



**INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION  
(of UNESCO)**

**Thirty-first Session of the Assembly**  
UNESCO, 14–25 June 2021

Item 3.2 of the Provisional Agenda

**REPORT OF THE IOC EXECUTIVE SECRETARY ON THE WORK ACCOMPLISHED  
SINCE THE THIRTIETH SESSION OF THE ASSEMBLY**

Summary

The report starts with the strategic analysis by the Executive Secretary of the IOC's situation and of work highlights.

It is followed by a summary assessment of programme implementation and progress in the delivery of programmatic outputs over the period 2018–2020. The progress is assessed against performance indicators and targets agreed as a part of the UNESCO strategic planning process.

The IOC report for the period from June 2019 to May 2020 was presented in the documentation for the 53rd session of IOC Executive Council, in the documents [IOC/EC-53/3.1.Doc\(1\)](#) and [IOC/EC-53/3.1.Doc\(1\) Part2](#). The Addendum to this document provides a detailed update of the work accomplished over the period June 2020 to May 2021 by IOC functions and in English only.

In addition, the 'Report on 2020–2021 (40 C/5) Budget Implementation as at 31 December 2020' (IOC/A-31/3.2.Doc(2)) and the 'Report on the Financial Situation of the IOC Special Account at year end 2020 and forecast for 2021' (IOC/A-31/3.2.Doc(3)) complete the documentation in support of the oral presentation of the Executive Secretary to the plenary session of the Assembly.

Decision proposed: The Assembly is invited to take note of this report and consider the draft decision referenced as Dec. A-31/3.2 in the Provisional Action Paper (document IOC/A-31/AP).

## **INTRODUCTION – STRATEGIC ANALYSIS BY THE IOC EXECUTIVE SECRETARY**

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### ***Two years since IOC-30***

1. The two-year period since the 30<sup>th</sup> IOC Assembly has been challenging for the whole world, including IOC. The 30<sup>th</sup> Assembly, which took place in the middle of 2019, was extremely positive and encouraging, both in its spirit and in terms of ambitious decisions by Member States. The IOC Secretariat continued to work very actively and intensively after the IOC-30, supporting the functional work of IOC and leading the broadly inclusive preparation of the Implementation Plan for the UN Decade of Ocean Science for Sustainable Development, 2021–2030 (the Ocean Decade). However, on 16 March 2020, due to the Covid-19 pandemic, the Secretariat had to move to the “teleworking” mode. Almost all UNESCO and IOC meetings since then have been held online. Many important international events and meetings were cancelled or postponed, including the 2020 UN Ocean Conference and the 26<sup>th</sup> Conference of UNFCCC Parties. On 3 April 2020, IOC Chair sent the [Circular Letter 2799](#) to IOC Member States proposing the postponement of the 53<sup>rd</sup> Session of IOC Executive Council. On 7 December 2020, in the [Circular Letter 2818](#), the Chair suggested an online session of the Council, which was held on 3–9 February 2021 in a reduced format focussing on a limited number of issues of high importance – concerning areas of work that could not advance without decisions and guidance to the Secretariat by Members of the Executive Council. The meeting was assessed by participants as successful. The Executive Council ended with an agreement to conduct the 31<sup>st</sup> Session of IOC Assembly on 14–25 June 2021, as was originally intended by IOC-30. On 11 March 2021, the IOC Chair again wrote to IOC Member States ([Circular Letter 2835](#)) proposing arrangements for the 31<sup>st</sup> Session of IOC Assembly, to be conducted online, with the exception of elections, to be organised through a roll call *in praesentia* at the UNESCO Headquarters.

2. The continuing Covid-19 pandemic is a danger to the health of a large fraction of the global population. It has been equally a very difficult test for the IOC and UNESCO Secretariats. However, the team continued to deliver. Executive Secretary would like to profoundly thank the Secretariat team for their professional, energetic and enthusiastic work under quite difficult and stressful conditions.

3. On 14 December 2020, the IOC turned 60 years old. The jubilee was celebrated by an online event that attracted many IOC-affiliated people, including a number of past Chairs and Executive Secretaries. The atmosphere of the event, despite its online nature, was very warm, as Executive Secretary could judge from the comments received online during the event and afterwards. The event also launched the 2<sup>nd</sup> edition of the IOC’s *Global Ocean Science Report*. This jubilee represents a milestone and an opportunity to look at the IOC overall situation, its potential to serve Member States and their sustainable development agenda, and ways of its further development.

### ***A possibility to reverse the decline in the ocean health***

4. A crucial, existentially important change with regard to the ocean is starting to occur now. The humankind may alter the way it lives with the ocean and treats it. Many countries have understood the scale of the problem with the ocean health and that the solution to the problem is a conversion to a science-based integrated ocean management. IOC has been working to create conditions for this unprecedented development. It is possible to state now that this work was successful. The three essential conditions for the emerging change have been:

- the new level of *awareness* about the ocean problem, with a relatively clear formulation of its scope and manifestations (warming, pollution, acidification, deoxygenation, habitat destruction, unsustainable fishing, fate of the ocean carbon sink, combined stressors, etc.) and contributions to increasing “ocean literacy” of the general public, private sector, and various stakeholders;

- mainstreaming of ocean science and systematic work on approaches, scientific tools, and *solutions* for sustainable development;
- growing level of *commitment* and engagement of decision-makers, including high-level officials (up to the level of Heads of State and Government), with the scientific community, along with the emerging understanding that solutions to the problem exist.

The next few paragraphs provide a short summary of developments in those critical areas.

### **Awareness**

5. The world is increasingly aware that it needs a healthy ocean for a sustainable ocean economy and that the ocean is a major player in the climate change and also the largest ecosystem maintaining the biodiversity of our Planet.

6. The issue of the ocean health is getting more attention in the UN system. It manifested itself in 2015 with the inclusion of the Ocean-focused Sustainable Development Goal 14 in the 2030 Agenda. A key milestone in creating the awareness was the United Nations' First World Ocean Assessment in 2016, which alerted the world that humankind was running out of time to start managing the ocean sustainably. IOC was instrumental in starting that regular assessment process. Another major factor in creating the awareness was the broad campaign in media that revealed to the world the scale of plastic pollution in the ocean. IOC was at the beginning of the recognition of that danger and, working e.g. through GESAMP<sup>1</sup>, is now extending the knowledge of the issue to micro-plastics and nano-plastics. Warming, acidification, deoxygenation of the ocean are all under the scrutiny of IOC-affiliated working groups. IOC is acting as the custodian UN agency responsible for monitoring SDG indicators 14.3.1 and 14.a.1. Through observations and scientific research, assessments and communication, IOC informs the world about key issues related to ocean's health.

