

Intergovernmental Oceanographic Commission  
*Reports of Meetings of Experts and Equivalent Bodies*



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

## **Fourth Session**

Hybrid meeting (Paris/Online)  
25 November 2022

**UNESCO**

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Onsite participants at UNESCO HQ in Paris



Some of the participants via zoom

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# 1. OPENING OF THE MEETING

1 The Fourth Session of the Group of Experts on Capacity Development was held on 25 November 2022. The meeting was opened at 0930 CET by Mr Ariel Troisi who introduced Dr Vladimir Ryabinin, Executive Secretary - IOC / Assistant Director General – UNESCO for his Opening Address.

2 Dr Ryabinin shared significant developments in the IOC including staff movements and various engagements with other UN processes that were significantly related to Capacity Development. He encouraged the Group to capitalize at the growing momentum of the Decade, and how significant contributions can be made especially through capacity development components of other UN processes such as the Biodiversity Beyond National Jurisdiction (BBNJ). Key elements in the new legal agreement were the clearinghouse mechanism for the transfer of marine technology and capacity development arrangements. Nevertheless challenges remain as the capacity development debate was mainly focused on the four pillars of the BBNJ agreement. This may require additional attention to more fundamental matters such as ocean observations and ocean data, strikingly not mentioned in the proposed text.

3 He also shared some updates from the Conference of Parties of the UN Framework Convention on Climate Change, where an important paradigm shift was countries discussing more on loss and damages mechanisms than mitigation and adaptation. This has implications for the work of the IOC, especially in terms of capacity development on ocean science. He emphasized the need to make the work of the IOC known especially in ocean-related discussions for biodiversity at the Conference of Parties.

4 Lastly, he mentioned the assessment of requirements in terms of financial and human resources at the IOC. He reported that the workforce required need more people to work at IOC. He highlighted that as IOC moves forward in the chain of ocean science, it is important to focus on policy and arrangements that enable the creation of conditions for the science we need for managing the sustainable development of the ocean.

5 He concluded by summarizing all these developments and their implications to the work of the Group of Experts and wished the Group a fruitful and successful meeting.

## 1.1 ADDRESS BY THE CO-CHAIRS

6 The Group was then addressed by Mr Ariel Troisi. He thanked Dr Ryabinin for his opening message and reiterated the central role that capacity development plays in the core functions of the IOC. He looked back at the first three sessions of the Group and their important contributions in delivering critical work especially in meeting the CD requirements of IOC Member States through an effective IOC Capacity Development Strategy. He thanked the Group for the tasks that they were able to accomplish such as the clearinghouse mechanism and the identification of Member States CD needs under the Working Group chaired by Ms Ann-Katrien Lescauwaet and Ms Pauhla McGrane, the Task Team on the revision of the IOC C CD Strategy 2015-2021 which initiated the initial review and determined the revisions required in the Strategy with Luis Pinheiro as its Chair, and Alan Evans and Suzan Kholeif who were the Co-Chairs of the Working Group in the revision of IOC Capacity Development

Strategy. Thanks to their leadership and to the entire working groups, the draft 0 of the IOC Capacity Development Strategy 2023-2030 was made available for the review and approval of the GE-CD at this 4<sup>th</sup> Session, and in time for submission to the 32<sup>nd</sup> Session of the IOC Assembly in June 2023. He also thanked the Secretariat for the permanent support and dedication.

## 1.2 ADOPTION OF THE AGENDA

7 Mr Alan Evans also addressed the members and introduced the provisional agenda. He thanked Mr Troisi for his leadership and reiterated an expression of thanks to all who contributed to the impactful works that the GE-CD has been doing in the past intersessional periods. He invited the Group to review and adopt the provisional agenda ([Document IOC/GECD-IV/1 prov.](#)) available from the meeting page on <https://oceanexpert.org/event/3606>. The Group was requested to note that all working documents were made available only as on-line documents.

