원회

- Vo Si Tuan(베트남) IOC/WESTPAC 의장은 제12차 WESTPAC 총회 개최 결과를 포함하여, 지난 회기간 주요성과에 대하여 보고
 - 제12차 WESTPAC 총회(2019.4.2~5, 필리핀 마닐라)에 16개국 100여명의 대표단이 참석
 - 지역워크숍 개최, 지역교육훈련연구센터(RTRC) 운영을 통한 역량개발, 해양과학 우수 연구센터 강화, UN Decade 목표와 부합하는 국제 프로그램 활동을 운영 개발함으로써 UN Decade에 기여하고 있음을 발표
- 주요성과
 - RTRC 3개 신규 설립(필리핀, 베트남, 중국)
 - 2차 쿠로시오 및 인근해역에 대한 공동연구 타당성 조사 실시
- 향후계획
 - IOC/WESTPAC-PICES와 공동주관 지역워크숍(2019.7.31~8.2, 일본 도쿄) 개최
 - 2020년 WESTPAC 국제 해양과학 컨퍼런스 개최(인도네시아)
 - 2021년 제13차 WESTPAC 총회(인도네시아와 방글라데시에서 유치 의사를 표명하여 개최지 협의 중)
- 일본, 태국, 한국, 인도네시아 등은 발언을 통해 지역워크숍 참여 의사를 표명하고, GOOS와 같은 IOC 관측프로그램을 통한 UN Decade 이행 참여, 지역교육훈련연구센터(Regional Training Research Center, RTRC) 치하 등 발언

- 특히, 한국은 WESTPAC 해양과학컨퍼런스 성과 치하, 한국에서 참여하고 있는 WESTPAC 프로그램(유해조류 발생, 산호초 연구 등), RTRC를 통한 기술이전 및 역량개발 중요성, UN Decade 이행계획에 RTRC를 포함시킬 것을 제안
- 인도는 IOC의 지역위원회(Regional Committee)인 IOCINDIO와 IOC/WESTPAC 이 인도 - 태평양(인도양 동쪽) 연구협력을 제안
- GEBCO는 SEABED 2030 이행을 위해 GEBCO Guiding committee와 IOC/WESTPAC 협력을 제안
- 사무총장은 Ocean Global Teacher Academy 참여를 독려
- 결의문 원안대로 승인

3.3.2 IOC 카리브해 및 인접지역 분과위원회

- Arnulfo Sanchez(파나마) IOCARIBE 신임의장은 2017~2019 프로그램 수행 결과를 보고함
 - 카리브해 및 인접해역 유해조류 대량 발생, 모자반(sargassum) 발생 관측, IODE 등
- 그레나다, 프랑스, 멕시코, 브라질, 콜롬비아, 미국, 영국, 세인트빈센트 그레나다, GEBCO, 남아프리카가 발언
- 그레나다는 쿠바, 세인트빈센트 그레나다와 함께 UN Decade에 대한 기여 내용이 추가된 수정 결의문을 제출함
- 미국은 IOCARIBE 프로그램 변동성을 언급하며, 해양과학의 관측 중요성 피력. 모자반(sargassum) 발생 예측 능력 향상, 허리케인 예측 능력 향상, 브라질 해양산성화(센터), 콜롬비아에 위치한 Global Ocean Teacher Academy 언급

3.3.3 IOC 아프리카 및 인접도서국 분과위원회

- Mohamed Said(이집트) IOCAFRICA 의장은 2017~2019 제5차 IOCAFRICA 총회를 포함한 IOCAFRICA의 주요 성과, 2019~2021 활동 계획에 대해 소개함
 - 해양관측&모니터링, 해양과학평가, 해양데이터 정보관리, 역량개발, 과학정책 인터페이스 & 지식 향상 목적

- 2020년 지속가능한 발전을 위한 아프리카대륙 해양과학 컨퍼런스(Pan-African Conference on Ocean Sciences for Sustainable Development)를 이집트에서 열 것을 권고하며, IOCAFRICA 전략기획 그룹 구성 등 제안
- 케냐, 탄자니아, 남아프리카, 코트디부아르, 모로코, 마다가스카 등 발언을 통해 기후변화에 대한 역량분야가 필요하며, IIOE-2 참여, 아프리카대륙 해양과학컨퍼런스를 이집트에서 유치하는데 찬성
- 나이지리아에서는 제6차 IOCAFRICA 총회를 유치하였음을 보고
- 중국은 블루이코노미 관련, 중국과 IOCAFRICA 간 협력을 홍보하며, IOC 프레임 워크 하에서 협력활동을 개발할 것을 제안
- 이탈리아에서는 지중해지역 협력활동, UN Decade 동안 지중해지역 워크숍에 아프리카 국가 초청(베니스에서 개최 예정)
- 코트디부아르는 결의안 문구를 추가하였으며, 튀니지에서 재청함. 아프리카 대륙 GOOS 활동의 효과적인 수행을 위하여 신규 GOOS 아프리카 조정위원회 미팅과 IOCAFRICA 의장단 미팅을 조직(지원)할 것을 사무총장에 요청

3.3.4 IOC 중앙 인도양 지역위원회

- M. A. Atmanand IOCINDIO 의장은 2017~2019년 간 IOCINDIO 성과를 소개함. 주요성으로 RTRC 운용해양학 국제교육훈련센터(International Training Centre on Operational Oceanography)가 인도에 설치되었음이 보고됨
- 아울러 Regional Committee(지역위원회)에서 sub-commission(지역분과위원회)로 격상하기 위한 논의가 이루어짐. 사무총장은 의장단에 지역분과위원회로써의 임무, 회원국, 의장단 등을 구성하여 차기 집행이사회에 보고 후 31차 총회에서 승인되어야 함을 안내
- 인도에서 지역분과위원회 격상 관련 결의문 문구를 추가하는 것을 제안하였으나, IOC 의장은 IOC 절차규약 확인이 필요하며, 집행이사회에 상정되어 검토 후 총회에서 확정되는 프로세스를 재 안내

3.4 제40차 UNESCO 총회에 2018~2019년도 IOC 활동 보고

- 원안대로 채택

[2019 해양과학의날(Ocean Science Day) 행사]

- 일시 및 장소: 2019.6.27.(목), 유네스코본부 회의실 I
- (패널 1) Science Imperatives for the upcoming UN Decade
 - 사회자: Salvatore Arico
 - 토론자: Detlef Stammer(WCRP 공동과학위원회 위원장), Peter Thompson(CSIRO), Kerstin Forsberg(Planeta Oceano* 설립자), Jan Mees(플랑드르 해양연구소장)
 - * 페루 비영리 단체
 - 논의내용: UN Decade 동안 중요하게 다루어져야할 이슈-기후변화, 모델링, Ocean Literacy, 교육 및 커뮤니케이션, GOSR 발간-에 대한 논의
- (패널 2) 사회를 위한 과학
 - 사회자: Kerstin Forsberg
 - 토론자: Elva Escobar-Briones(멕시코 UNAM), Raphael Bille(Pacific Community), Micheni Japhet Ntiba(케냐 농수산·블루이코노미 부처), Hellen Kizenga(탄자니아 해양과학연구소 학생)

4. IOC와 해양의 미래: 전략 개발

4.1 지속가능한 발전을 위한 UN 해양과학 10개년(UN Decade) 준비에 대한 경과 보고

- Vladimir Ryabinin 사무총장은 2017년 12월 UN총회에서 IOC에 UN Decade 이행계획 수립을 위임받은 이후, 성과에 대해서 소개함
- 사무총장은 해양과학 조직에서의 패러다임을 바꾸는 것에 대한 중요성을 강조함. UN Decade의 6대 사회적 성과를 소개하고, 1990년대 GOOS를 기획할 당시의 경험을 토대로, 향후 복잡한 체계를 어떻게 구축해 나갈지에 대해서 설명

- 먼저 우선순위 분야 및 4개의 UN Decade 초석(Georeferenced Atlas), 해양정보데이터포털 지식평가(Assessment of knowledge), 경제/과학 - 정책 인터페이스, 사회적 적용)을 선정, 이를 기반으로 잠재적 미션/프로젝트를 발굴(해저 및 생태계 해양지도 완성, 심해저 관측, 극지연구 관측, eDNA, 해양 생명체를 위한 해양관측, 해양 생태계 guided adaptation 등)
 - UN Decade R&D 우선순위 분야
 - (분야 1) 포괄적인 해양 지도(디지털 아틀라스)
 - (분야 2) 관측시스템
 - (분야 3) 해양 생태계 - LME
 - (분야 4) 해양데이터 및 정보 시스템 - 빅데이터
 - (분야 5) 포괄적인 DRR 시스템(조기경보 시스템)
 - (분야 6) 지구시스템에서의 해양 - 미래 지구시스템 예측, 평가 모델, 인구, 오염, 수로학 등, 실용적인 모델
 - (분야 7) 역량개발, 해양적 소양 향상
- Julian Barbieri 정책&지역조정섹션 책임자는 UN Decade 준비단계 경과 및 계획에 대하여 소개
- (EPG 구성 보고) 6개의 UN 지역그룹에서 19명 멤버로 구성
 - (향후 계획)
 - 2차 EPG 미팅(2020년 초, 유네스코 본부) 개최
 - 2020년에 UN Decade 이행계획 초안(version 1)이 나올 예정이며, 과학계획/액션플랜, 수행프로그램(work programme), 역량개발 우선순위, 승인기준/절차(endorsement criteria/process), 거버넌스 조정, 커뮤니케이션 & 참여계획 등 수록 예정
 - (지역워크숍 현황) 캐나다, 멕시코, 에콰도르, 브라질, 인도양, 이탈리아, ICES, IOC/WESTPAC&PICES-일본 등에서 개최 예정
 - (활동의 종류)
 - 프로그램(글로벌/지역 규모, 장기적)
 - 프로젝트(착수에 중점적, 독립적, 제한된 기한, 1~2개 단체(entities)에 의해 수행)
 - 가능한 활동(단기, UN Decade 프로그램/프로젝트 지원/보조)

- 기여(펀드, 데이터, 현물 등)
 - 젊은 과학자, Early Career 전문가 참여 중요 강조
 - 재정지원 관련하여, 한국(해수부, KIOST), 일본 MEXT, 노르웨이, 플랑드르 지방정부 등에 감사를 표하며, 2019~2020 동안 필요한 예산으로 미화 990K 제시
 - 회원국이 기여할 수 있는 방법으로는 국가, 지역적 UN Decade 활동 개최, 국가 조정기구 설치, 사무국 설립, 지역 메카니즘 강화(IOC 지역위원회), 직원파견(중앙 혹은 분원 사무국), 재정지원 등이 있음
- Peter Thomson(UN 해양특별대사, UN special Envoy for the ocean)은 UN Decade 지지성명을 통해 UN Decade는 저하되고 있는 해양 건강성(ocean health)을 보전하는데 일생일대의 기회임을 강조함. 2020년 6월 2일~6일 간 포르투갈 리스본에서 개최되는 제2차 UN 컨퍼런스에 대하여 안내
- Petteri Taalas WMO 사무총장 UN Decade 지지 발언(동영상으로 대체)
- 노르웨이는 한국과 함께 결의안을 제출함을 선언
- 한국은 발언을 통해 UN Decade에 대한 한국의 기여사항과 향후 UN Decade 조정사무국 유치 의사를 밝힘
- 해당 의제에 대하여 필리핀, 독일, 콜롬비아, 일본, 영국, 케냐, 칠레, 미국, 포르투갈, 탄자니아, 노르웨이, 러시아, 호주, 브라질, 캐나다, 스페인, 코트디부아르, 모로코, SCOR가 차례로 발언을 통해 결의안 지지, EPG 활동 계획(구체적 업무 및 활동일정)에 대한 상세 정보를 요청하였으며 홈페이지 개설 치하, UN Decade 이행계획 수립에 기여한 자국의 성과와 계획을 밝힘
 - 독일은 2021년 1분기에 UN Decade kick-off 미팅을 베를린에서 개최할 예정
 - 일본은 신탁기금을 통해 IOC에 재정적 지원한 바 있으며, 2019년 7월 31일~8월 2일 IOC/WESTPAC 및 PICES와 지역워크숍을 개최함을 안내. 특히, UN Decade 로드맵 상 6개 사회적 성과와 7대 우선순위 중 해양 데이터 정보 공유에 대한 중요성을 강조함. ODIS를 포함한 정보공유 시스템은 IOC와 같은 조직을 통해서가 아니면 이루기 힘들다는 점을 언급함
 - 영국은 해양데이터 센터를 통한 기여, 스코틀랜드 정부와 함께 프로그램 분석능력