7. IOC was instrumental in providing knowledge and recommending leading scientists and experts to act as authors and contributors to the IPCC Special Report on the Ocean and Cryosphere in a Changing Climate ([SROCC](#)). The report exerted a major positive influence on the UNFCCC process. The IOC delegation, led by the IOC Chair, participated in the UNFCCC 25<sup>th</sup> Conference of Parties in Madrid in early December 2019. The discussions there, informed by the SROCC, led to the establishment of the UNFCCC Ocean and Climate Dialogue under the Convention's Subsidiary Body for Scientific and Technological Advice (SBSTA). IOC actively and visibly participated in the first Dialogue on 2 and 3 December 2020, offering the Ocean Decade as a platform for strengthening the scientific basis for UNFCCC deliberations on ocean and climate.

8. IOC also actively contributed to the UN Intergovernmental Conference on an International Legally Binding Instrument (ILBI) on the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction (BBNJ). In October 2020, with a view to inform the negotiation process, the Secretariat published a Non-Paper on existing and potential contributions of IOC-UNESCO to the BBNJ process ([IOC/INF-1387](#)). The IOC Ocean Biogeographic Information System, which now has the new title, the Ocean Biodiversity Information System, has informed key conclusions in SROCC and in the important Global Assessment Report on Biodiversity and Ecosystem Services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES, 2019).

9. IOC has embarked on the development of tools for and the active promotion of "ocean literacy" – a systematic campaign to ensure that various groups of people are aware of the role of the ocean for their lives and of the impact of humans on the health of the ocean. There is a plan to ensure that such awareness about the fundamental role of ocean for humans starts already in

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<sup>1</sup> IMO-FAO-UNESCO-WMO-WHO-IAEA-UN-UNEP Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection

schools. IOC is starting to work with the Education Sector of UNESCO towards including knowledge about the ocean in the school curricula.

### ***Offering solutions***

10. A consensus is emerging among key stakeholders that there is indeed a possibility to revert the cycle of decline in ocean's health and ensure a sustainable use of its space and resources. The necessary condition for this change is a progression towards the science-based ocean management. Coastal zone management, maritime spatial planning, establishment of effective marine protected areas, management of fisheries and aquaculture, informed adaptation to and mitigation of climate change are all constituents of this new paradigm.

11. The level of readiness to deliver of various ocean services is increasing. IOC is maintaining the operational capacities of four regional Tsunami Warning and Mitigation Systems. It is developing capabilities of the Harmful Algal Bloom detection and warning system. A number of ocean prediction centres are running a suite of models and data processing schemes. The ocean reanalysis is becoming a digital product systematically available to users. Operational oceanography is fast developing as a leading environmental service of essence for sustainability. Ocean data services and best practices are acquiring momentum and scale.

12. The Ocean Decade is intended to generate a large scale breakthrough in this process, in accordance with its mission, which calls for "transformative ocean science solutions for sustainable development, connecting people and our ocean". A key motivation for ocean management based on science relates to aspirations of developing a sustainable ocean economy.

### ***Engagement and commitment***

13. The UN Ocean conference in 2017 generated more than 1600 various voluntary commitments towards saving the ocean's health. Billions of US Dollars were consecrated to protecting the ocean as a result of pledges made at 'Our Oceans' conferences. The High-Level Panel (HLP) for a Sustainable Ocean Economy, comprised of 14 Heads of State or Government came up with a commitment to start managing, by 2025, 100% of the ocean area under their national jurisdiction based on planning for sustainability. This vision involves a broad range of stakeholders, uses national accounting and economic considerations for valuing the ocean, and harmonizes human relations with the ocean through notions of equity and ethics. The HLP urged all other countries to follow their example. IOC was on the science advisory group for HLP, and former IOC Chair Prof. Peter Haugan served as a Co-chair of the HLP expert group.

14. The Ocean Decade is becoming widely known in the world and this makes it possible for the IOC to engage a variety of stakeholders in the co-design of ocean solutions. Private sector is increasingly committed, and a very good cooperation is emerging between IOC and the Sustainable Ocean Business Action Platform of the United Nations Global Compact, which is a conduit to thousands of enterprises involved in the ocean sector of economy. IOC is also strengthening its cooperation with an increasing number of philanthropic foundations interested in supporting ocean matters.

15. A key element of creating engagement and commitment is an energetic and efficient communication. IOC is moving forward on the communication campaign entitled "Generation Ocean (GenO)". Through the work on the website and public media, through a number of newsletters, IOC is now much better known in the world. As an example, a very successful event "The Brave New Ocean" took place on 3 February involving the UN Secretary General, Director-General of UNESCO, Presidents of Kenya and Portugal, Prime Minister of Norway, His Serene Highness Prince Albert II of Monaco, Princess Lalla Hasna of Morocco, and representatives of foundations and civil society partners.

### ***Staying on the course, aiming to do more***

16. IOC aspires to continue effectively supporting the emerging positive developments and to accelerate and strengthen the foundations for science-based ocean management. This vision is reflected in the IOC's Medium-Term Strategy (MTS) for 2022–2029, which this Assembly is expected to adopt. The work of the IOC will be continuing under its six Functions, coordinating the implementation of the Ocean Decade, and contributing to the evolving debate in the UNFCCC and on the ILBI for BBNJ in the UN with regard to ocean observations and science, which may have implications for IOC's future responsibilities. This work will be guided by the following vision statement of the new MTS, "to bring together governments and science community in achieving the 'Ocean We Need for the Future We Want.'" Conditions for the success in this work are outlined in the 'way forward' section of this introduction.

### ***Some specific highlights of IOC's results since IOC-30***

17. Since the IOC-30, the IOC Secretariat worked: (i) on the six Functions, programmatically and regionally; (ii) on the development of the Ocean Decade Implementation Plan and the design of the first set of Decade Actions; and (iii) on its contributions to the UNFCCC and UNCLOS processes. A detailed report on this work is provided in the Addendum to this document and only certain key achievements are synthesized below.

18. With the seminal *Global Ocean Science Report 2020*, now supported by an online portal, IOC has now a key benchmark of ocean research capacity at the beginning of the Ocean Decade, which includes the estimate that, in average, countries allocate 1.7% of their total research funding to ocean matters. The IOC is acquiring a leadership position in the work on climate by acting as custodian agency for reporting on ocean acidification (in addition to similar role for indicator of research capacity), leading the new Integrated Ocean Carbon Research, contributing to the "Blue Carbon" project, cosponsoring the GESAMP Working Group 41 on geoengineering in marine environment and the World Climate Research Programme (WCRP).