8 No other business was proposed.

9 **The Group adopted the agenda.**

## 1.3 ADOPTION OF THE TIMETABLE

10 The Group was invited by Ms Johanna Diwa, CD Secretariat, to review and adopt the Timetable ([Document IOC/GECD-IV/1 Add.Prov.](#)) She informed the Group that the meeting would be held between 0930-1025 followed by a 15 min. coffee break and then between 1040-1200. After the lunch break from 1200-1400, the afternoon session will start at 1400 followed by a 15 min coffee break at 1540, until the meeting ends at 1700.

11 She then reviewed the arrangements for the Session and presented the List of Documents available online through <https://oceanexpert.org/event/3606>. She noted that the main working document for the Session would be the draft Action Paper, [Document IOC/GECD-IV/1Action](#) (this document).

12 She also reminded the Group that since the meeting was hybrid in nature, and despite the efforts to find the ideal time zone to accommodate everyone, there were virtual participants who may have difficulties in the timing of the meeting. She informed the Group that as earlier requested, the comments/questions that were received from the advance perusal of the draft Action Paper were lined up for discussion at the plenary. Accordingly, there would be no time for extensive introductions of agenda items and participants were urged to carefully read the draft Action Paper and working documents in preparation for the Session.

13 All draft Recommendations and draft Decisions were included in the draft Action Paper and were briefly reviewed during the concerned agenda item for final adoption at the end of the Session.

14 **The Group adopted the timetable for the Session.**

## 2. PROGRESS REPORT OF THE GE-CD-III WORKPLAN

15 This agenda item was introduced by Mr Ariel Troisi. He referred to the workplan discussed at the 3<sup>rd</sup> Session of the GE-CD ([Document IOC/GECD-III/Fin. Report](#)), which included:

- 1) Coordination of global and regional programmes in implementing IOC CD Strategy,
- 2) CD requirements of Member States in relation to the IOC CD Strategy by way of
  - i) repeat of the biennial capacity development needs assessment survey,
  - ii) coordination with the Global Ocean Science Report and the
  - iii) UN Decade of Ocean Science for Sustainable Development.

He then invited the global and regional IOC programmes and projects to provide updates on how the IOC CD strategy was implemented within their respective work plans.

### 2.1 COORDINATION OF GLOBAL AND REGIONAL PROGRAMMES IN IMPLEMENTING IOC CD STRATEGY

#### 2.1.1 OceanTeacher Global Academy

16 This agenda item was introduced by Ms. Claudia Delgado, IODE Training Coordinator.

17 She provided an overview of the OceanTeacher Global Academy (OTGA) project. OTGA continues to contribute to the implementation of the IOC Capacity Development Strategy, addressing key outputs identified in the strategy through increased support in the training activities of all IOC programmes. This support includes the Tsunami Unit, Ocean Literacy, Harmful Algal Bloom programme, IODE, and Ocean Sciences.

18 The OTGA global network of seventeen Regional and Specialised Training Centres delivers customised training for ocean experts and professionals to increase national and regional capacity in coastal and marine sciences, services and management relevant to IOC Programmes using the OceanTeacher e-Learning Platform.

19 OTGA contributes to the UN Decade of Ocean Science for Sustainable Development through the implementation of capacity development through the transfer of marine technology, ocean literacy, education and training. OTGA is now an endorsed Ocean Decade Project, contributing to many of its High-Level Objectives, challenges and outcomes. OTGA also contributes to the UN Sustainable Development Goals to conserve and sustainably manage ocean and marine resources by 2030 and to build the scientific and institutional capacity needed to achieve the SDGs.

20 The OTGA project successfully organized and delivered 29 courses during 2022. These were delivered mainly as online synchronous courses by the network of Regional and Specialized Training Centres and languages of instruction were English, Spanish and Portuguese. In addition, OTGA hosted 17 online training courses on behalf of partner organizations. These partner organizations were Flanders Marine Institute (VLIZ), the Nippon

Foundation-POGO Centre of Excellence (NF-POGO), Early Career Ocean Professional Network Programme (ECOP), International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) and the Marine Environmental Data and Information Network (MEDIN).