개발을 통해 해양과학 분야의 변화를 도모하고 있음을 소개함

- 케냐는 젊은이와 여성의 참여를 독려하고, 2020년 UN Conference를 포르투갈과 공동 유치함으로써 회원국과 향후 UN Decade 협력방안 찾고자 함. 아울러 2019년 11월 제40차 UNESCO 총회(General Conference)에서 블루이코노미 사이드 이벤트를 개최할 예정임을 안내
 - 미국은 UN Decade에 미국의 혁신한 바에 대해 홍보하고, 프로젝트를 수행하는 데 있어서 민간(private company)의 지원/투자 필요함을 강조
 - 포르투갈은 2020년 제2차 UN Conference와 연계하여 제2차 글로벌기획미팅(Global Planning Meeting) 유치하고자 함
 - 러시아는 새로 건조된 연구선으로 유럽지역 기후변화 분석 연구를 추진하며, IOC와 다른 기구들과 UN Decade 협력의사를 밝힘
 - 브라질은 남대서양 지역워크숍(2019.11.27, 리우데자네이로)을 유치하였으며, 아프리카 국가의 참여 독려
 - 캐나다는 2020년 1월 지역워크숍 유치하였음을 안내. 지난해 케냐에서 개최된 블루이코노미 컨퍼런스를 상기하였으며, UN Decade 사무국 유치 의사를 표명함
 - SCOR는 제2차 국제 인도양탐사 프로젝트(IIOE-2)를 UN Decade 하에서 IOC, SCOR, IO-GOOS가 공동후원하는 프로젝트로 추진하는 방안을 제시함
 - IOC 사무국은 아프리카 지역워크숍(Regional Consultation Workshop) 관련, 아프리카 남서쪽지역은 브라질에서 개최하는 지역워크숍에, 동아프리카 지역은 인도양 지역워크숍에 참석할 것을 권고
- 미국은 결의안 문구 수정을 제안하였으며, 아르헨티나는 회원국의 UN Decade 준비 단계 기여에 대한 사의를 표한다는 문구에 글로벌/지역워크숍 유치국가를 모두 추가할 것을 제안

4.2 UN Decade와 2030 아젠다 지원을 위한 IOC 활동

- Vladimir Ryabinin 사무총장은 IOC 사무국이 UN Decade 관련 발전사항을 전문가그룹에 알리기 위해 회기간 노력했던 바에 대하여 소개함
- 호주, 독일, 아르헨티나에서 결정문 일부 수정 제안

- 독일에서는 역량개발의 중요성 강조하며, 아르헨티나와 함께 역량개발에 대한 기여 내용을 결정문에 추가
- 추가된 내용: 해양건강성에 대한 해결책 개발, 해양환경 보호, 역량개발 추가

5. UN과의 협력

5.1 세계기상기구(WMO)와의 협력

- WMO 조직개편에 대한 홍보 동영상 방영 후, WMO 사무총장 불참으로 Sarah Grimes 해양기상 및 해양부문 부장대행(acting chief) WMO 구조개편에 대해서 소개
- 제18차 세계 기상총회(World Meteorological Congress, 2019년 6월) 전략 계획의 채택과 WMO 구성기구의 조직개편에 대한 결의사항들을 소개함
- Ariel Troisi 부의장은 JCOMM 미래에 대한 WMO-IOC 자문그룹(Joint Consultation Group)의 제안을 소개하였으며, 그 내용은 WMO-IOC 공동위원회(Joint WMO-IOC Collaborative Board) 설립과 JCOMM에서 이루어진 관측, 자료관리, 예측시스템, 서비스관련 협력을 지속할 것을 제안한 것임
- JCOMM이 구조개편이 되더라도 각 회원국뿐만 아니라 연구기관 포함한 전문가그룹들까지 협력은 계속될 것이며, 공동위원회는 기술적인 부분을 포함한 더 상위개념의 전략적 단계의 협력임을 강조하였으며, 과도기에서 발생하는 문제들을 체크하면서 진행할 것임을 강조함
- IOC 회원국 중 IOC 회람문서에 코멘트 회신한 국가는 15개국으로 공동위원회 설립에 대해 대체로 긍정적이었으며, 기상학과 해양학서비스 통합 증진 등 기상과 해양의 협력은 증진되어야 한다는 내용이었음

5.2 유엔기후변화협약(UNFCCC)에 대한 IOC의 기여

- Dr.Joanna Post(UNFCCC 사무국) IOC와 UNFCCC와의 협력에 대하여 발표함
 - IOC는 UNFCCC 당사국 회의(COP)에서 UNFCCC를 지원하기 위한 과학 및 기술

협력의 기회를 포함하여 기후 변화에 대한 해양의 역할에 대해 알리는 과정에 적극적으로 기여하고 있으며, 이와 관련되어 해양의 날, Global Ocean Forum 등 다양한 활동을 진행함

- 또한, 2019년 9월 모나코에서 개최되는 해양 및 빙권 IPCC 특별보고서 작성의 저자들 인력풀 구성에 대한 IOC 기여에 대한 언급이 있었음

6. 해양연구

6.1 유해조류 대량발생: 제14차 IPHAB 총회

- Henrik Enevoldsen 유해조류에 대한 IOC 과학·커뮤니케이션 센터장은 제14차 IPHAB의 주요 성과에 대해 보고함

* IPHAB : IOC 유해조류 대량발생 정부간 패널

- 총회 결과 8개의 결정문 및 2개의 권고안이 총회에 상정됨. 8개의 결정문: ① 조기 발견 대책반(Task Team) 설치, ② 지역 HAB 프로그램 개발, ③ 주기적인 국제 유해조류 대량발생 현황보고 발전을 위한 대책반 신규 ToR 및 계속 운영, ④ 국제기관간 시구아테라 어독 전략에 대한 대책반 신규 ToR 및 계속 운영, ⑤ 유해조류 및 해수 담수화에 대한 대책반 신규 ToR 및 계속 운영, ⑥ 생물독소 모니터링, 관리 및 규제 대책반 신규 ToR 및 계속 운영, ⑦ 조류분류학(Algal Taxonomy) 대책반 ToR 변경없이 계속 운영, ⑧ 유해조류 및 어류폐사에 대한 대책반 ToR 변경없이 계속 운영

- 아일랜드, 칠레, 태국, 일본, 한국, 영국, 멕시코, 스페인, 모리타니아에서 총회 결과로 상정된 결의문지지, 활동 참여의사 등 발언

- 우리나라는 IPHAB 총회 결과를 지지하며, 적조 대량발생에 대응하여 추진해온 적조 실시간 모니터링 및 예측시스템 구축 경험을 회원국과 공유하여 지원할 것을 발언함

- 태국과 일본은 IOC/WESPTAC 프로그램을 통해 기여할 것을 밝히며, 특히 태국에서는 신규로 개설한 어독 관련 RTRC를 통해 역량개발에 기여할 것을 발언함

- 중국은 해양에서의 기후변화 및 해양 식물성플랑크톤의 국제동향에 대한 워킹그룹

- (TrendsPO)하에서 지속적인 지원 의사를 표명함
- 멕시코에서는 모자반(sargassum) 관련 고위급회의(high level meeting)가 개최될 예정임
 - 모리타니아에서는 유해조류 관련 신규 데이터를 보유하고 있음을 안내하고, 역량 개발 측면에서 젊은 해양과학자 양성, 정책결정자 양성 중요성에 대하여 강조함

6.2 WMO-IOC-ISC 세계기후연구프로그램(WCRP) 활동 보고

- Salvatore Arico 해양과학섹션 책임자는 WCRP 활동을 보고함. WCRP의 전략 및 실행계획이 발전되었고, 특히 기후변화과학 커뮤니티가 지속가능한 발전을 위한 UN 해양과학 10개년 목표에 기여할 수 있는 것이 부각되었음
- WCRP의 공동스폰서인 WMO, ISC의 공동후원 협약이 2020년 갱신되며, 지속적인 협력과 후원이 진행될 것임
- 결의문 원안대로 채택

7. 관측시스템 및 데이터관리

7.1 관측시스템

7.1.1 전지구 해양관측시스템(GOOS): 전략, 이행, 그리고 거버넌스

- Toste Tanhua GOOS 조정위원회(Steering Committee) 공동의장이 동 의제에 대하여 보고함
- 2018년 제51차 IOC 집행이사회에 제출된 전지구 해양관측시스템 2030 전략(GOOS 2030 Strategy)에 대하여 IOC 회람문서 2726(2018.8.8)를 통해 회원국의 의견을 요청한 바 있음
- 2020년 JCOMM 해산과 관련하여, GOOS는 관측과 운용해양예보시스템에 대한 JCOMM의 기능과 활동(JCOMM 관측협력그룹)을 통합할 준비가 되어 있고, 향후 공동지배구조에 대한 반영을 준비 중임

- GOOS 관련 프로젝트 보고(AtlantOS*, TPOS 2020**)
 - * AtlantOS: 전 대서양 해양관측시스템에 대한 비전개발에 기여해왔고, 대서양 주변국의 관련 기관과 협력 메커니즘 개발 추진
 - ** TPOS(열대태평양 관측시스템) 2020 제2차 보고서: 기후변화 관측, 기후전망 및 예측을 향상시키는 것을 주된 목표로 하고, 열대 태평양 관측에 대한 설계 권고에 초점을 맞춤
- 제18차 세계기상총회에서 채택된 IOC 관련 세 가지 결의안 보고
 - ① GOOS 관련: IOC 총회 승인 조건으로 GOOS 2030 전략 승인. 전략 이행에 기여할 것을 결의. WMO 사무국 내의 GOOS 분산 사무소의 노드 설립 지지. TPOS 2020 제2차 보고서의 권고사항지지, ② 해양기상관측 관련: 배타적 경제 수역(EEZ)을 포함하여 해양기상관측의 중요성을 재확인하고, VOS(기회선박) 및 해표면 관측플랫폼이 운영되는 법적 체계를 명확히 함, ③ 해양관측자료 공유 관련: 예측 및 서비스의 질을 향상시키기 위한 해면하 해양변수들의 요구사항을 파악하기로 결정하고, 영향력이 큰 해양자료를 자유롭게 이용할 수 있도록 IOC 와 긴밀히 협력하여, 모든 WMO 회원국들이 예측 시스템과 서비스 결과를 이용할 수 있는 역량을 구축함
- 결정문에 2020~2021 GOOS 운영위원회(SC) 지역 전문가 위원 명단 추가
 - 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)
- 호주, 미국, 영국, 불가리아, 중국, 캐나다, 코트디부아르, 인도네시아, 일본, 아르헨티나, 프랑스, 이탈리아, 페루, 한국, 브라질, 모로코, 인도, 러시아, 독일, 남아공, WMO에서 발언. 회원국 및 WMO는 GOOS 2030 전략을 강력히 지지하였으며, 2030 전략 지지를 위한 국내 활동에 대하여 소개. 일부 국가는 GOOS 활동 확대 의사를 밝힘
- 아울러 다수의 회원국으로부터 열대태평양관측시스템(TPOS) 2020 및 대서양관