19. After the very successful OceanObs'19 Conference in September 2019, the observation community is actively brainstorming on the implementation of the [GOOS 2030 Strategy](#) and is moving forward in alignment with the [Roadmap for the Implementation of the Global Ocean Observing System 2030 Strategy](#). The Executive Secretary urges the community to move towards maximizing their contribution to integrated ocean management. He highly values the efforts of the GOOS community with regard to maintaining the continuity of coordination of and support to a number of former JCOMM<sup>2</sup> networks and groups after the end of JCOMM operations related to the WMO constituent bodies reform. On top of that, in the first quarter of 2020, it became clear that the pandemic was having an impact on ocean observations and activities of research fleet. The JCOMM In Situ Observations Programme Support Centre (JCOMMOPS, now called OceanOPS) and Global Ocean Observing System (GOOS) adjusted their procedures to be able to discern the impact of the pandemic on a daily basis. This impact, unfortunately, will likely be significant. Data is the core commodity of ocean science and enabler of sustainability. We can anticipate a major intensification of ocean data work in the world, largely in the result of mobilization associated with the Decade. The progress of the IODE's Ocean Data and Information System (ODIS), the development of OceanInfoHub Project, the Ocean Best Practices System (OBPS), OBIS will be IOC's contribution. However, IOC has to maintain its standard setting role in the fast developing area of ocean data, with numerous emerging data-related initiatives. Hopefully, the conference of ocean data that is being planned by International Oceanographic Data and Information Exchange (IODE) in the second half of 2021, will help to accelerate the progress and keep orderly work on ocean data, in governmental and private sectors.

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<sup>2</sup> Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology is now replaced by the Joint WMO-IOC Collaborative Board (JCB)

20. The four IOC regional Tsunami Warning and Mitigation Systems maintained their coordination work, with warnings issued in many ocean basins, with continuing increase in the number of national tsunami focal points, emergence of new Tsunami Service Providers, with training, education, exercises, intensification of the Tsunami Ready programme, growth of the number of tsunami-ready communities. The IOC tsunami system has adjusted the Standard Operating Procedures to cope with the pandemic physical distancing requirements. The Decade may see a major step forward in the IOC-coordinated tsunami warning system. There are a number of major advances in the work on harmful algal blooms (HABs), with the service and knowledge approaching new levels of readiness and relevance. Importantly, in addition to the well-established services under this IOC Function (tsunami and HABs), conditions are now emerging for stepping up the so-needed work on ocean modelling, data assimilation, reanalysis and prediction, towards creating the backbone of the numerical operational oceanographic services system. This development has to be supported.

21. In addition to the steady and fast progress of the IOC assessment work (e.g., GOSR 2020, indicators for SDG targets 14.1, 14.2, 14.3, 14.a, contribution to IPCC, IPBES, WOA), a new level of understanding of approaches and perspectives, issues and areas of potential actions towards ocean sustainability has been attained in the result of preparation of HLP Blue Papers and other position papers. While produced outside of the IOC framework, they are, nevertheless, of key value for guiding the progress in ocean science towards contributing to sustainable ocean management. This area of IOC work is expanding fast and is the main avenue for consolidating the science work into support of sustainability. E.g., the IOC leads the UN Coalition of Ocean Action (No. 7) focussed on ocean science. IOC also cooperates with the Convention on Biological Diversity with regard to formulation of the next generation of CBD targets. The IOC work on the GEF International Waters Partnership and Large Marine Ecosystems, coastal zone management, and, especially, on Maritime Spatial Planning (e.g. on MSPGlobal in partnership with the European Commission) has generated a significant momentum. All this opens a possibility for advancing sustainable management of the ocean, within Exclusive Economic Zones and even beyond them. This work created perspectives of strong collaboration with the World Bank, UNDP, GEF, and other potential major funding organizations.

22. With the current efforts in the IOC Capacity Development (CD), it is possible to anticipate the emergence of very meaningful CD activities, both under IOC's core functions and the Ocean Decade. Training and education, the work of the OceanTeacher Global Academy in all regions and that of WESTPAC Regional Training and Research Centres in Asia and Pacific continues and is acquiring momentum. Equally, the work on ocean literacy is key for creating conditions for changing human behaviour towards the ocean. The Executive Secretary would like to emphasize the extreme shortage of regular resources in these areas of work. Nevertheless, the scope of IOC regional activities, including those conducted by the IOC regional subsidiary bodies, is large. The IOC's contribution to UNESCO's Global Priority Africa can be successful if the capacity of ocean science is elevated to be able to support the key African vision of sustainable ocean economy. Three African States: Ghana, Kenya and Namibia, were among the members of the HLP and announced their commitment to start managing the ocean areas under their jurisdiction sustainably. Three centres of the OceanTeacher Global Academy-2 will function in Africa. Maritime spatial planning, including the transboundary approach, will continue to be supported on the continent. UNESCO has established an office for SIDS within the Natural Science Sector. Two professional positions, serving the SIDS of the Caribbean and in Pacific will be opened in, respectively, Kingston and Suva. While the bulk of financial resources for these two new posts remains with the Sciences Sector, IOC made a modest contribution and agreed with ADG/SC to work in synergy to maximize the delivery. This offers an additional capacity to complement IOC's continuous focus on addressing the needs of this priority target group of Member States. With GOSR 2020 providing the baseline for target-setting and its future editions serving as a monitoring mechanism, active work on gender equality is being planned in the context of the Ocean Decade. Finally, the Ocean Decade will offer exciting opportunities for early career ocean professionals to contribute to ocean research in general and to IOC's work in particular.

## **IOCINDIO**

23. In line with [Decision IOC-XXX/3.3.4](#) “IOC Regional Committee for the Central Indian Ocean”, the IOCINDIO Chair and Officers prepared a proposal for changing the status of IOCINDIO to an IOC Sub-Commission. The proposal included the description of mission, objectives, terms of references, budgetary implications, secretarial arrangements and other necessary provisions. On 16 February 2021, a consultation was held online with IOC Member States. Some participants unconditionally welcomed the potential transition of IOCINDIO to a Sub-Commission. At the same time, a number of Member States called for an evaluation mission that would result in an objective feasibility study to guide the Assembly’s decision-making. The area to be covered by the new IOC regional body remains to be defined. Potential overlaps with IOCAFRICA and IOC/WESTPAC also require further discussions. As emphasized by the Assembly at its 30<sup>th</sup> Session, in order to build a vibrant regional body for the Indian Ocean, a strategic design based on a careful assessments of needs and potential resources is required.