21 During 2022, the OTGA project has developed tools and online training for facilitators to assist in improving the design and delivery of training courses. These include:

- Standard course templates. Course templates have been developed (in English, Spanish and Portuguese) that can be customised to the specific needs of the OTGA target audience and its training centres. A video presentation to explain the use of the OTGA course template for training activities has also been developed.
- Designing and Teaching Online Courses for RTC/STC administrators and instructors. This customised training course has been designed an introductory course for RTCs/STCs facilitators on designing and delivering online courses using eLearning Management System. The training provides facilitators with an introduction to designing online courses and to the concepts and capabilities of the Moodle LMS. The focus is on course design and uses a project-based approach in which participants are guided as they build a unit of instruction that they could use as a template for their course.
- Design and develop a short tutorial on Copyright. To assist all OTGA facilitators (including RTC/STC trainers and Subject Matter Experts) to identify what they can and cannot do when using third-party materials for their online courses, the OTGA has developed the Copyright Rules tutorial. The goal of this tutorial is to define copyright and examine the guidelines for posting material to OTGA courses and identify some misconceptions related to copyright.
- OTGA Course Design Rubric. This rubric is used to evaluate and improve instructor led or self-paced OTGA courses. All courses will be reviewed annually by the OTGA Secretariat against the criteria and must achieve an overall score of 80% of the possible points to attain endorsement as an OTGA course.
- OceanTeacher Global Academy Alumni System. This system, implemented in 2022, provides a single sign on for OTGA course participants with the IOC OceanExpert (OE) system to register the profile data of the OTGA alumni. OE is used to authenticate users using their OE login credentials avoiding multiple subscription.
- Implement standard reports for the OTGA Alumni System. Reports customisation has been introduced to provide accurate statistics for reporting to UNESCO, the IOC and the OTGA donor.

22 The host of the OTGA project, UNESCO/IOC Project Office for IODE, was successfully audited and complies with the standard ISO 29993. The Project Office is certified as a Learning Services Provider for learning services outside formal education, including all types of life-long learning since March 2022.

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

23 Mr Albert Fischer introduced the agenda item on GOOS. He referred to how capacity development is part of the GOOS Strategic Objectives, however in reality capacity

development efforts are somewhat opportunistic, focused on training and engagement. He shared a few highlights and future orientations.

24 The Expert Team on Operational Ocean Forecasting Systems (ETOOFS) held a training course in June 2021 on the Ocean Teacher Global Academy Platform. More than 170 participants from 65 countries demonstrated strong levels of engagement and collaboration. The course received financial and in kind support from Mercator Ocean International and the OTGA. The organisers had the ambition to repeat this activity on a regular basis. It was linked to the Guide on Implementing Operational Ocean Monitoring and Forecasting Systems, published this year. It promised to be a great resource to build capacity in operational ocean forecasting systems.

25 The Data Buoy Cooperation Panel (DBCP) had a separate capacity development fund with voluntary contributions from members. In 2022, it provided funding for a pilot wave buoy deployment in the Solomon Islands. The DBCP also recently held a Mediterranean Training Workshop on Ocean Observations and Data Applications, Tunisia, in November 2022, with a second part planned for April 2023.

26 As a response to somewhat fragmented approach to CD activities, a GOOS Ocean Decade programme focusing on capacity development, [Observing Together](#), was developed. This programme aims to transform availability and accessibility of ocean data by supporting both new and existing projects from community to national scale. Initial projects from Indonesia and Morocco are underway. There is a lot of potential in this programme, and it is seen as a good vehicle for fundraising.

27 There is a lot of interest within GOOS in WMO's Global Basic Observing Network (GBON) and the Systematic Observing Funding Facility (SOFF). The SOFF was established one year ago and has received contributions and started projects. It is aimed at addressing missing weather and climate observations from SIDS and LDCs. It introduced a new concept of national responsibility for observations in EEZ – and so for example there is a large mismatch between capacity and responsibility for SIDS. There was interest amongst WMO Members and the GOOS observing networks expanding the scope of GBON to cover marine observations that were needed for weather and climate.