측시스템(AtlantOS) 참여를 촉구하는 발언이 이루어짐

- 영국에서는 GOOS 2030 전략이 UN Decade와 깊은 관련있음을 상기시키며, 대서양 기후 관측에 집중할 계획임을 밝힘. 해양관측 데이터가 UN decade priority 분야 중 하나임을 고려하여, G7 국가 멤버들이 관측 분야 조정센터(observation coordination center)를 설치할 의향이 있음을 발언함
- 우리나라는 GOOS 2030 전략을 지지하며, UN Decade 이행을 위하여 Argo, IIOE-2, NEAR-GOOS 등의 프로젝트에 지속적으로 참여할 의사를 표명함
- 인도에서는 40개의 부이와 50 Argo 플로트, 해수면관측 게이지 운영하고 있으며, 기후변화 및 사이클론 등 연구성과를 홍보하고, 향후 IIOE-2가 IOC-GOOS에 기여할 것임을 언급함

○ 독일, 아르헨티나, 인도 의견을 반영하여 결의문 수정

- 아르헨티나, 독일에서는 결정문에 Atloantos, OceanObs'19 컨퍼런스(2019.9.16~20, 미국 하와이) 개최에 대한 내용 추가할 것을 건의하였으며 반영됨
- 인도에서 제안한 문구 추가: Notes Ocean observing system review activities in the Indian Ocean(INDOOS) and tropical Atlantic ocean(TAOS)

7.1.2 WMO-ISC-IOC-UNEP 세계기후관측시스템(GCOS) 10년 전략

- GCOS의 Carolin Richter 의장이 GCOS에 대한 현황보고서와 업무 계획을 소개하며 1997년 이후 체계적인 관측을 주도하여 UNFCCC의 기후변동성과 기후변화의 원인 규명, 기후변화의 강제력에 대한 모니터링을 수행해왔음을 소개함
- 필요한 기후관련 정보에 대한 자유로운 접근을 비전으로 IOC, WMO, ISC, UNEP의 다양한 기구에 관련되어 있으며, 다양한 기후 관련 관측자료와 모델자료들을 활용하여 정책에 반영할 수 있는 기반을 마련해왔음
- GCOS는 기후변화를 이해하고 예측하고, 완화 및 적응 조치를 안내하고, 위험을 평가하고, 기후변화관련 현상에 대한 원인 규명을 가능하고 기후서비스를 뒷받침하게 하는 데 필요한 경험적 증거를 제공하기 위해 기후 관측이 향상되고 지속될 수 있도록 노력함

- 이러한 GCOS 프로그램에 GOOS의 활동과 기후관측과 관련 IOC회원국들의 기여에 감사함을 표하며, 이러한 노력들이 지속적으로 유지되기를 희망함
- 대한민국 대표단은 GCOS의 업무와 계획에 지지를 표명하고, 2018년 12월 발사에 성공한 새로운 기상위성인 GK-2A를 활용해서도 지속적인 핵심기후변수 산출을 위해 노력할 것이며, 위성산출물 활용에 협력이 지속적으로 필요함을 강조함

7.1.3 WMO-IOC 해양학 및 해양기상 공동기술위원회(JCOMM)

- JCOMM의 공동의장인 Nadia Pinardi 교수가 JCOMM의 마지막 보고로 아쉬움을 나타냈지만 WMO-IOC 자문그룹이 제안한 WMO와 IOC의 새로운 협력체계는 새로운 기회임을 강조함
- 해양기상학 및 해양학 데이터 관리를 위한 WMO와 IOC 공동전략(2018~2021)과 JCOMMOPS에 대한 검토결과와 미래에 대해 소개하였으며, JCOMMOPS가 네트워크 종합방식이 아닌 시스템 구축 수준으로 발전해야 할 필요성을 강조하며, 현재 신탁기금잔액이 소진되어 긴급한 상황임을 소개함
- 대한민국 대표단은 JCOMM 공동의장과 사무국의 노고를 치하하는 발언을 하였으며, JCOMM과 관련하여 기상청에서 지원하는 WMO의 사업인, CIFDP-피지 사업의 경과를 설명하고, JCOMM과 새로운 체제인 WMO-IOC 공동위원회에도 계속 지원할 것임을 밝힘

7.2 데이터 관리

7.2.1 국제해양자료 및 정보교환위원회(IODE): 제25차 IODE 총회

- Sergey Belov IODE 공동의장은 일본 도쿄에서 개최된 IODE 과학컨퍼런스(2019. 2.18~19)와 제25차 총회(2019.2.20~22) 결과를 소개함(39개국 100여명 참석자 참석)
- 67개 NODC(국가 해양데이터센터) 운영 소개
 - IODE의 QMF(품질경영프레임워크) 프로젝트를 통해 성공적으로 해양자료의 품질을 관리하고 서비스하는 기관에게 부여하는 “인증 국가해양자료센터”에 우리

나라 한국해양자료센터(KODC)를 포함하여 6개국이 새롭게 인증되었음을 알림

* 현재까지 9개국 NODC와 1개 ADU가 IODE QMF 인증(우리나라 KODC는 2017년 8월, 세계 5번째로 인증)

- 15개 글로벌 프로젝트 소개
 - OBIS, Oceanexpert, Open Science Directory 등
- WMO와 JCOMM과의 IODE의 협력 소개
- Ocean Teacher Global Academy(OTGA) 9개 지역교육훈련센터 운영
- 일본의 지원에 감사(인턴 파견, 재정지원 및 행사개최)
- 인도네시아, 중국, 한국, 일본, 베트남, 아르헨티나, 미국, 러시아, 프랑스, 케냐, 영국, 세네갈, 남아공, 호주, WMO, 콜롬비아, 인도, GOOS 등 발언
 - 우리나라는 KODC의 지속적인 운영을 통해 IOC 자료교환정책에 따른 해양자료 및 정보 교환에 기여하며, 향후 KODC의 품질경영시스템을 확립한 한국의 경험을 회원국에 공유할 의사를 밝힘

7.2.2 해양자료·정보시스템(ODIS) 초안

- Mr Taco de Bruin IODE 공동의장이 해당 아이템에 대해 소개
 - 2016년 제24차 IODE 총회에서 채택된 결의문 IODE-XXIV.4를 상기시킴. ODIS 개념 개발을 위한 회기간 워킹그룹을 설립하여 ODIS 개념서를 작성하였으며, 제25차 IODE 총회에서 검토 및 승인됨.
 - 아울러, IOC 해양자료 및 정보시스템 소스 카탈로그(ODIScat: Catalogue of Resources) 설립 권고안 및 ODIS를 위한 실행계획 및 비용절감 분석 회기간 워킹그룹 설립에 대한 권고안을 채택함(2019.2.1. 런칭) - 프로토타입
- 공동의장은 ODIS가 기존 해양 데이터 및 정보시스템, 생산물, 서비스를 촉진할 수 있는 프레임워크가 될 것임을 언급함
- 영국, 캐나다, 일본 등에서는 해양데이터 접근 및 이용의 중요성을 인지하며, IODE 국가시스템 구축 경험을 공유할 의향을 밝힘
 - 우리나라는 발언을 통해, ODIS 개념서와 이행계획을 지지하고, 동 분야가 UN

Decade R&D 우선순위 분야 중 하나임을 고려하여, 이제 막 ODIS 개발의 첫 단계를 마무리한 상황에서 이후의 본격적인 ODIS 개발을 위해 IOC 차원의 적절한 예산 배정을 촉구하였음

- 러시아 정부는 ODIS에 적극적으로 참여할 의향을 밝히며, 결의안에 러시아에서 주도했던 Ocean Data Portal(ODP) 구축 내용을 추가할 것을 요청하였으나, 반영되지 않음

8. 조기경보 및 서비스

8.1 지역별 지진해일(쓰나미) 경보 시스템 정부간 협력그룹 총회

8.2 제12차 TOWS-WG 회의(지진해일, 해수면 등 기타 위험 경보 및 저감 시스템에 대한 실무작업반)

- 4개 지역별 정부간 협력그룹 총회의 요약보고서와 제12차 지진해일, 해수면 등 기타 위험 경보 및 저감시스템에 대한 실무작업반(TOWS-WG) 회의 요약보고서가 보고됨
 - 제28차 ICG/PTWS(태평양 지진해일 경보 및 저감시스템 정부간 협력그룹) 총회
 - 제12차 ICG/IOTWS(인도양 지진해일 경보 및 저감시스템 정부간 협력그룹) 총회
 - 제14차 ICG/CARIBE-EWS(카리브해 및 주변지역 지진해일 및 연안지역 경보시스템 정부간 협력그룹) 총회
 - 제15차 ICG/NEAMTWS(북동대서양, 지중해와 그 관련지역 지진해일 경보 및 저감시스템 정부간 협력그룹) 총회
- 우리나라가 포함된 ICG/PTWS 의장인 Wilfried Strauch(니카라과) 박사가 ICG/PTWS의 최근 발전된 결과들을 보고함. 발전된 결과들에는 Northwest Pacific Tsunami Advisory Centre(NWPTAC)의 강화된 결과물(실시간 시뮬레이션에 기반한 그래픽, 이해하기 쉬운 결과물) 전환 및 South China Sea Tsunami Advisory Center(SCSTAC)의 현업체제 시작을 포함함

9. 정책을 위한 평가 및 정보

9.1 IHO-IOC 대양수심도 운영위원회(GEBCO Guiding Committee) 보고

- Dr. Shin Tani GEBCO Guiding Committee 의장은 GEBCO 및 니폰재단 GEBCO Seabed 2030 프로젝트 이행 2017~2019년도 활동을 보고함
- GGC 의장 임기가 5년을 3년으로 조정됨
- 탄자니아, 영국, 러시아, 브라질, 아르헨티나, 코트디부아르, 인도, 캐나다, 인도네시아, 한국, 모로코, 독일, 포르투갈에서는 GEBCO 활동에 대한 자국의 기여활동과 GGC 의장 임기 조정에 대한 내용이 포함된 결의문을 지지함을 발언함
 - 중국에서는 GEBCO Working Group 참여 및 USD 2,000을 GEBCO 활동에 투자함으로써 적극적으로 참여하고 있음 강조
 - 미국은 전지구 맵핑과 지역적 맵핑 활동을 통한 데이터 축적, 지식의 공유 중요성을 강조
 - 러시아에서는 관련 프로그램에 자국 연구선 활용을 희망함
 - 브라질에서는 GEBCO Guiding Committee에 참여하고 있으며, 한 번 더 참여하려는 의사를 밝힘(현재 브라질 전문가(DHN 소속)가 5년간 활동 중)
 - 프랑스에서는 GEBCO 관련 문서를 여러 가지 언어로 번역했으면 좋겠다고 건의
 - 인도에서는 IODINDIO를 통해 GEBCO에 협력 의사를 밝힘
 - 인도네시아는 2022년 신규 연구선 운항 예정이며, 이를 활용코자 함
 - 모로코에서는 아프리카 대륙 GEBCO 전략 마련 필요함을 강조
 - 캐나다, 포르투갈 등에서는 데이터 제공 및 관련 활동에 적극적으로 참여하고 있음을 발언