## ***The Ocean Decade***

24. On 31 December 2020, the 75<sup>th</sup> Session of the UN General Assembly, in its Resolution 75/239 on the “Oceans and Law of the Sea” took note with appreciation of the Implementation Plan of the Ocean Decade submitted by IOC. Having massively invested in the preparation of the Plan and having worked in all-inclusive manner and in a true spirit of partnership with a large number of stakeholders, IOC became the coordinating agency for the Ocean Decade. The main task of the first phase of the Decade will be to populate the programme of the Decade with meaningful research and development activities, programmes, and projects. The Ocean Decade-related matters will be reviewed by the Assembly in a separate agenda item. However, it is important to stress that the Decade is a chance for the humanity to develop the science that is needed for the sustainable management of the ocean. The Ocean Decade will proceed in synergy with other recently proclaimed UN Decades, i.e. the Decade on ecosystem restoration and the Decade of SDG-related actions announced by the UN Secretary General. The Ocean Decade will require most intensive efforts from the IOC, but it is also a tremendous opportunity for IOC’s programmes and the communities – the opportunity to deliver at a new level.

25. As noted above, it is essential to maintain the awareness of the world about the state of the ocean and engage key stakeholders in implementation of ocean management and protection. Professional and regular communication is central in that respect. The related idea of a potential future State of the Ocean Report (StOR) was already presented to the IOC Executive Council at its 53<sup>rd</sup> session. After the initial feedback of Member States at the Executive Council, the idea was further worked on. The report would be able to present a summary of key changes in the ocean state, in terms of its physical, biogeochemical, biological and ecological variables, supplemented by an assessment of developments with regard to integrated ocean management, such as percentage of area covered by area management tools, observations, etc. StOR would be a contribution of IOC to the Decade and would facilitate understanding of the urgent need to address issues related to ocean management towards sustainability and measure progress in that direction.

## ***The way forward***

26. The way forward for ocean science and observations and IOC as a whole will need to be viewed now from the vantage point of the post-crisis world. The Covid-19 is a major new global concern, on top of many other challenges of the humankind. Environmentally, short-term effects may be positive. The slowdown of human activities during the pandemic is seen in the reductions of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, and other anthropogenic emissions. Lower level of underwater noise was reported. Some coastal locations saw improvement of sea water quality. There may be other short-term reductions in human pressures on the environment. However, impacts of the pandemic on human health, increased poverty, unemployment, and other societal effects will create a new, less predictable situation in terms of how the humankind will restart ocean-related activities. In the post-pandemic world, the ocean will continue to play its fundamental role as a major life-supporting system. As

indicated above, there exists a previously unimaginable possibility to improve our human relation with the ocean, to move forward to a more harmonious coexistence with ocean, through science-based ocean planning and management. This opportunity cannot be missed. The emerging positive change can shape future evolution of IOC.

27. While the Executive Secretary is proud of the successful, on the average, work of IOC, there is always a need for an independent and objective view of the progress and the chosen course. In that connection, IOC has requested the UNESCO Internal Oversight Service (IOS) to carry out an evaluation of IOC strategic positioning vis-à-vis the requirements for the 2030 Agenda. This strategic assessment is expected to be ready by the start of the 31st IOC Assembly. The Executive Secretary would like to thank all IOC-affiliated experts who informed this assessment by interviews and comments.

28. The way forward is best informed by remembering the history. In that regard, the Executive Secretary would like to inform the Assembly of a joint initiative with the EurOcean and Portugal to establish a Mário Ruivo's Memorial Lecture. This lecture would offer homage to Professor Ruivo and recognize his long-life commitment to ocean science, the sustainable development of the ocean, and his passionate devotion to IOC. The lecture would be delivered at the IOC Assembly by one or two Early Career Ocean Professionals (ECOPs) selected on a competitive basis and would focus on the priorities of the Ocean Decade. The Ocean Decade Informal Working Group for ECOPs has been involved in initial discussions on the initiative and would be engaged in the design and scoping of the Memorial Lecture and in the selection of the candidates.

### ***Expression of deep gratitude***

29. The Executive Secretary, on behalf of the entire Secretariat, would like to thank the IOC Chair Ariel Troisi and the entire team of IOC Officers for their guidance, professionalism and dedication to the *raison d'être* of IOC. Professor Peter Haugan, the immediate past IOC Chair continues to provide most important strategic advice. I would also like to thank all Member States for their trust in the IOC Secretariat. This unwavering support is a source of genuine motivation for our common work towards "The Ocean We Need for the Future We Want".



## SUMMARY ASSESSMENT OF PROGRAMME IMPLEMENTATION 2018–2020

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*[abstract from 211 EX/4.I: Execution of the programme adopted by the General Conference, Part I: Programme implementation report (PIR) (1 January 2018–31 December 2020) and 211 EX/4.I.INF which provides detailed information on Budget and Programme performance by expected result: Intergovernmental Oceanographic Commission]*

### Overall strategic assessment

#### A. Main achievements, challenges and remedial actions

##### ***Main Achievements***

81. The focus of the Commission in the past three years was on the preparation of the Implementation Plan for the United Nations Decade of Ocean Science for Sustainable Development 2021-2030. IOC spared no effort in engaging all Member States, UN partners and key civil society stakeholders in regional and global consultations, to seize this once-in-a-life-time opportunity to harness advances in ocean science, achieve a better understanding of the ocean system and deliver science-based solutions for the 2030 Agenda for Sustainable Development. Effective use of UN-Oceans consultations reinforced the collaborative approach to ensure a meaningful division of labour among the IOC's partners in the UN system. This work was completed successfully as the United Nations General Assembly in December 2020 took note, with appreciation, of the Implementation Plan.

82. IOC's leadership took an active part in the negotiation process on an International Legally Binding Instrument (ILBI) on the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction (BBNJ). With new opportunities presented by the UN Ocean Decade, IOC is well positioned to support the future agreement, particularly concerning capacity development and transfer of marine technology, to make this instrument universal, serving all its future Parties and developing countries, in particular. In October 2020, with a view to inform the negotiation process, the Secretariat published a Non-Paper on existing and potential contributions of IOC-UNESCO to the BBNJ process (IOC/INF-1387) in the areas of marine research, data, capacity development and the transfer of marine technology.

83. Significant progress was made in the development of the methodology to support Member States' implementation of and reporting on the two SDG target indicators 14.3.1 and 14.a.1, for which the IOC has been assigned the custodian role. The second edition of the Global Ocean Science Report (GOSR) was launched on the occasion of the IOC's 60th anniversary celebration, on 14 December 2020. In addition to establishing a solid basis for measuring progress towards the attainment of SDG Target 14.a, the report provides the baseline for ocean science capacity<sup>3</sup> and related investments and will serve as a monitoring tool for the UN Ocean Decade.