### 2.1.3 Ocean Science

28 Ms Kirsten Isensee gave a presentation on behalf of Mr Henrik Enevoldsen and introduced the agenda item on Ocean Science. She reported that there continues to be a stable demand from Member State institutions for training courses on harmful algae and that the implementation of combined OT on-line and face-to-face courses works well. The same applies for the International Phytoplankton Intercomparison (IPI). The close and longstanding cooperation with University of Copenhagen and the Marine Institute Ireland/University of Las Palmas Canarias, respectively, enables the strong position of the IOC in HAB CD. Another topic of continuous capacity development demand is the field of ocean acidification. Following up on the successful implementation of an OTGA course in February 2022 focusing on the Pacific Islands with more than 130 participants (60 % female attendees) it is envisaged to repeat this exercise in Africa and one more region over the next two years. Further the IOC Secretariat is developing new content and translating part of the course material. Deoxygenation was the focus of one IOC summer school in September 2019, a new edition organized in November 2023 in Chile now as part of the Decade Programme GOOD/OARS,

expanding to ocean acidification attracts strong interest and has successfully positioned IOC as a provider of CD in the field.

#### **2.1.4 Tsunami**

29 Mr Bernardo Aliaga introduced the agenda item on Tsunami programme. He reported that the global tsunami warning and mitigation system, consists of four groups, each of which supported various regions as well as information centers, and developed through a network of thousands of practitioners and experts.

30 First, the North-eastern Atlantic and the Mediterranean tsunami warning system (ICG/NEAMTWS) has started to focus on the downstream-last Mile component of the system, thus there were more interest and opportunities to explore, especially with more involvement and participation of civil protection agencies etc. In the last five years, the visibility of ICG/NEAMTWS increased due to the parallel effort of the Secretariat and closer collaboration and coordination between ICG/NEAMTWS, IOC Communication Team and UNDRR, as exemplified in the last World Tsunami Awareness Day which acts as catalyst to capacity development.

31 Next, the Indian Ocean Tsunami Information Center (ICG/IOTIC) organized a large number of capacity development activities with/for the Indian Ocean Member States through the Agency for Meteorology, Climatology and Geophysics (BMKG). These included

- exchanging information and experiences among the Indian Ocean Member States;
- reviewing IOTIC, ICG/IOTWMS and/or the Indian Ocean Member States tsunami related activities;
- identifying and recommending appropriate actions and improvements of programs and activities implemented by IOTIC, ICG/IOTWMS and/or the Indian Ocean Member;
- and increasing understanding of the Indian Ocean Member States of UNESCO-IOC, ICG/IOTWMS, and/or IOTIC programs and activities.

32 As for the ICG/CARIBE EWS, a large number of capacity development activities with/for the Caribbean Member States took place through CTIC, however there was also relevant participation of partners like the ITIC Caribbean Office (NOAA/NWS), the Caribbean Disaster Management Agency (CDEMA) and the Seismic Research Center (SCR) of the West Indies University.

33 In coordination with the ICG/CARIBE EWS Secretariat and partners, CTIC conducted numerous regional workshops on capacity development , assisting, enhancing, developing, and/or empowering the Caribbean Member States stakeholders to implement programs and activities of UNESCO-IOC, ICG/ICARIBE EWS, and/or CTIC, which resulted in strengthened capacity of individuals and organizations of the Caribbean Member States in tsunami preparedness.

34 Mr Aliaga highlighted the story of Tonga in demonstrating how capacity development over the years pay forward in saving lives in emergency and crisis. The training of 14 Tongan Met Service and Geological Service Staff strongly demonstrated a positive impact in the quick and solid tsunami warning decision-making and response of the Tonga Met Service during the January 14-15, 2022 Hunga Tonga - Hunga Ha'apai Volcanic Eruption and Tsunami, and the November 11 2022 earthquake, where only a few lives were lost.

#### **2.1.5 Marine Policy**

35 Mr Julian Barbieri provided a recorded presentation to introduce the agenda item on Marine Policy. In relation to coastal marine management, he stressed that capacity development is a strong component in the new roadmap to accelerate marine spatial planning (MSP) in terms of assisting the needs of the communities but also to strengthen capacity of stakeholders and build a network of regional platforms and foster societal awareness on MSP. IWLEARN, the GEF LME portfolio, also brought together international water projects that included trainings on transboundary water resource management.