10. 지속가능한 관리 및 거버넌스

10.1 IOC와 관련 있는 국가관할권이원영역 해양생물다양성 보존 및 지속가능한 이용(BBNJ) 이슈

- Ariel Troisi 부의장은 BBNJ PrepCom(Preparation committee) Inter Governmental conference (IGC)에 참여하여 IOC입장 대변하고 있음을 설명하며, 관련 활동을 보고함
- 금년 10월 말에 3rd IGC열릴 예정. Transfer of Marine Technology(TMT) 가 중요 의제 중 하나임
- 코스타리카, 독일, 캐나다, 중국, 멕시코, 영국, 남아공, 일본, 스페인 등에서는 IOC가 BBNJ에 과학적인 측면에서 기여할 수 있으며(특히 데이터 공유 측면), 결의문 지지 발언함
- 사무총장은 Funding agency 간에만 연관된게 아니라, 법적으로 구속력이 있는 장치가 필요함을 언급함

10.2 통합연안지역관리계획(ICAM) 전략이행

- Alejandro Iglesias Campos ICAM 기술사무국장(technical secretary)이 해당 아이টে에 대하여 소개함

11. 역량강화

11.1 IOC 역량강화 전략을 위한 회기간 실무작업반 보고

- Ariel Troisi 부의장은 의제에 대하여 소개함. 제29차 총회에서 IOC 역량개발 전문가그룹(Group of Experts) 설립에 대한 결의문(IOC-XXIX/10.1) 채택되었음을 상기시킴
- 부의장은 역량개발에 대한 전문가그룹 제1차 총회(2018.3.21~23, 유네스코본부) 결과를 보고함

- 참석자: 41명(전문가그룹 멤버, 협력 프로젝트 및 기관 대표, IOC 사무국 직원 포함)
- 2개의 대책반(TMT/CHM 관련 활동 대책반, 회원국 역량개발 요구사항에 대한 대책반) 설립
- 역량개발 요구사항에 대한 온라인 설문 실시 결과 49개의 응답 수신(WESTPAC으로부터는 13개의 답변을 수신함)
- 콜롬비아 IOCARIBE pilot(콜롬비아 INVEMAR에서 개발)-CHM 포털 시범운영
- 벨기에, 필리핀, 영국, 중국, 한국, WMO, 아르헨티나, 탄자니아, 코트디부아르, 피지, 브라질, 미국, SPC는 역량개발에 대한 자국의 기여사항 안내, 역량개발 프로그램의 개발과 이행을 적극적으로 지지함을 발언하였으며, 일부 국가에 의해 IOC가 역량개발 프레임워크를 확대하길 바란다는 취지의 발언이 이루어짐
- 우리나라는 APEC 해양환경훈련·교육센터(AMETEC), 런던의정서 경영공학 석사 과정에 대해 안내하고, 2018년 초 신탁기금을 통해 전지구해양과학보고서(GOSR) 포털 구축을 지원한 바, GOSR 포털이 정책결정에 필요한 정보 확산에 기여할 수 있길 희망함을 언급

11.2 해양적 소양(Ocean Literacy)에 대한 IOC의 기여

- Francesca Santoro 해양적 소양을 위한 프로그램 전문가는 해당 아이টে을 소개하여, IOC 역량개발 전략(2015~2021)의 성과로 해양적 소양의 가시성(visibility) 및 인지도가 향상되었음을 상기함. 또한, UN Decade의 일환으로 해양적 소양의 역할이 커지고 있음을 상기시킴.
- 해양적 소양 액션플랜 초안과 지난해 해양적 소양 대표 활동(pilot activities)으로 Ocean Literacy Portal, Ocean Literacy Conference 등을 소개
- 코스타리카, 한국, 케냐, 독일, 인도네시아, 브라질, 일본 등 발언
 - 인도네시아는 2017년부터 국가 훈련 프로그램 및 어부(fishermen) 교육훈련 프로그램을 운영 중이며, 2022년 자카르타에서 개최되는 국제해양과학컨퍼런스를 홍보함
 - 일본에서는 국가적 차원에서 해양적 소양 개발을 위해 해양산성화센터를 도쿄에 설립하였으며, 올해 Ocean Literacy for all 보고서를 일본어로 번역하여 자국에 확

- 산시킴 계획임을 보고
- 포르투갈에서는 UN Decade 준비단계에서 학교를 대상으로 한 대외 홍보활동을 펼치고 있으며, 국가 이니셔티브(블루 에듀케이션 프로그램)을 성공적으로 운영하고 있음을 보고
- 케냐에서는 Ocean Teacher Global Academy 유치 의사를 포함
- 우리나라는 세계 최초로 Ocean Literacy 개념을 기반으로 설립된 ‘국립해양과학교육관’이 2020년 6월 개관 예정임을 안내하고, 유네스코 한국위원회와 협력하여 ‘SDG 14 해설서’ 발간 등 해양적 소양 확산을 위해 노력하고 있음을 홍보

12. 행정 및 관리

12.1 집행이사회 결의안 후속조치

- Ariel H. Troisi 부의장은 IFAG 위원장으로써 지난 집행이사회 이후 결의안 EC-LI.2에 대한 후속조치를 보고함. 회의간 재정 자문 그룹 2018/2019 미팅 17개 회원국 참여, 오프라인 미팅에서는 6개국이 참여하였음을 보고
- 결의문 원안대로 채택

12.2 2020~2021 프로그램 및 예산

- Vladimir Ryabinin 사무총장은 3개의 예산 시나리오를 소개함. 각 시나리오는 재정위원회에서 상세히 논의될 것임을 안내
- 가장 가능성이 높은 시나리오는 \$518M임을 알림
- 결의문 원안대로 채택

12.3 IOC 중기계획

- Vladimir Ryabinin 사무총장은 2022~2029 중기 전략 초안에 대하여 보고함
- IOC 중기계획 상위레벨목표(High-level Objectives)(안)

- ① 건강한 해양 생태계와 지속가능한 생태계서비스, ② 효과적인 조기경보시스템, ③ 기후변화와 변동성에 대한 복원력 증진, ④ 지속가능한 해양 경제 발전을 위한 과학서비스, ⑤ 부상하고 있는 해양과학이슈에 대한 향상된 지식
- 엘살바도르, 스페인, 미국, 포르투갈, 아일랜드, 캐나다, 필리핀, 코트디부아르 등에서 발언
 - 스페인, 미국, 포르투갈 등은 발언을 통해 IOC가 사회과학 연구 개발에 참여하길 희망한다고 언급함
 - 그 외 아일랜드, 아프리카 국가들은 아프리카 국가 역량개발 전략에 대해 언급함
 - 캐나다에서는 중기계획에 젠더이슈를 포함시키는 것을 지지
- 엘살바도르의 요청으로 결의안이 수정되었으며, 수정된 안을 승인
 - 수정내용: 2021년 제31차 총회에 앞서 회원국 간 중기전략 문서에 대한 협의를 진행할 것
 - 수정문구: Request the Executive Secretary to continue consultations in an open and inclusive manner with Member States

12.4 재정위원회 의장 보고

- Ariel Troisi 재정위원회 의장은 회기 중 진행된 협의사항에 대하여 안내
- Draft Resolution-Annex 3개 중기전략, Reference IOC Governing Bodies, Guidelines for IOC officers
- IFAG 2019/2020 회기간 주요업무
- Draft Resolution 호주, 벨기에, 중국, 한국 등에 의해 제출됨
- 결의안 초안 채택

12.5 IOC 60주년 기념행사 준비

- Peter Haugan 의장이 해당 아이টে에 대해 소개. IOC 회람문서 2767을 통해 60주년 기념서 작성에 대한 기여를 요청한 바 있음(2019년 9월 15일까지 제출)

- UN Decade opening과 맞춰서 발간
- 한국은 발언을 통해 1954년, 1961년 설립된 KOC, 한국해양학회 역사 제공 의향 있고, 수혜국에서 수여국으로 변모하게 되었으며, IOC 역할에 감사를 전함

12.6 의장단 및 집행이사국 선거 결과

- 의장단 선거 결과

1) 의장 선거: 2명이 출마하여 경합함

가) 선거개표 현황

- 투표국 수: 118
- 무효표: 2
- 유효투표국 수: 116
- 과반표수: 59

나) 후보자별 득표 수

- Mr. Ariel Hernan Troisi(Argentina): 65표
- Mr. Ashley S. Johnson(South Africa): 51표

다) 당선자

- Mr. Ariel Hernan Troisi(Argentina)

2) 부의장 선거

가) 지원 현황: 5개 그룹에서 1명씩 지원하여 무투표로 당선됨

나) 당선자

- Ms. Monika Breuch-Moritz(Germany) Group I
- Mr. Alexander Frolov(Russian Federation) Group II
- Mr. Frederico Antonio Saraiva Nogueira(Brazil) Group III
- Mr. Satesh Chandra Sheno(India) Group IV
- Mr. Karim Hilmi(Monaco) Group V

○ 집행이사국 선거 결과

- 가) 1그룹 : 지원국수(9개국)가 할당된 집행이사국수(9개국)와 같아 무투표 당선됨
(캐나다, 프랑스, 그리스, 이탈리아, 포르투갈, 스페인, 스웨덴, 터키, 영국)
- 나) 2그룹 : 지원국수(1개국)가 할당된 집행이사국 수(2개국)보다 적어 무투표 당선됨(불가리아)
- 다) 3그룹 : 지원국수(7개국)가 할당된 집행이사국수(7개국)와 같아 무투표 당선됨
(칠레, 콜롬비아, 그레나다, 멕시코, 페루, 세인트빈센트 그레나딘, 우루과이)
- 라) 4그룹 : 지원국수(8개국)가 할당된 집행이사국수(8개국)와 같아 무투표 당선됨
(호주, 중국, 이란, 일본, 파키스탄, 필리핀, 한국, 태국)
- 마) 5그룹 : 지원국수(11개국)가 할당된 집행이사국수(8개국)보다 많아 투표가 실시됨(코트디부아르, 이집트, 케냐, 쿠웨이트, 마다가스카르, 오만, 세네갈, 남아프리카)

〈5그룹 투표결과〉

i) 투표 현황

- 투표국 수: 116
- 무효표: 5
- 유효투표국 수: 111
- 과반표수: 56

ii) 후보국별 득표 수

- CONGO: 60표
- COTE D'IVOIRE: 79표
- EGYPT: 96표
- KENYA: 97표
- KUWAIT: 77표
- MADAGASCAR: 80표
- NIGERIA: 62표
- OMAN: 97표
- SENEGAL: 85표
- SOUTH AFRICA: 68표
- UNITED REPUBLIC OF TANZANIA: 44표

12.7 제31차 총회 및 제53차, 제54차 집행이사회

- 2020년 제53차 집행이사회는 6.29~7.3(3.5일), 2021년 제31차 총회는 6월 14~25일 기간 중 집행이사회 1일 포함 6.5일, 해양과학의 날 1일을 추가하여 개최 예정

13. 요약보고서 및 결의안 채택

- 2020~2021 GOOS 운영위원회(Steering Committee) 멤버십 추가

- 추가문구

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)

- Yutaka Michida 결의안위원회 위원장이 총회 기간 중 결의안위원회 활동을 보고함

- 결의안 4.1(노르웨이, 한국에서 제출)

- UK를 United Kingdom of Great Britain & Northern Ireland 국가명 수정
- 독일은 preparatory phase에서 지원하는 것이 아닌 as well as Germany, for offering to host the kick-off conference of the Decade로 수정.
- 수정내용을 반영하여 결의안 승인

- 결의안 5.1(아르헨티나, 독일에서 제출)

- 20번 문구 수정: IOC의 효율적인 운영을 위해, 추가적인 예산이 얼마나 필요한 지 파악하기 위하여 회원국에 필요한 예산 추정치를 알려줄 것을 요청

- 요약 번역본은 8월 31일까지 회람, 10월 15일까지 채택여부 회신필요

14. 폐회

- 금번 총회가 개최된 6.26(수)~7.4(목) 간 42개의 의제에 대하여 논의하고 60개의 결의문과 3개의 결의안을 채택하였음을 안내하며 폐회를 선언함