84. At the interface of science and policy, IOC was able to develop a consolidated, multi-partner research and observation agenda for ocean carbon in support of the implementation of the relevant provisions of the UN Framework Convention on Climate Change (UNFCCC) and its Paris Agreement. It continued to effectively support the Global Ocean Acidification Observing Network and now hosts the secretariat for the coordination of the International Partnership for Blue Carbon. In the context of the UN inter-agency Group of Experts on the Scientific Aspects of Marine Environmental Protection, IOC, together with IMO, begun working on developing the guidelines for biofouling and prevention of spreading of invasive marine species.

85. In the second half of 2020, the World Ocean Assessment II received endorsement from UN Member States that also agreed on the 3rd cycle of the Regular Process (2021-2025), calling for

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<sup>3</sup> Infrastructural and human capacity of Member States.

synergies with the UN Ocean Decade in order to strengthen the ocean science-policy interface across disciplines and at all levels.

86. The main focus of the Global Ocean Observing System (GOOS) community was on building partnerships and concepts for three GOOS Ocean Decade programmes: CoastPredict, Observing Together and Ocean Observing Co-Design. These programmes are based around the idea of integrating GOOS in different dimensions, creating partnerships to better deliver for science and society, and experimenting with projects to better serve scientific and societal users. The operational technical support centre, formerly known as JCOMMOPS, was rebranded as OceanOPS, publishing a new five-year strategy and producing a new edition of the annual Ocean Observing Report Card. The card reports on the status of observing networks in terms of implementation, metadata and data flow, standards and best practices, and on their contribution to the operational, climatic, and ocean health dimensions of the mission of GOOS.

87. Similarly, the ocean data community is mobilising to step up its input, and work on an architectural blueprint for the Ocean Data and Information System (ODIS) is well under way. Three new major projects were launched: IOC Ocean InfoHub, with focus on Latin America and the Caribbean, Africa and Pacific SIDS, the Pacific Islands Marine bioinvasions Alert Network and the OceanTeacher Global Academy 2. The development of two data visualization apps – the GOOS BioEco Portal and the Harmful Algal Blooms Portal – has started. The Ocean Biodiversity Information System celebrated its 20th anniversary and continued to be a broadly cited support to researchers.

88. The development and harmonization of the regional tsunami warning systems continued to be coordinated under four regional intergovernmental groups (NEAMTWS, CARIBE EWS, PTWS and IOTWMS), with global harmonization and standard setting roles facilitated through TOWS-WG, an IOC Assembly advisory body. During 2018-2019, coordination has been sustained, as evidenced through governance and technical working group meetings and reports. In 2020, the Secretariat continued to work closely with expert working groups and Member States to sustain and enhance the regional systems and pursue relevant initiatives. Through these efforts, 137 Member States, of which 28 SIDS and 9 African countries, have now established National Tsunami Warning Focal Points/National Tsunami Warning Centres. After more than four years of international collaboration coordinated by IOC, the South China Sea region has now its own dedicated Tsunami Advisory Centre, serving as a warning system for nine countries in the region. Continuing with subregional developments, National Tsunami Warning Centres in France, Greece, Italy, Portugal, and Turkey were accredited as regional Tsunami Service Providers, following peer review evaluation of their functions and achievements. The performance-based community recognition programme “Tsunami Ready” is now piloted in three regions (Caribbean, Pacific and Indian Ocean), with over 25 communities recognized in 15 countries, including 10 SIDS. The World Tsunami Awareness Day of 5 November 2020 was organized, in cooperation with UNDRR, and featuring a 30-day online campaign with the participation of the Director-General of UNESCO, which helped raise the Organization’s visibility on this occasion.

89. IOC continued to focus on developing the capacities of its Member States, in particular through its Regional Subsidiary Bodies – WESTPAC, IOCARIBE, IOCAFRICA and IOCINDIO. The second International Indian Ocean Expedition has engaged more than 50 African scientists in research cruises organized by South Africa. Representatives from Comoros, Kenya, Madagascar, Mauritius, Mozambique, South Africa and United Republic of Tanzania were trained in the development of tsunami inundation and evacuation maps. Representatives from Comoros, Kenya, Madagascar, South Africa and United Republic of Tanzania mastered the Standard Operating Procedures (SOPs) for tsunami warning and emergency response. All African Member States bordering the Indian Ocean participated in IOWave exercises, with United Republic of Tanzania, Kenya and Seychelles conducting community evacuations. Training potential has been substantially increased through the 16 Ocean Teacher Global Academy (OTGA) Regional/Specialized Training Centres, as well as the WESTPAC Regional Training and Research Centres, that together provided training to nearly 1,000 individuals. In addition, two capacity development needs assessments have been implemented that

will allow to better focus the capacity development activities of all IOC global programmes and regional subsidiary bodies (RSBs) and to facilitate mobilization of extrabudgetary resources.

90. The Ocean Decade is an exceptional opportunity for the developing countries to strengthen their capacities in ocean research in support of the sustainable ocean economy. IOC partnered with the Western Indian Ocean Marine Science Association and the secretariat of the Nairobi Convention (UN Environment) to organize “the Regional Consultation workshop for the UN Decade of Ocean Science for Sustainable Development 2021-2030 for Africa and the Adjacent Islands States” which was hosted by the Government of Kenya from 27 to 29 January 2020 in Nairobi, Kenya. The workshop, as well as the webinar on “Co-designing the Ocean Science we need for Africa” (3 November 2020), was the opportunity to identify regional needs and priorities in terms of transforming knowledge systems, accelerating transfer of marine technology, enabling training and education, fostering science-policy dialogues and building capacities, in alignment with the African Union’s initiatives. With the support of the Government of Egypt, IOC is preparing a major Decade kick-off conference on ocean science in support of Africa’s sustainable development to take place in the second half of 2021.

91. The Implementation Plan for the Decade fosters synergies between actions towards the achievement of SDG 5 and SDG 14 by focusing on the role of women in ocean science, improving global ocean knowledge and supporting informed and inclusive decision-making. The Global Ocean Science Report with its gender-disaggregated data continued to serve as one of the progress monitoring mechanisms.

92. The Implementation Plan devoted specific attention to SIDS, including the value of indigenous knowledge. A consultation with South Pacific SIDS was organized in Noumea in July 2019, consultations for the Caribbean and Western Indian Ocean SIDS were organized in, respectively, Mexico and Kenya in the first half of 2020. Following the positive experience of the first Global Planning Meeting in Copenhagen in May 2019, every regional consultation engaged young ocean professionals.