36 Over the last four years, it involved over 5000 stakeholders, conferences, forums, seminars, trainings and knowledge products and tools. There is also increasing engagements in transdisciplinary approach in skills set in marine governance, communications, conflict resolution, stakeholders engagement, that go beyond traditional ocean science areas and requires engagements with social sciences.

37 In terms of GEBCO, a new subcommittee on education and training was established to develop and coordinate the education and training strategy of the programme. The group has the role to conduct surveys and foster engagement with various academic institutions and identifying gaps and requirements towards the advancement of GEBCO's goals. It is expected that the Group coordinates closely with IOC and strongly recommended inviting the GE-CD Chair to join the group to discuss matters of common interest.

38 Capacity development across the whole science value chain leading to increased skills set on ocean management and biodiversity conservation should be considered as they are now in-demand. And it is as critically important to keep an eye on other UN processes such as the World Ocean Assessment, IPBM process, BBNJ, etc., where there is access to capacity development and information and data.

#### **2.1.6 IOCARIBE**

39 This agenda item was not discussed as there was no representative from IOCARIBE at the meeting.

#### **2.1.7 IOCAFRICA**

40 Mr Mika Odido introduced the agenda item on IOCAFRICA. He mentioned six priority areas where two relate to capacity development as highlighted in the meeting: the strengthening of marine oceanographic training and research institutions, and the creation of critical mass of marine science professionals. Main approaches to the capacity development programme were basic training, continuous professional development and partnerships and collaborations with other RSBs (WESTPAC and IOCARIBE) or with other organizations.

41 At the Sixth Session of IOCAFRICA, one of the major areas was ocean literacy where several activities were implemented as priority areas in capacity development. An African portal on training opportunities was developed ([africa.marinettraining.org](http://africa.marinettraining.org)) funded by NORAD. Training programmes were provided by 3 regional training centres under OTGA network. A shipboard training was also held bringing over 50 researchers together in the cruise ship. On Marine Spatial Planning, regional workshops were held with gender and poverty perspectives. A training course on vessel-based ocean monitoring was also organized in mid-2022. For 2023, there are planned trainings on hydrodynamic modelling and ocean observation and monitoring.

42 On Ocean Decade Africa roadmap, two of the nine priority areas include (8) skills and (9) ocean literacy that were both relevant to capacity development.

### 2.1.8 WESTPAC

43 Mr Somkiat Khokiattiwong introduced the agenda item on WESTPAC. Capacity development is a key element of WESTPAC activities to bolster institutional and human capacity in contributing to the national and regional achievement of SDGs and UN Ocean Decade implementations. The guiding principle is an adaptive, inclusive and empowering capacity development while the approaches included targeting early career scientists, suiting national and regional needs, linking training to research and co-design and co-development of Member States. International and national capacity development continued to be conducted within the framework of programs/projects through virtual, hybrid, and in-person, particularly at the national level that allowed in-person activities. The webinar series with the diverse prior topic need of the Member States were conducted for the exchange of knowledge and learning of new technologies, including needs for future development of activities.

44 UN Ocean Decade Regional Kick-off Conference for Western Pacific and its Adjacent Areas was held on 25-26 November 2021, and high-level participants from the government, intergovernmental organizations, and private sector delivered their supporting commitment to the UN Ocean Decade at the opening session, following by incubator session, to give opportunity for potential regional activities to be nursed for further developed as a part of regional UN Ocean Decade activities. Following the incubators session, WESTPAC registered four of seventeen incubators as a part of the UN Ocean Decade action, as follows:

- Accelerate Marine Spatial Planning in the Western Pacific and its Adjacent Areas (UN21)
- Stem the tide of Asia's riverine plastic emission into the ocean (UN22)
- Accelerating transformations in capacity development in the Western Pacific - Regional Network of Training and Research Centers (RTRCs) on Marine Science (UN23)
- Explore the strongest ocean current in the Western Pacific: the 2nd Cooperative Study of Kuroshio and Adjacent Regions – from its sciences to human well beings (UN24) – UN Ocean Decade Programme

45 Through its five regional training and research centers (RTRCs), WESTPAC accelerates transformations in capacity development in the Western Pacific. It builds on Member States' strong ownerships through co-development, co-design, and implementation and the host institutions' widely recognized areas of specialization, cross-fertilizes the global-wide knowledge and expertise, links training closely to research, and suits national and regional priorities for ocean sustainability. Its RTRCs will continue to play an important role in supporting UN Ocean Decade capacity development.