V 회기 중 위원회 및 기타 활동

[KIMST-IOC 간 LOI(Letter of Intent) 체결]

- 일시 및 장소: 2019.6.28.(금) 9:30, UNESCO 본부 5회의실
- 참석자
 - IOC 측: Vladimir Ryabinin IOC 사무총장, Salvatore Arico IOC 해양과학섹션 부장 등
 - 우리 측: 조승환 KIMST 원장, 김선하 해양수산부 해양개발과 사무관, 배성환 실장, 박윤이 연구원, 염동호 연구원(KIMST), 이윤호 박사(KIOST) 등
- LOI 주요내용
 - UN이 추진하는 지속가능발전목표 14번(SDG 14)*의 달성을 위해 UN 해양과학 10개년 계획이 선정한 7대 R&D와 KIMST가 기획하고 있는 사업간의 연계사항을 발굴하여 인류가 직면한 다양한 문제들을 공동으로 해결하는 데 협력
 - * SDG 14: “지속가능한 발전을 위한 해양과 해양자원의 보존 및 이용(Conserve and sustainably use the oceans, seas and marine resources for sustainable development)”에 관한 것으로서, 해양오염 예방, 해양생태계 보호, 자원회복, 해양과학의 연구역량 증진 등을 목표로 제시

[UN 해양과학 10개년 계획(이하 UN Decade) 준비단계 지원을 위한 KIOST-IOC 간 FIT 레터 교환식]

- 일시 및 장소: 2019.7.3.(수) 9:30, UNESCO 본부 5회의실
- 참석자
 - IOC 측: Vladimir Ryabinin IOC 사무총장, Julian Barbieri IOC 해양정책 & 지역조정섹션 부장, Jessica Jeavons UNESCO 전략기획국 직원
 - 우리 측: 강현주 KIOST 국제협력부장, 유은원 해양수산부 해양개발 과장, 이선경 주유네스코대표부 주재관, 변상경 IOC 前 의장, 이윤호 박사(KIOST) 등

- 사업명: UN Decade 준비단계 지원 - 홍보 및 행사개최
- 사업기간: 2019.7.1~12.31
- 사업비: 1.5억 원(USD 129,000)
- 사업내용: UN Decade 준비단계에 예정되어 있는 집행기획위원회(EPG) 회의 및 글로벌기획회의(Global Planning Meeting) 등 UN 기구 및 이해관계자를 UN Decade에 참여시키기 위한 활동 개최



[미국 대표단 - 한국 대표단 협력 협의]

- 일시: 2019.6.28(금) 13:00~15:00
- 참석자: 조승환(KIMST), 김선하(해수부), 박철(충남대), 이운호(KIOST)
- 미국 NOAA 부청장 Craig McClean의 요청으로 미국대표단과 한국대표단이 오찬 회동을 통해 미국 - 한국 간 협력방향을 논의
- GOOS사업에 대한 공동 참여와 대양중층/심해 생태계 공동 연구에 대한 협의 진행

[임시 UN Decade 집행기획위원회(EPG) 회의 참석]

- 일시 및 장소: 2019.6.28.(금) 14:30~15:00, 회의실 8
- 참석자: 이운호(KIOST)
- IOC의 UN Decade 총괄간사인 Mr. Julian Barbier의 요청으로 임시 집행기획위원회(EPG) 회의 개최
- UN Decade내 주요 연구사업 개발 방향 및 향후 EPG 회의 일정과 방법(teleconference 등)을 논의

[Side event: IOC/WESTPAC 주관의 '지역훈련 및 연구센터(Regional Training and Research Center, RTRC)']

- 일시 및 장소: 2019.6.27(목) 13:00~15:00, 회의실 VIII
- 참가자: 이운호, 변건영, 박윤이
- 중국이 운영하는 '해양역학과 모델링'과 인도네시아가 운영하는 '해양생물다양성과 생태계건강' 지역훈련 및 연구센터에 대한 운영경험 공유와 새롭게 제안된 중국의 '해양플라스틱', 필리핀의 '산호초 보전과 회복', 베트남의 '해양독과 해양식품안정성' 지역훈련 및 연구센터에 대한 소개가 있었음
- RTRC는 유치한 회원국과 지역의 사회적 요구를 반영하며, 연구사업과 연결되어 있어 유치국의 지속적인 후원이 이루어짐. 즉, 지속가능성이 높으며 교육의 효과가 뛰어나며: IOC의 역량강화와 기술이전 사업의 모범사례가 되고 있음

[결의안위원회-1]

- 일시 및 장소: 2019.6.28.(금) 8:00~10:00, 회의실 6
- 참석자: 김새슬(KIOST)
- 한국과 노르웨이에 의해 제출, 미국 및 아르헨티나의 수정안이 반영된 의제 4.1(UN

Decade 이행계획 수립 결과 보고) 결의안 문구를 검토함

- 문서 내 일관성을 위하여 UNGA 등 머리글자(acronym) 통일, 서수표기, 문법 등 검토

[결의안위원회-2]

- 일시 및 장소: 2019.7.1. 18:00~19:00, 회의실 8
- 참석자: 이운호(KIOST)
- 10여개 회원국이 공동 제출한 의제 5.1(WMO와 협력 - JCOMM 구조 개편 방안) 결의안 문구를 검토함
- IOC 회의 차수 기재 방식, 문안의 일관성, 문법 등 검토

[결의안위원회-3]

- 일시 및 장소: 2019.7.2. 13:00~15:00, 회의실 8
- 참석자: 이운호(KIOST)
- 20여개 회원국이 공동 제출한 의제 12.4(재정계획) 결의안 문구를 검토함
- 2017~2019 재정 집행 검토 및 2019~2021의 재정계획 및 중기 전략에 대한 문구 검토: 문안의 일관성, 문법 등

[선거위원회]

- 일시 및 장소: 2019.7.1(월) 18:00, 회의실 VIII
- 참석자: 변상경 IOC 前의장(선거위원회 위원장), 김새슬
- 입후보 현황 보고
 - 의장 후보는 2명이 입후보하여 선거 진행 예정
 - 부의장 후보는 그룹당 한명씩 입후보

- 그룹1: 9석에 10석 입후보, 선거 필요
 - 그룹2: 3석에 2석만 입후보
 - 그룹3: 의장 진출 여부에 따라 자리수 변동
 - 그룹4: 8개+부의장국 1개, 선거 불필요
 - 그룹5: 10개, 의장 진출 여부에 따라(Mr. Johnson) 자리수 변동
- 투표용지 양식 안내
- 그룹 1(9개 혹은 적은 수 선택), 그룹 5(7/8개 혹은 적은 수 선택)
 - ※ 그룹 조정결과에 따라 투표여부 결정됨(1그룹 조정 예정)
 - 투표 결과는 탈락여부만 밝힘(몇 표를 받았는지는 밝히지 않음)
 - 의장선거 입후보 소개는 포디움에서 1~2분 정도 진행 예정
- 투표 진행방법 안내
- 투표용지 양식 검토, 개표방식 안내

[임시 WESTPAC 의장단-자문그룹 회의]

- 일시 및 장소: 2019.7.3 09:00~09:30, 회의실 S-385
- 참석자: 이윤희(KIOST)
- IOC총회에 참석하고 있는 WESTPAC 의장, 부의장, 자문위원, 사무국장, 인도네시아 대표단이 참여하여, 2020년 9월 인도네시아에서 개최 예정인 제10차 WESTPAC 국제해양과학컨퍼런스 준비상황을 점검하고, 향후 준비 일정을 논의
- 컨퍼런스 개최 장소, 예산 확보 방향, 기초연설자 선정 등 협의

VI 제30차 IOC 총회 관찰 및 평가

1. 한국은 금번 개최된 제30차 IOC 총회에 주유네스코대표부 안은주 공사참사관을 수석대표로 총 15명의 대표단이 순환 참석하였음. 금번 회의에서 대표단은 의제 발언(총 14개 의제) 및 관련 이해국가들과의 사전 의견 조율, 위원회 활동(총 3개) 등 각 의제/영역별로 적극 대응함
 - (의제별 발언) 3.2 사무총장 보고(김선하), 3.3 WESTPAC(이윤호), 4.1 UN Decade(김선하), 4.2 2030 아젠다(조승환), 6.1 HAB(이준수), 7.1.1 GOOS(이준수), 7.1.2 GCOS(변건영), 7.1.3 JCOMM(변건영), 7.2.1 IODE(이준수), 7.2.2 ODIS(이준수), 9.1 GEBCO GGC(이충호), 11.1 CD 전문가그룹(강현주), 11.2 해양적소양(강현주), 12.5 IOC 60주년 행사(변상경)
2. 금번 집행이사국 선거에서 1그룹과 5그룹에서 경쟁적인 양상을 보인 바, 향후 집행이사국 선거에서 우리나라가 속한 4그룹을 포함한 다른 지역그룹의 경쟁 가능성도 배제할 수 없으므로, 집행이사국 재선출을 위해서는 전략적으로 다자/양자 간 해양과학 외교를 강화해 나갈 필요가 있음
 - 특히, 서태평양지역위원회(IOC/WESTPAC)의 프로그램 및 프로젝트 등 지역적인 활동에 대한 적극적 참여를 통해 리더십 확보가 필요함
3. UN Decade 관련, 준비단계로 설정된 2020년까지 이행계획 수립이 본격적으로 진행될 예정인 바, 2020년 UN Decade 실행계획 초안을 면밀히 검토하여 이에 대한 국내 대응 전략 수립이 필요할 것으로 봄. 특히, UN Decade 지원사무국 설립, R&D 우선순위 관련 프로젝트/프로그램 개발 등 핵심 프로젝트에 대해서는 집행기획위원회(EPG) 위원으로 진출한 우리나라 전문가(KIOST 이윤호 박사)를 활용해 사전정보를 파악하는 것이 도움이 될 것으로 봄
 - IOC/WESTPAC이 북태평양과학기구(PICES)와 공동으로 UN Decade 지역 워크숍을

주관하고 있으며, PICES에서도 중장기 전략 및 과학프로그램 계획수립 과정에서 연계 여부를 검토하는 등 UN Decade는 현재 타 국제기구에 큰 영향력을 미치고 있으므로 다양한 프로그램을 UN Decade와 연계하는 방안을 모색할 필요가 있음

○ UN Decade 지원사무국 설치에 대해 캐나다, 영국 등에서 유치의사를 표명한 바 있으며, 우리나라도 지원사무국 유치에 대한 적극적 검토를 토대로 선제적인 노력이 필요할 것으로 판단함.