93. With the support of the Swedish Government, IOC has launched the Ocean Literacy Platform and produced a toolkit which was tested through the ASPNet in schools in 36 countries. In collaboration with the International Blue Carbon Initiative, IOC developed a methodology to measure blue carbon storage, to assist national reporting to the UNFCCC, and contributed to the Organization’s participation in COP-24 and 25 by raising the awareness of the rule of the ocean in climate change regulation. At a first meeting in November 2020, IOC Chair and staff and experts of the STAB of the 2001 Convention on the Protection of the Underwater Cultural Heritage, agreed to work together in the development of a strategic framework identifying priority actions for the underwater cultural heritage community, which can inspire and stimulate “Decade Actions”. The Decade will offer an opportunity and a framework for stepping up existing and developing new synergies in a co-design approach with other sectors.

### ***Partnerships***

94. Having put forward its experience in supporting nations in the implementation of Marine Spatial Planning (MSP) at the 2018 Sustainable Blue Economy conference in Nairobi, IOC broadened its partnership with the European Commission by launching a new joint initiative to promote cross-border MSP. Following successful implementation, a new joint MSP Roadmap is under discussion for the period 2022-2025. The Global Environmental Facility remains an important partner of IOC in several key areas of work, with new projects launched in Sargasso Sea and in relation to Biofouling. Collaboration with IHO in relation to GEBCO and ocean mapping is working out well, both organisations provide oversight to the development of the Seabed 2030 project and will ensure that it contributes to the plan of the Decade. Collaboration with DOALOS increased in the course of 2020 to ensure that the Decade Implementation Plan was aligned with the provisions of UNCLOS and to facilitate its review by UNGA.

95. Belgium (Flanders), Canada, China, Japan, Norway, Portugal, Republic of Korea, Sweden and United Kingdom, as well as RevOcean, provided financial contributions towards the preparation of the Decade Implementation Plan. Norway continued to be the main donor of non-earmarked funds to the IOC Special Account, facilitating implementation with focus on collectively agreed priorities. An additional \$2 million contribution from NORAD will allow to significantly step up IOC's capacity development efforts in favour of Africa and SIDS.

96. Belgium (Flanders), China and Australia continued to support key IOC offices and their programmes in, respectively, Oostende (Belgium), WESTPAC and Perth. The possibility of using the unspent funds from the 38 C/5 in the next biennium was also critically important for the organization of consultations and generally for enhancing IOC's leadership in the overall Decade decision-making and implementation processes.

97. A number of promising partnerships with the private sector were successfully pursued, including through collaboration with the UN Global Compact's Sustainable Ocean Business Action Platform. IOC established a partnership with the Velux Foundation to reach out to the philanthropy sector through an engagement event in February 2020 at the Royal Academy of Science and Letters of Denmark. Agreements were also signed with RevOcean (including its ODF/C4IR) and the Schmidt Ocean Institute.

98. In follow-up to our commitment at the Our Ocean Conference (23-24 October 2019, Oslo, Norway), IOC has announced the constitution of an Alliance for the United Nations Decade of Ocean Science for Sustainable Development (2021-2030). The launch of the Ocean Decade Alliance with "A Brave New Ocean", took place through a virtual event that brought together ocean experts and leaders from around the world to highlight the immense challenges and opportunities that ocean knowledge can offer humanity to build a better and stronger post-pandemic world. Opened by the Director-General, the event brought together a number of founding members of the Ocean Decade Alliance, including H.E. Hon. Uhuru Kenyatta, President of Kenya, H.E. Erna Solberg, Prime Minister of Norway, H.R.H. Princess Lalla Hasnaa of Morocco and H.E. Hon. Marcelo Rebelo de Sousa of Portugal, as well as leading philanthropic institutions like the Schmidt Ocean Institute and the Bertarelli Foundation, sports personalities, scientists and energetic young activists.

### ***Challenges and remedial actions***

99. Overall, the main challenge for the Commission's small secretariat is the dual task to raise, not only the resources necessary to maintain its core operational programmes, but also to lead and coordinate the Decade preparation phase. A new approach to fundraising and outreach is being implemented, based on highlighting the societal benefits of IOC's work and demonstrating the return on investment in ocean science and observation.

100. Communication and outreach efforts have intensified to present the objectives of the Decade and engage a broader range of stakeholders.

### **B. Impact of the COVID-19 pandemic on the implementation of 40 C/5**

101. The impact of the COVID-19-related confinement was of particular concern for IOC's operational programmes - the Global Ocean Observing System and the International Oceanographic Data and Information Exchange – delivering the essential information needed in marine, climate and weather forecasts and warnings.

102. The IOC-coordinated Global Ocean Observing System was vulnerable to the impacts of COVID-19 in some cases, but resilient in many others – proving the value of international cooperation. Some activities, particularly linked to research vessel operations and the servicing of moorings, taking surface CO<sub>2</sub> measurements, and the deployment of autonomous platforms like Argo floats and surface drifters, remained restricted, with the implementing community slowly adapting, finding new ways of cooperating, and operating under new restrictions.

103. IOC conducted a number of surveys and will continue to work closely with its partners in the relevant communities to assess the complete impact through 2021, with reallocation of resources from cancelled activities and reduced travel. It is, however, becoming increasingly clear that data gaps will be created in the global ocean data archives due to cancelled research cruises, lack of maintenance of observing equipment during the pandemic, reduction in staff during and possibly after the pandemic and possibly reductions in operational budgets, which will be monitored through the GOSR Data Portal.

104. The intergovernmental coordination of the Global Tsunami Warning System activities was limited to mostly online meetings, with governance meetings postponed to a later date or held online when necessary. Activities were quickly adapted to the new “working normal”, including through: (i) preparation of guidelines for tsunami warning services, evacuation and sheltering during COVID-19 and (ii) survey on the impact assessment of COVID-19 pandemic on Seismic Tide Gauge and Tsunameter Networks, and operations of Tsunami Service Providers.

105. The availability of the Ocean Teacher Global Academy e-learning platform allowed a quick re-orientation and organization of online courses as from June 2020, thus maintaining the IOC capacity development efforts at the planned level.

106. Some of the major UN meetings had to be postponed to the end of 2021 or 2022, as is the case of the second UN Conference on the Ocean. Alternative actions to sustain the engagement of stakeholders were identified, such as the kick-off Conference for the Ocean Decade, with the support of the Government of Germany, which has now been redesigned into a series of high-level events and Decade laboratories to be conducted over the course of 2021.

[The text below is an extract from 211 EX/4.I.INF]

**IOC Expected Result 1: Science-informed policies for reduced vulnerability to ocean hazards, for the global conservation and sustainable use of oceans, seas and marine resources, and increased resilience and adaptation to climate change, developed and implemented by Member States, towards the realization of the 2030 Agenda**

IBF Expenditure (non-staff) (USD '000s)		Funds mobilized (USD '000s)	
2018-2019	2020-2021 (as at end Dec. 2020)*	2018-2019	2020-2021 (as at end Dec. 2020)
16,544	4,693	9,066	10,676

\* For further details, please refer to the Financial Management Report of the relevant period.

Overall assessment of progress against the expected result: **On track**

Performance Indicators (PI) and Targets (T)	Assessment of Progress against Target as at 31/12/2020
<p><b>PI:</b> Number of supported Member States which have conducted up-to-date ocean research to address specific challenges of the ocean and human impacts on coastal areas</p> <p><b>T 2018-2021:</b></p> <p>(i) 54 Member States, of which 7 from Africa and 8 SIDS, participate in international research initiatives under the WCRP</p> <p>(ii) 94 Member States, of which 23 from Africa and 17 SIDS, integrate best practices, standards and methodologies to observe ocean acidification and blue carbon ecosystems</p> <p>(iii) 83 Member States of which 9 from Africa and 5 SIDS contribute to improving understanding of marine ecosystem functioning and the impacts of change on ecosystem services</p>	<p>(i) 35 Member States, of which 7 from Africa and 1 from SIDS</p> <p>(ii) 101 Member States, of which 23 in Africa and 19 SIDS</p> <p>(iii) 83 of which 9 from Africa and 5 SIDS.</p>
<p><b>PI:</b> Number of supported Member States which maintained, strengthened and integrated global ocean observing, data and information systems to reduce vulnerability to ocean hazards and benefit from their outputs</p> <p><b>T 2018-2021:</b></p> <p>(i) Good level of participation and engagement in GOOS regional alliances of 68 Member States (out of 104 GOOS Member States), of which 12 in Africa and 9 SIDS</p> <p>(ii) 13 Member States, of which 5 in Africa and 1 SIDS, participate in LOGOOS, as an indicator of involvement in IIOE-2</p> <p>(iii) 20 Member States contribute to JCOMMOPS</p> <p>(iv) 100 Member States have established NODCs or Associate Data Units (of these 25 in Africa) and 10 MS have established Associate Information Units Member States (of which 3 in Africa)</p>	<p>(i) 66 Member States of which 11 from Africa and 9 SIDS</p> <p>(ii) 13 Member States of which 5 from Africa and 1 SIDS</p> <p>(iii) 20</p> <p>(iv) NODCs or Associate data units: 96 Member States of which 18 from Africa; AIUs: 5 established, 1 in Africa</p>
<p><b>PI:</b> Number of supported Member States which have developed early warning systems and preparedness to mitigate the risks of tsunamis and other ocean-related hazards towards increased resilience</p>	<p>(i) 137 Member States of which 28 SIDS and 9 Africa MS</p> <p>(ii) 16 Member States, of which 6 SIDS</p> <p>(iii) 15 Member States of which 7 SIDS</p>

<p><b>T 2018-2021:</b> (i) 139 Member States, of which 28 SIDS and 9 in Africa, have National Tsunami Warning Centres</p> <p>(ii) 16 Member States, of which 6 SIDS, have increased communities' preparedness</p> <p>(iii) 15 Member States, of which 7 SIDS, developed capacities for tsunami and other coastal hazard assessment</p> <p>(iv) 14 Member States actively participate in operational ocean forecast system, of which 2 in Africa and 2 SIDS</p> <p>(v) 47 Member States developed capacities for research and management of harmful algae, of which 6 in Africa and 5 SIDS</p>	<p>(iv) 14 of which 2 from Africa and 2 SIDS</p> <p>(v) 45 Member States, of which 6 in Africa and 5 SIDS.</p>
<p><b>PI:</b> Number of supported Member States that have ocean science and policy interface mechanisms in support of healthy ocean ecosystems in accordance with Agenda 2030</p> <p><b>T 2018-2021:</b> (i) 40 Member States contribute to and use Jule Bathymetric datasets through GEBCO</p> <p>(ii) 757 experts have been nominated by 72 Member States to the WOA Pool of Expert, with 21 from Africa and 5 from SIDS</p> <p>(iii) 48 Member States manage data sets relevant to ocean acidification (7 in Africa)</p> <p>(iv) 35 Member States, of which 7 in Africa and 5 SIDS, participate in science and capacity development programmes on nutrients assessment and management</p> <p>(v) 11 Member States, of which 5 from Africa and 2 SIDS, have held a regional workshop on coastal vulnerability aimed at developing a regional project on climate change adaptation.</p>	<p>(i) Over 90 Member States accessing datasets, and 30 MS and institutions contributing datasets</p> <p>(ii) 795 experts including 87 experts from the African Group are now nominated to the Pool of Expert. 10 Member States have provided comments on the final draft of the WOA report.</p> <p>(iii) 30 Member States, of which 3 from SIDS and 5 from Africa</p> <p>(iv) Guidelines for nutrient monitoring and management under preparation.</p> <p>(v) 5 Member States from Africa participating in a regional scoping workshop on coastal vulnerability, 6 Member States from Africa conducting national expert consultations in coastal and environmental pressures; National practices in coastal risks management produced for 10 Member States, including 4 from Africa</p>
<p><b>PI:</b> Number of supported Member States which implement science-based ecosystem management and measure progress on SDG 14 implementation</p> <p><b>T 2018-2021:</b> (i) 108 Member States, of which 28 Africa and 10 SIDS, contribute to the implementation of workplans of IOC governing and regional subsidiary bodies</p> <p>(ii) experts from 50 Member States, including 8 from Africa and 5 from SIDS, participating in MSP international forum and training activities and applying knowledge towards the development of MSP national plans</p> <p>(iii) 17 Member States, of which 5 SIDS, participated in UN outreach activities, through Side events at BBNJ meeting, Our Ocean, UNFCCC</p>	<p>(i) 112 Member States, of which 27 from Africa and 19 from SIDS</p> <p>(ii) 120 Member States, of which 12 from Africa, and 7 from SIDS</p> <p>(iii) 50 Member States taking part in the presentation of the Decade Plan at UNGA; 11 webinars on Decade themes organised, with 80 Member States, incl. 10 SIDS; 20 Member States take part in BBNJ Discussion forum, including 5 SIDS</p>
<p><b>PI:</b> Number of supported Member States which have developed institutional capacity and used it towards IOC's high-level Objectives</p> <p><b>T 2018-2021:</b> (i) 52 Member States participated in the needs assessment survey, of which 12 from Africa and 11 were SIDS.</p> <p>(ii) 62 Member States, of which 8 SIDS and 8 from Africa, contributing to 2nd GOSR</p>	<p>(i) 89 Member States, of which 28 from Africa and 6 SIDS</p> <p>(ii) 45 Member States submitted data to the GOSR2020 questionnaire, 11 from Africa and 2 SIDS; 52 Member States contributed to the GOSR Portal: 13 from Africa and 4 SIDS.</p> <p>(iii) (a) CD implementation plans adopted in 2019 and implementation started largely dependent on XB (b) 989 practitioners of which 190 from Africa and 38 from SIDS.</p>