4. 대양수심도(GEBCO) 운영위원회에서 추진 중인 Seabed 2030 사업의 예산을 초기 단계부터 일본재단(Nippon Foundation)이 전담 지원함에 따라 일본 측의 일방적 주도로 프로그램이 운영될 우려가 있는 바, 이에 대해 관심 회원국과 더불어 추진상황을 지속적으로 모니터링 하고, 실행단계에서도 우리나라가 적극적으로 참여해 입장을 반영할 필요가 있음
5. 역량배양 전문가그룹 및 대책반 구성에 따라 관련 전문가 추천 및 회람된 자료에 대한 우리 측의 의견을 시의적절하게 제출할 수 있도록 해야 할 것임. 특히 해양적 소양(Ocean Literacy)에 대한 관심이 높아지고 있는 바, 이에 대한 적절한 대응이 필요함
6. 이번 총회를 끝으로 우리나라 출신 IOC 前 의장(변상경 박사)의 의장단 임기가 만료되므로, 앞으로도 IOC와의 원활한 소통을 위한 다양한 노력이 필요할 것으로 보임
7. 또한, 금번 총회에서는 IOC의 재정안정 방안 모색 등도 주요 이슈로 논의된 바, 향후 의제 대응에 있어서도 동 의제에 주목해야 할 것으로 보임



VII. 첨부자료

1. 의제목록 및 시간표



Restricted Distribution

IOC-XXX/1 Prov. rev

Paris, 6 March 2019

Original: English



INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
(of UNESCO)

Thirtieth Session of the Assembly
UNESCO, Paris, 26 June–4 July 2019

PROVISIONAL AGENDA

- 1. OPENING**
- 2. ORGANIZATION OF THE SESSION**
 - 2.1 ADOPTION OF THE AGENDA AND OTHER ORGANIZATIONAL MATTERS
[Rule of Procedure 8]
 - 2.2 DESIGNATION OF THE RAPPORTEUR
[Rule of Procedure 25.4]
 - 2.3 ESTABLISHMENT OF INTRASESSIONAL COMMITTEES AND WORKING GROUPS
[Rule of Procedure 12]
 - 2.4 INTRODUCTION OF DOCUMENTATION, TIMETABLE AND MEMORIAL LECTURES
[Rule of Procedure 11]
- 3. IOC MATTERS AND REPORTS**
 - 3.1 STATEMENT OF THE CHAIRPERSON
[Rule of Procedure 8.1(a)]
 - 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)
[Rule of Procedure 8.1(b) and (c) 8.1(g), 49.1; Res; EC-XLIX.2. EC-LI/Dec.4.3]
 - 3.3 REPORTS BY THE CHAIRS OF THE IOC SUB-COMMISSIONS AND REGIONAL COMMITTEES
[Rule of Procedure 48.3]
 - 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
[Statutes Art. 3.2; Rule 6.1 of Procedure 49.2]

IOC-XXX/1 Prov.rev. – page 2

4. IOC AND THE FUTURE OF THE OCEAN: STRATEGIC DEVELOPMENTS
[Dec. EC-XLVII.4 & 7.2; IOC-XXVII/Dec.5.1; EC-XLIX.5]

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
[IOC Res. EC-LI.1]
- 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
[EC-LI/Dec.5.1]
- 5.2 IOC CONTRIBUTION TO THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC)
[Rule of Procedure 8.1(g)]

6. OCEAN RESEARCH
[Res. XXVII-2(B)]

- 6.1 HARMFUL ALGAL BLOOMS: 14TH SESSION OF IPHAB, UNESCO, PARIS, 20–26 April 2019
[Rule of Procedure 48.3]
- 6.2 REPORT OF THE WMO-IOC-ISC WORLD CLIMATE RESEARCH PROGRAMME (WCRP)
[Rule of Procedure 48.3; IOC-XXVII/Dec.5.4.1; EC-LI/Dec.5.2]

7. OBSERVING SYSTEMS AND DATA MANAGEMENT
[Res. XXVII-2(B)]

- 7.1 OBSERVING SYSTEMS
 - 7.1.1 **GOOS: Strategy, Implementation, and Governance**
[Rule of Procedure 8.1(j); EC-LI/Dec.5.3]
 - 7.1.2 **WMO-ISC-IOC-UNEP Global Climate Observing System (GCOS) workplan**
[Rule of Procedure 8.1(j)]
 - 7.1.3 **Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM)**
[Rule of Procedure 48.3]
- 7.2 DATA MANAGEMENT
 - 7.2.1 **International Oceanographic Data and Information Exchange: 25th Session of IODE, Tokyo, Japan, 18–22 February 2019**
[Rule of Procedure 48.3]

7.2.2 Draft Concept for an Ocean Data and Information System (ODIS)
[Rule of Procedure 8(1g, j); IOC-XXIX/Dec. 6.2.1]

8. EARLY WARNING AND SERVICES

[Res. XXVII-2(B)]

8.1 REGIONAL TSUNAMI WARNING SYSTEMS

[Rule of Procedure 48.3]

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

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

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

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

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

[Rule of Procedure 48.3; IOC-XXVII/Dec.5.2.2(IV); EC-XLIX/Dec.3.4; EC-LI/Dec.3.3(III)]

9. ASSESSMENT AND INFORMATION FOR POLICY

[Res. XXVII-2(B)]

9.1 REPORT OF THE IHO-IOC GEBCO GUIDING COMMITTEE

[Rule of Procedure 48.3; IOC-XXVIII/Dec.6.2; EC-XLIX/Dec.4.3.3, 4.3.4]

10. SUSTAINABLE MANAGEMENT AND GOVERNANCE

[Res. XXVII-2(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
[EC-LI/Dec.4.6]

10.2 INTEGRATED COASTAL AREA MANAGEMENT PROGRAMME (ICAM) STRATEGY IMPLEMENTATION
[IOC-XXVI/Dec. 8.2]

11. CAPACITY DEVELOPMENT

[Res. XXVII-2(B)]

11.1 REPORT OF THE IOC CAPACITY DEVELOPMENT GROUP OF EXPERTS
[IOC-XXIX/Dec. 10.1]

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- 11.2 IOC'S CONTRIBUTION TO OCEAN LITERACY IN 2018–2021:
ACTION PLAN
[EC-LI/Dec.4.9]

12. ADMINISTRATION, FINANCE AND MANAGEMENT
[Statutes Art. 6B]

- 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
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- 12.4 REPORT BY THE CHAIRPERSON OF THE FINANCIAL COMMITTEE
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- 12.5 PREPARATION FOR THE COMMEMORATION
OF THE 60TH ANNIVERSARY OF THE IOC (1960–2020)
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- 12.6 ELECTIONS OF THE OFFICERS OF THE COMMISSION
AND MEMBERS OF THE EXECUTIVE COUNCIL
[Statutes Art. 6.B.5 and 7; Annex I to the Rules of Procedure]
 - 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 31TH SESSION OF THE ASSEMBLY AND 53RD AND 54TH SESSIONS
OF THE EXECUTIVE COUNCIL
[Statutes, Art. C.7; Rule of procedure 19.2; EC-LI/Dec.6.3]

13. ADOPTION OF RESOLUTIONS AND SUMMARY REPORT

14. CLOSURE



INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
(of UNESCO)
Thirtieth Session of the Assembly
Paris, 26 June–4 July 2019

IOC-XXXI Add. Prov. Rev.
Paris, 5 April 2019
English only

REVISED PROVISIONAL TIMETABLE

		30 th Session of the Assembly							
hour	Monday 24 June	Tuesday 25 June	Wednesday 26 June	Thursday 27 June	Friday 28 June	Monday 1 st July	Tuesday 2 nd July	Wednesday 3 July	Thursday 4 July
08.00	Meeting of IOC Officers	1. Opening of the session 2.1–2.2 2. Organization of the session 2.1–2.2 3. Arrangements for IOC-30 (3.1) 3.2 Request for Suppl. Items	1. Opening of the Session 2. Organization of the Session 3. IOC Matters & Reports 3.1 Chair's Statement	Ocean Science Day ... Ocean science for Sustainable Development	3.3 Reports by Chairs of SUBS 3.3.1 WESTPAC 3.3.2 IOCARIBE	Financial Committee (IV) 5.2 IOC Contribution to UNFCCC 6. Ocean Research 6.1 IPHAB-14	Financial Committee (optional) 8. Early Warning & Services 8.1 Regional TWS 8.1.1 ICG/PTWS 8.1.2 ICG/OTWMS 8.1.3 CARIBE-EWS	10. Sustainable Management & Governance 10.1 BBNJ 10.2 ICAM	13. Adoption Resolutions (and SR)
11.30 - 11.45	BREAK	BREAK	BREAK	BREAK	BREAK	BREAK	BREAK	BREAK	BREAK
11.45 - 13.00	Meeting of IOC Officers	Agenda tbd 4. Dates & places next sessions	3.2 Ex. Sec's Report & discussion	Cont'd	3.3.3 IOCAFICA 3.3.4 IOCINDIO	6.2 WCRP 7. Observing Systems & Data Management 7.1 Obs 7.1.1 GOOS	8.1.4 NEAMTWS 8.2 Global Org 8.2.1 TOWS-WG	12.6 Elections	13. Cont'd
13.00 - 15.00	LUNCH BREAK	LUNCH BREAK	Financial Committee (I) Resolution Committee (I)	LUNCH BREAK	FIN (III) RES (II) NOM (II)	Financial Committee (V) 7.1.2 GCOS Strategy 7.1.3 JCOMM	Resolution Committee (IV) 9. Policy 9.1 GEBCO GC 11. Capacity Development 11.1 Report of CD Group of Experts	Nominations Committee (IV) 12.6 (results) 12. Administration, Finance & Management 12.4 Report of the Chair of the Financial Citee	LUNCH BREAK
15.00 - 16.30	Intersectoral Financial Advisory Group	Clearing house mechanism for Transfer of Marine Technology Optional meetings on request	12. Administration, Finance & Management 12.1 Follow-up to EC-LI.2 12.2 Draft P&B 2020-2021	4.1 Preparation of the UN Decade	3.4 Report to UNESCO 40 GC 5. UN Partnerships 5.1 Cooperation with WMO	7.1.2 GCOS Strategy 7.1.3 JCOMM	9. Policy 9.1 GEBCO GC 11. Capacity Development 11.1 Report of CD Group of Experts	12. Administration, Finance & Management 12.4 Report of the Chair of the Financial Citee	13. Cont'd
16.30 - 16.45	BREAK	BREAK	BREAK	BREAK	BREAK	BREAK	BREAK	BREAK	BREAK
16.45 - 18.00	Intersectoral Financial Advisory Group	5. Adoption of the EC Report 6. Closure	12.3 Draft MTS 2022–2029	4.2 IOC contribution to the UN Decade	A. Bruun Memorial Lecture NOM (III) RES (III)	7.2 Data Management 7.2.1 IODE-25 7.2.2 Draft ODIS	11.2 Ocean Literacy Action Plan N.K. Panikkar Memorial Lecture	12.5 Preparation of IOC 60 th Anniversary 12.7 Next sessions	14. Closure
After 18.00			Nominations Committee (I)	IOC Reception	NOM (III) RES (III)				

Closing date for the nominations for elections (18h00)

2. 제52차 IOC 집행이사회 회의록 (IOC 공식 영문 회의록)



Restricted Distribution

IOC/EC-LII/3s

Paris, 25 June 2019
Original: English



INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
(of UNESCO)

Fifty-second Session of the Executive Council
UNESCO, Paris, 25 June 2019

SUMMARY REPORT

1. OPENING

- 1 The Chair, Professor Peter Haugan, opened the 52nd 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 30th 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.

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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 30th 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 30th 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 30th 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.

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- 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. 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 53rd 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 53rd 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 31st 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 30th session.

6. CLOSURE

- 16 The Chair closed the 52nd session of the Executive Council at 17:07 on 25 June 2019.

3. 제30차 IOC 총회 회의록 (IOC 공식 영문 회의록)



Intergovernmental Oceanographic Commission
Reports of Governing and Major Subsidiary Bodies

Thirtieth Session of the Assembly

Paris, 26 June – 4 July 2019

Draft

UNESCO 2019

Intergovernmental Oceanographic Commission
Reports of Governing and Major Subsidiary Bodies

**Thirtieth Session
of the Assembly**

Paris, 26 June–4 July 2019

Draft

UNESCO 2019

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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

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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 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. Dr Ryabinin reminded the Assembly that two Draft Resolution(s) 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 52nd 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 Arico 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

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for Sustainable Development.

17. 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: [Kenya](#), [United Kingdom](#) and [WMO](#).

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* 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 in Egypt 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

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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, 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 51st session of the IOC Executive Council (IOC/INF-1366);

Invites the IOC Secretariat to present the second edition of the GOSR at the 53rd 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 53rd 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 53rd 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

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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.