<p>(iii) (a) C plans implemented in 24 Member States in IOCARIBE region, 18 in IOCAFRICA, 16 in WESTPAC</p> <p>(b) 150 practitioners, of which 30 from Africa and 7 from SIDS trained in priority topics identified by regional subsidiary bodies</p> <p>(iv) 150 practitioners trained, of which 40 from Africa and 3 from SIDS, with a gender target of 40% women (5 RTCs established)</p>	<p>(iv) 150 practitioners trained, of which 40 from Africa and 3 from SIDS, with a gender ratio of 40% women (5 RTCs established)</p>
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#### Contribution of key partners

Partnerships are critical to the successful delivery by the Commission of its consistently increasing mandate. Effective and efficient division of labor between UN Oceans partners takes a particular importance in the context of the UN Ocean Decade. Through global and regional consultations over the biennium, thousands of stakeholders from governments, science and technology, business, civil society and international organizations have contributed to the formulation of the Decade Implementation Plan.

Successful delivery of climate and operational services is ensured in close cooperation with WMO, including through programme co-sponsorship. Cooperation with the Global Environmental Facility (GEF) and UNDP and UNEP continues successfully and IOC was entrusted by the GEF to deliver the next phase of the IW:Learn+ project (2020-2023). A tripartite agreement was concluded with IAEA, FAO and WHO on Ciguatera Poisoning.

Capacity development and work at field level is facilitated by IOC Regional Subsidiary Bodies. In the IOCINDIO region, the two category 2 centres, in Iran and in India, provide valuable contributions and ensure regional ownership of programmes. Agreements under negotiation with the South Pacific Community and the Indian Ocean Rim Association will be an important step in this regard.

Civil society partners are key in raising the awareness of the socio-economic value of the ocean and IOC's efforts in supporting the sustainable ocean economy and addressing major challenges and opportunities from the ocean. In the context of IOC's partnership with the International Monohull Open Class Association, Vendee Globe skippers collected vital observations, including from the least-visited areas of our global ocean, supporting the Global Ocean Observing System, within the framework of the Ocean Decade and under the leadership of OceanOPS.

Key challenges	Remedial actions
<p>The preparation of the Decade increased substantially the workload of the Secretariat, impacting its capacity to deliver on core programmes. A sustained and well-staffed coordination unit will need to be established to match and support the level of ambition of the Decade during the next ten years. Emerging role for IOC might also need to be considered in the context of UNCLOS and the BBNJ negotiations, which could further exacerbate this aspect.</p> <p>Key partnerships need to be established so that GOOS - with ocean observing at the beginning of a value chain that connects to data management, analysis and forecasting systems, and on to scientific information of relevance for policy and individual safety and decision-making - can grow to be a responsive system, with advocates ensuring its sustainability.</p>	<p>A fundraising campaign is being implemented to catalyse further extrabudgetary investments in the Decade. A Decade Alliance was launched to bring in new donors and partnership agreement signed with several leading philanthropic institutions.</p> <p>The co-sponsor role of WMO is key for the successful delivery in the area of climate and operational weather services.</p> <p>The Ocean Decade will also be a transformative moment that GOOS intends to contribute to, with stronger delivery and fit for purpose as key objectives</p>

#### Impact of the COVID-19 pandemic on the achievement of the Expected result

The impact of the COVID-19-related confinement was of a particular concern for the Commission's operational programmes - the Global Ocean Observing System and the International Oceanographic Data and Information Exchange - delivering the essential information needed in marine, climate and weather forecasts and warnings. The IOC-coordinated Global Ocean Observing System was found vulnerable to the impacts of COVID-19 in some cases, but resilient in many others - proving the value of international cooperation. Some activities, particularly linked to research vessel operations and the servicing of moorings, taking surface CO2 measurements, and the deployment of autonomous platforms like Argo floats and surface drifters, remained restricted, with the implementing community slowly adapting, finding new ways of cooperating, and operating under new restrictions. IOC conducted a number of surveys and will continue to work closely with its partners in the relevant communities to assess the complete impact through 2021, with reallocation of resources from cancelled activities and reduced travel. It is, however, becoming increasingly clear that data gaps will be created in the global ocean data archives due to cancelled research cruises, lack of maintenance of



**Impact of the COVID-19 pandemic on the achievement of the Expected result**

observing equipment during the pandemic, reduction in staff during and possibly after the pandemic and possibly reductions in operational budgets, which will be monitored through the GOSR Data Portal. The intergovernmental coordination of the Global Tsunami Warning System activities were limited to mostly online meetings, with governance meetings postponed to a later date in online mode, if necessary. Activities were quickly adapted to the new “working normal”, including through: (i) preparation of guidelines for tsunami warning services, evacuation and sheltering during COVID-19 and (ii) survey on the impact assessment of COVID-19 pandemic on Seismic Tide Gauge and Tsunameter Networks, and operations of Tsunami Service Providers. The availability of the OceanTeacher Global Academy e-learning platform allowed a quick re-orientation and organization of online courses as from June 2020, thus maintaining the IOC capacity development efforts at the planned level. Some of the major UN meetings had to be postponed to the end of 2021 or even 2022, as is the case of the second UN Conference on the Ocean. Alternative actions to sustain the engagement of stakeholders were identified, such as the Kick-off Conference for the Ocean Decade, with the support of the Government of Germany, which has now been redesigned into a series of high level events and Decade laboratories to be conducted over the course of 2021.

**Proposed re-programming in 2021**

Despite some delays in implementation encountered in 2020, it is expected that programme objectives can be attained, as planned, through new adapted modalities.

IOC operational programmes being built on solid intergovernmental networks; they benefit from a strong ownership of, and direction by, their Member States. They will inform targeted remedial actions to ensure achievement of the 40 C/5 programmatic objectives, with the final review and adjustment by the 31st session of the IOC Assembly in June 2021, if required