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 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.
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 Government 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

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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 11th 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, and promote IOCARIBE Member States' participation in, the UN World Ocean Assessment.
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 AtlantOS Program—“An All-Atlantic Ocean Observing System.”
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 to seek collaboration to expand funding opportunities 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 Subcommissions.
60. The representatives of nine Member States and GEBCO took the floor.
61. 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).
62. The Assembly recognized 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.
63. The Assembly welcomed the IOCARIBE-GOOS establishment of a pilot project on

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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 15th 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 IOCARIBE Region's SIDS 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 their support to and hosting 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

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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 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 (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.
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,

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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 31st 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 Teheran, 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 40th 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.

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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 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.
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 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.
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 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 catalyze 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.
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.

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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 in 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 word 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 UN 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;

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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 53rd 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,

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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.
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 32nd 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;

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- (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, 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.

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 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.

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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 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.
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,

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 25th session of the Conference of the Parties to the UNFCCC, which will be held in Santiago de Chile from 2 to 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.
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.

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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 (IOC/INF-1376) 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 AtlantOS project 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.

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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 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 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 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 was commended and strongly encouraged by Member States. It was suggested that they could be viewed as the first pilots under the 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-(5.1), 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 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 Program) and the TPOS 2020 Second Report (GOOS Reports, 234),

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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 work plan for GCOS (IOC/INF-1377). This GCOS work plan 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, 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 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.

**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.

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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 25th session (19–22 February 2019, Tokyo) to endorse the Joint Strategy, inviting JCOMM to submit it to the IOC Assembly at its 30th 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.

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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. 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 the ocean science; (ii) considering the complexity and use of international observing systems during the UN decade of the ocean 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, 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,

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I

25th Session of IODE, 20–22 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) (20–22 February 2017, 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 the Ocean 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 defined¹ 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;

¹ 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)

- (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

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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 25th session, has 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 53rd 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

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(CATAC) and tsunami preparedness in Central America. He also highlighted training activities of the International Tsunami Information Center (ITIC) lead on training activities 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 (PacWave 2020) 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-learnt 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 from 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 Caribe Wave 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

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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 the case in the other regional Tsunami Information Centres.

229. The representatives of 25 Member States and two 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;

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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;

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- 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 13th 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(l) 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 35th 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. [...]

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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 meetings 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.
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 Intergovernmental Conference, 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 resolution 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 meetings 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 meetings 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 meetings 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

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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: developing guidance on transboundary MSP; the implementation of two regional case studies in the West-Mediterranean and the South Pacific; developing the “blue economy” in the context of the 2030 Agenda; enabling ecosystem-based MSP; pursuing capacity building; and 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 1st 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 Session 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

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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, which should be developed, as much as possible, using existing information systems and sources. The Task Team to identify CD Requirements of Member States in relation to the IOC CD Strategy will take into account the work already done and will focus on needs of SIDS, LDCs and the Member States that are currently not member 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 your country. 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 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 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.
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](#), [United States](#), [Pacific Community](#) and [WMO](#).

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Decision IOC-XXX/ 11.1

IOC Capacity Development Group of Experts

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 53rd 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,

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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 Chair and the UNESCO General Conference President, as well as of the IOC Chair'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 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 Members 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

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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 programs 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 43rd session of the Executive Council in 2020 and the final adoption of the IOC Medium-Term Strategy 2022–2029 by the 31st session of the IOC Assembly 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.

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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 29th 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 53rd 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 53rd 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.;

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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 MTS for 2022–2029 will be further reviewed by the IOC Executive Council at its 53rd session in 2020 and the final version will be endorsed by the IOC Assembly at its 31st 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 53rd 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 53rd 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 51st 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 53rd 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 200th session in document [200 EX/19](#) and consistent with [201 EX/Decision 24.I](#);

Notes with satisfaction that the IOC Executive Council at its 51st 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 207th 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 one observer (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 2–6 June 2020 could provide an opportunity for a side event to mark the IOC's 60 anniversary in connection with the conference. 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 chair 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.

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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 in accordance Par 2.10 of Appendix I of the IOC Rules of Procedure one speaker to introduce each candidate. Ms Chafica Haddad (Deputy Permanent Delegate) of Grenada to UNESCO introduced Mr Troisi and Mr Sateesh Chandra Shenoj, Head of the IOC Delegation of India, to introduce 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.

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 1
- Alexander Frolov (Russian Federation) as Vice-chairperson for Group 2
- Frederico Antonio Saraiva Nogueira (Brazil) as Vice-chairperson for Group 3
- Satheesh Chandra Shenoi (India) as Vice-chairperson for Group 4
- Karim Hilmi (Morocco) as Vice-chairperson for Group 5,

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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 1)
- (ii) Bulgaria, Russian Federation (Group 2)
- (iii) Argentina, Brazil, Chile, Colombia, Grenada, Mexico, Peru, Saint Vincent and the Grenadines, Uruguay (Group 3)
- (iv) Australia, China, India, Iran (Islamic Republic of), Japan, Pakistan, Philippines, Republic of Korea, Thailand (Group 4)
- (v) Côte d'Ivoire, Egypt, Kenya, Kuwait, Madagascar, Morocco, Oman, Senegal, South Africa (Group 5).

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 1 observer 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. 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 53rd 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 31st 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 (54th session) acting as the steering committee of the Assembly.

13. ADOPTION OF RESOLUTIONS AND SUMMARY REPORT

342. The Chair thanked the Rapporteur Ms Suree Satapoomin from Thailand for her excellent work in support of the work of the session.
343. 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.

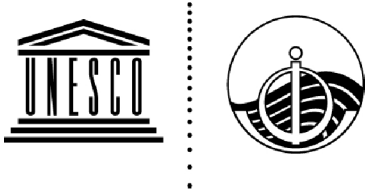
14. CLOSURE

344. 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).
345. 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](#))
346. 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.
347. The Chair of the Commission closed the 30th Session of the Assembly at 11:19 on 4 July 2019.

4. 제30차 총회 결의안



Restricted distribution



IOC-XXX/ Decisions
Paris, 04 July 2019
Original: English

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
(of UNESCO)

Thirtieth Session of the Assembly
UNESCO, Paris, 26 June–4 July 2019

ADOPTED DECISIONS & RESOLUTIONS

ADOPTED DECISIONS

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 52nd 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.

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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 51st session of the IOC Executive Council (IOC/INF-1366);

Invites the IOC Secretariat to present the second edition of the GOSR at the 53rd 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 53rd 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 53rd 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;

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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 11th 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 15th 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 IOCARIBE Region's SIDS 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 their support to and hosting 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 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 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-(12).

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;

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page 6

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 Teheran, 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 40th 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 53rd 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,

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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 25th session of the Conference of the Parties to the UNFCCC, which will be held in Santiago de Chile from 2 to 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-(5.1), 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;

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page 10

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 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 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.

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),

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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 25th session (19–22 February 2019, Tokyo) to endorse the Joint Strategy, inviting JCOMM to submit it to the IOC Assembly at its 30th 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

25th Session of IODE, 20–22 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) (20–22 February 2017, 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,

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- (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 the Ocean 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 defined¹ 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.

¹ 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)

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.

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,

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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 25th session, has 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 53rd 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;

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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 13th 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 35th 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:

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- (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 resolution 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 meetings 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 meetings 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 meetings 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 1st 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;

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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 Capacity Development Group of Experts

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 53rd 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,

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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.

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 1
- Alexander Frolov (Russian Federation) as Vice-chairperson for Group 2
- Frederico Antonio Saraiva Nogueira (Brazil) as Vice-chairperson for Group 3

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- Satheesh Chandra Shenoi (India) as Vice-chairperson for Group 4
- Karim Hilmi (Morocco) as Vice-chairperson for Group 5,

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 1)
- (ii) Bulgaria, Russian Federation (Group 2)
- (iii) Argentina, Brazil, Chile, Colombia, Grenada, Mexico, Peru, Saint Vincent and the Grenadines, Uruguay (Group 3)
- (iv) Australia, China, India, Iran (Islamic Republic of), Japan, Pakistan, Philippines, Republic of Korea, Thailand (Group 4)
- (v) Cote d'Ivoire, Egypt, Kenya, Kuwait, Madagascar, Morocco, Oman, Senegal, South Africa (Group 5).

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 53rd 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 31st 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 (54th 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.

ADOPTED RESOLUTIONS

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 UN 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.

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 32nd 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.

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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’,

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- (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 29th 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 53rd 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;

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- (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 53rd 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 MTS for 2022–2029 will be further reviewed by the IOC Executive Council at its 53rd session in 2020 and the final version will be endorsed by the IOC Assembly at its 31st 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 53rd 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 53rd 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 51st session through Resolution EC-LI.2;

Welcomes the follow-up action by the Secretariat and the 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;

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Requests the IOC Executive Secretary to report on new developments in this regard, if any, to the IOC Executive Council, at its 53rd 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 200th session in document [200 EX/19](#) and consistent with [201 EX/Decision 24.1](#);

Notes with satisfaction that the IOC Executive Council at its 51st 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 207th session in the third quarter of 2019.

Annex 1 to Resolution XXX-3

DRAFT IOC MEDIUM-TERM STRATEGY 2022–2029



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3. ENGAGEMENT WITH KEY PARTNERS & STAKEHOLDERS
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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 States²

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 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,

² IOC Statutes, Article 2.1

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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

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

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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.

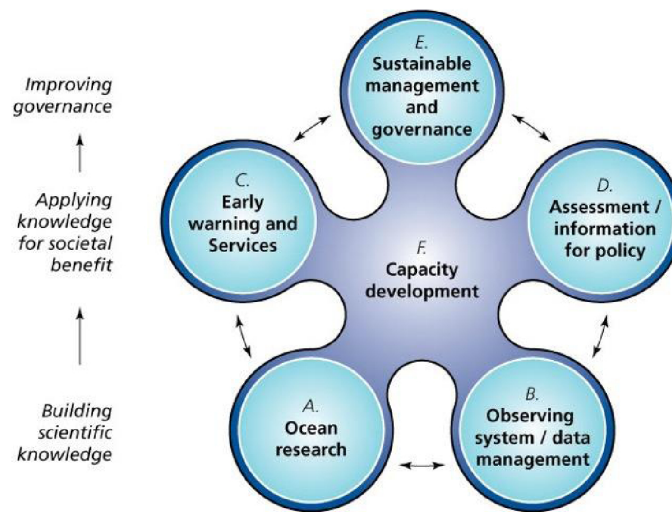
9. **Small Island Developing States (SIDS) Action Plan:** The SIDS Accelerated Modalities of Action (S.A.M.O.A) Pathway highlights the significant risks posed by sea-level rise and other adverse impacts of climate change. It also points to the fact that growth prospects of SIDS have been hindered by 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

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

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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

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’.³

³ Article 2.2 of the IOC Statutes

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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 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.⁴

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.

⁴ Article 11.3 of the IOC Statutes.

WORKING CLOSER TO THE FIELD

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..
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

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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> <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 style="padding-left: 40px;">Action Paper: AP</p> <p style="padding-left: 40px;">List of documents: Doclist</p> <p style="padding-left: 40px;">Summary report: SR</p>	
Documentation for an IOC Executive Council session: EC		

CURRENT REFERENCE CODE	NEW DOCUMENTATION CODING	DOCUMENT TITLE
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) ⁵	Report of the IOC Executive Secretary on the work accomplished since the 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

⁵ Numbers in brackets to be used where there is more than one document of the same type under the same agenda item

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CURRENT REFERENCE CODE	NEW DOCUMENTATION CODING	DOCUMENT TITLE
		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

Documentation for an IOC Assembly document: A		
IOC-XXIX/1 Prov. Rev.	IOC/A-29/2.1.Doc Rev.	Revised Provisional Agenda
Decisions		
<u>EC Decision</u> IOC/EC-LI/Dec.3.3.3(l) IOC Decision EC-LI.3.3.3(l)	IOC Decision EC-51/3.3.3(l)	
<u>Assembly Decision</u> IOC-XXIX/Dec.3.3.3(l) IOC Decision IOC-XXIX/3.3.3(l)	IOC Decision A-29/3.3.3(l)	
Resolutions		
<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 UNESCO⁶.

'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...'⁷

In accordance with the IOC Rules of Procedure⁸, *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.

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 Council⁹, 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.

⁶ Statutes (of the Intergovernmental Oceanographic Commission, IOC), Article 1 ([IOC/INF/1148](#))

⁷ Statutes (of the Intergovernmental Oceanographic Commission, IOC), Article 6.B.5

⁸ Rules of Procedure of the IOC, Article V, Rule 13 ([IOC/INF/1166](#))

⁹ Statutes (of the Intergovernmental Oceanographic Commission, IOC), Article 7.A.3

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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.

5. 한국대표단 발언문





INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
(of UNESCO)

Thirtieth Session of the Assembly
UNESCO, Paris, 26 June–4 July 2019

**TEMPLATE FOR SUBMISSION OF WRITTEN RECORDS
TO THE IOC ASSEMBLY SUMMARY REPORT**

Member States and partner organizations that wish to provide a succinct written record of a particularly important aspect of their plenary intervention may do so in one of the four working languages of the Commission. Such statements will be annexed to the Assembly report in their original language. Statements should be sent using this template by email to the IOC Secretariat (iocgovbody@unesco.org).

Name of Delegation : **REPUBLIC OF KOREA / SUNHA KIM**

Agenda Item : **3.2**

Date and Time of Intervention : **MORNING SESSION, 26 JUNE, 2019**

NAME OF DELEGATION POINT OF CONTACT FOR THIS STATEMENT: **SAESEUL KIM**

Title Agenda Item : **REPORT BY THE EXECUTIVE SECRETARY ON THE WORK ACCOMPLISHED SINCE THE FIFTY-FIRST SESSION OF THE EXECUTIVE**

Statement:

Thank you, Mr. Chair. Our delegations thank the executive secretary Mr. Vladimir Ryabinin for the wonderful summary and presentation of the IOC activities during the last inter-sessional period 2017-2019.

Delegations of 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 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,

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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 for the activities of IOC. Thank you, chair.



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Name of Delegation : **REPUBLIC OF KOREA / YOUN-HO LEE**

Agenda Item : **3.3.1**

Date and Time of Intervention : **MORNING SESSION, 28 JUNE, 2019**

NAME OF DELEGATION POINT OF CONTACT FOR THIS STATEMENT: **SAESEUL KIM**

Title Agenda Item : **IOC Sub-Commission for the Western Pacific: 12th Session of WESTPAC, Manila, Philippines, 2–5 April 2019**

Statement:

Thank you Mr. Chair.

Republic of Korea would like to thank the Chair of WESTPAC, Mr. Vo Si Tuan for his informative, well-organized presentation of the WESTPAC activities.

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

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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.

Thank you Mr. Chair.



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Name of Delegation : **REPUBLIC OF KOREA / SUNHA KIM**

Agenda Item : **4.1**

Date and Time of Intervention : **AFTERNOON SESSION, 27 JUNE, 2019**

NAME OF DELEGATION POINT OF CONTACT FOR THIS STATEMENT: **SUNHA KIM**

Title Agenda Item : **PROGRESS REPORT ON THE PREPARATION OF THE UNITED NATIONS DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT**

Statement:

Thank you, Mr. Chair. Our delegation wish to make a brief supporting comments on the implementation of the UN Decade.

First of all, the Republic of Korea would like to express its sincere appreciation to IOC Executive Secretary and the secretariat, EPG members, IOC chair and vice chairs for their enthusiastic effort in preparing “UN Decade of Ocean Science for Sustainable Development”.

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.

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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.

The Republic of Korea hopes all the IOC member states move forward together for “the Ocean we need for the Future we want”. Thank you.



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Name of Delegation : **REPUBLIC OF KOREA / SEUNG-HWAN CHO**

Agenda Item : **4.2**

Date and Time of Intervention : **AFTERNOON SESSION, 28 JUNE, 2019**

NAME OF DELEGATION POINT OF CONTACT FOR THIS STATEMENT: **SAESEUL KIM**

Title Agenda Item : **ENHANCED COHERENCE, IMPACT AND FUTURE ORIENTATIONS OF THE IOC IN SUPPORT OF THE UN DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT AND 2030 AGENDA**

Statement:

Thank you, Mr. Chair.

First of all, the delegation of the Republic of Korea would like to express our sincere gratitude to executive secretary Dr. Vladimir and IOC Secretariats on analyzing the connection with exiting the IOC program and the way how to contribute to the UN Decade.

Furthermore, 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 Insitute 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.



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Name of Delegation : **REPUBLIC OF KOREA / JOON-SOO LEE**

Agenda Item : **6.1**

Date and Time of Intervention : **MORNING SESSION, 1 JULY, 2019**

NAME OF DELEGATION POINT OF CONTACT FOR THIS STATEMENT: **SAESEUL KIM**

Title Agenda Item : **HARMFUL ALGAL BLOOMS: 14TH SESSION OF IPHAB,**

UNESCO, PARIS, 24–26 April 2019

Statement:

Thank you. The Republic of Korea supports the outcomes of IPHAB 14th session.

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.

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Name of Delegation : **REPUBLIC OF KOREA / JOON-SOO LEE**

Agenda Item : **7.1.1**

Date and Time of Intervention : **MORNING SESSION, 1 JULY, 2019**

NAME OF DELEGATION POINT OF CONTACT FOR THIS STATEMENT: **SAESEUL KIM**

Title Agenda Item : **GOOS: STRATEGY, IMPLEMENTATION, AND GOVERNANCE**

Statement:

Thank you. 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.



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Name of Delegation : **REPUBLIC OF KOREA / KUN-YOUNG BYUN**

Agenda Item : **7.1.2**

Date and Time of Intervention : **AFTERNOON SESSION, 1 JULY, 2019**

NAME OF DELEGATION POINT OF CONTACT FOR THIS STATEMENT: **SAESEUL KIM**

Title Agenda Item : **WMO-ISC-IOC-UNEP GLOBAL CLIMATE OBSERVING SYSTEM (GCOS) WORKPLAN**

Statement:

Thank you, Chair.

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.

Thank you.

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Name of Delegation : **REPUBLIC OF KOREA / KUN-YOUNG BYUN**

Agenda Item : **7.1.3**

Date and Time of Intervention : **AFTERNOON SESSION, 1 JULY, 2019**

NAME OF DELEGATION POINT OF CONTACT FOR THIS STATEMENT: **SAESEUL KIM**

Title Agenda Item : **JOINT WMO-IOC TECHNICAL COMMISSION FOR OCEANOGRAPHY AND MARINE METEOROLOGY (JCOMM)**

Statement:

Thank you, Chair.

The delegation of the Republic of Korea would like to thank the JCOMM co-presidents, JCOMM secretariat, and IOC member states for all the efforts you made to promote the development of marine meteorological and oceanographic observing systems, data management and services.

We are also pleased to inform you that Korea has been carrying out Coastal Inundation Forecasting Demonstration Project(CIFDP), as part of ODA, in Fiji since 2012 in collaboration with WMO. The project is now in its last phase and expected to be completed this year. It aims to establish coastal inundation forecasting and warning system to reduce coastal hazards in Fiji.

We would like to express our appreciation to JCOMM, and those concerned for your work for the successful implementation of the CIFDP project.

Korea will continue to provide support and actively contribute to JCOMM and Joint WMO-IOC Collaborative Board.

Thank you.



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Name of Delegation : **REPUBLIC OF KOREA / JOON-SOO LEE**

Agenda Item : **7.2.1**

Date and Time of Intervention : **AFTERNOON SESSION, 1 JULY, 2019**

NAME OF DELEGATION POINT OF CONTACT FOR THIS STATEMENT: **SAESEUL KIM**

Title Agenda Item : **INTERNATIONAL OCEANOGRAPHIC DATA AND INFORMATION EXCHANGE: 25TH SESSION OF IODE, TOKYO, JAPAN, 18–22 FEBRUARY 2019**

Statement:

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.

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Name of Delegation : **REPUBLIC OF KOREA / JOON-SOO LEE**

Agenda Item : **7.2.2**

Date and Time of Intervention : **AFTERNOON SESSION, 2 JULY, 2019**

NAME OF DELEGATION POINT OF CONTACT FOR THIS STATEMENT: **SAESEUL KIM**

Title Agenda Item : **DRAFT CONCEPT FOR AN OCEAN DATA AND INFORMATION SYSTEM (ODIS)**

Statement:

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.



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Name of Delegation : **REPUBLIC OF KOREA / CHUNGHO LEE**

Agenda Item : **9.1**

Date and Time of Intervention : **MORNING SESSION, 3 JULY, 2019**

NAME OF DELEGATION POINT OF CONTACT FOR THIS STATEMENT: **SAESEUL KIM**

Title Agenda Item : **REPORT OF THE IHO-IOC GEBCO GUIDING COMMITTEE**

Statement:

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)”, “submission (www.scufn.submission.org) and review of proposals (www.scufnreview.org)”, “Beta-gazetteer” and an outreach website (www.gebco-outreach.net/index.do).

Republic of Korea will continue to support the GEBCO Guiding Committee for its development.



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Name of Delegation : **REPUBLIC OF KOREA / HYUN-JOO KANG**

Agenda Item : **11.1**

Date and Time of Intervention : **AFTERNOON SESSION, 2 JULY, 2019**

NAME OF DELEGATION POINT OF CONTACT FOR THIS STATEMENT: **SAESEUL KIM**

Title Agenda Item : **REPORT OF THE IOC CAPACITY DEVELOPMENT GROUP OF EXPERTS**

Statement:

Thank you Mr. Chairman. The Republic of Korea welcomes and supports the IOC Capacity Development Strategy. 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

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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.



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Name of Delegation : **REPUBLIC OF KOREA / HYUN-JOO KANG**

Agenda Item : **11.2**

Date and Time of Intervention : **AFTERNOON SESSION, 2 JULY, 2019**

NAME OF DELEGATION POINT OF CONTACT FOR THIS STATEMENT: **SAESEUL KIM**

Title Agenda Item : **IOC'S CONTRIBUTION TO OCEAN LITERACY IN 2018–2021:
ACTION PLAN**

Statement:

Thank you Chairman. 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.



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Name of Delegation : **REPUBLIC OF KOREA / SANG-KYUNG BYUN**

Agenda Item : **12.5**

Date and Time of Intervention : **AFTERNOON SESSION, 3 JULY, 2019**

NAME OF DELEGATION POINT OF CONTACT FOR THIS STATEMENT: **SAESEUL KIM**

Title Agenda Item : **PREPARATION FOR THE COMMEMORATION OF THE 60TH ANNIVERSARY OF THE IOC (1960–2020)**

Statement:

Thank you, Mr. Chairman.

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.

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In this regards, we wish to express again strong support to the IOC History Project.

Thank you for your attention, Mr. Chairman.

6. 참가자 명단



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This document lists the participants who have attended the session to date

DRAFT LIST OF PARTICIPANTS

Last updated: 04/07/2019 at 17.30

**To report corrections, please send an email
to i.pastor-reyes@unesco.org**

* Delegates who attended both the Assembly session and the preceding short session of the Executive Council are marked with an asterisk.

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