### 2.1.9 IOCINDIO

46 Mr Justin Ahanhanzo introduced the agenda item on IOCINDIO. IOCINDIO workplan was based on IOC functions with cross-cutting approach so capacity development is a continuous effort. He presented the membership of IOCINDIO and highlighted that it is only the region that has Category-2 training centers. One is the Regional Education and Research Center on Oceanography for West Asia in Iran, the International Training Center for Operational Oceanography in India, and The International Centre for Capacity Development and the Sustainable Use of Natural Resources and Societal Change in Iceland. As capacity development should be in the regional or national institution, joint programs were developed as regional activities. There are also UNESCO Chairs under UNTWIN in Qatar and Oman.

IOGOOS is in place for enhancing ocean observance in the region. Across IOC functions and programmes, capacity development efforts were embedded.

47 The Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS) was formed in response to the tragic tsunami on 26 December 2004 and governed by the IOC/UNESCO to provide Tsunami advisories to all Indian Ocean rim countries through 3 TSPs (Australia, India and Indonesia). He also shared highlights of IOCINDIO activities including research publications.

## DISCUSSION

48 Regarding the updates on tsunami related activities that were recently concluded in Indonesia such as a course on tsunami readiness course and a hybrid workshop attended by many stakeholders from Indian ocean countries, it was clarified that the Tsunami Awareness Course hosted on the OTGA platform was the first of a series of courses to be made available online very soon as a self-paced course.

49 OTGA also referred to available online tools delivering training such as online materials and courses that build the capacity of subject matter experts and facilitators. It was urged to take into account how local capacity should be a focus of capacity development activities such as how the OTGA builds the capacity of its network of RTCs and STCs. This was not specifically phrased in the Strategy so its reference should be made clearer at least in the details of the Implementation Plan.

50 Regarding re-invigorating IOCARIBE and AFRICA GOOS, it was clarified that not much action can be reported due to lack of personnel and post. On engagements with regional subsidiary bodies, it was clarified that WESTPAC was very much involved with ocean acidification courses, IOCARIBE on harmful algal bloom and there were support to ship instrumentation to Africa.

51 The Tonga story was highlighted as a true vision of capacity development and efforts were encouraged to continue supporting such effort and help make such success story told. It was recommended to refer to the Tonga story as an important example of sustained CD efforts.

52 There were new developments regarding an agreement with NORAD's contribution of 500,000 USD to support IOC capacity development programmes, and another contribution of 800, 000 USD to the Decade, a part of which is on capacity development. There was a discussion on the need for a coordinating mechanism to monitor, report and share updates or activities so as to maximize the impact that the global and regional programmes have been doing. The Group highlighted the need for coordination mechanisms to monitor impacts and urged the global and regional bodies to work with the CD team to develop tools for quantitative and qualitative reports as an example of a monitoring and evaluation tool.

53 The Group recommended the global and regional programmes to consider the revisions made in the draft IOC CD Strategy 2023-2030 in the implementation of IOC CD activities in the future.

## 2.2 CD REQUIREMENTS OF IOC MEMBER STATES IN RELATION TO THE IOC CD STRATEGY

## 2.2.1 CD SURVEY

54 This agenda item was introduced by Ms Johanna Diwa. She referred to IOC Decision A-31/3.5.3 and noted the tasks under the revised ToR of the GE-CD that relate to the IOC CD Needs Assessment Survey:

(iv) repeat the CD survey at regular intervals in 2022 and biannually thereafter, possibly including CD implementation impact monitoring/metrics, also taking into account other methods such as regional reviews, science conferences etc.;

(v) 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;

55 She recalled that as highlighted and recommended by the Third Session of the GE-CD, the CD Secretariat started the preparations of the 3<sup>rd</sup> CD Needs Assessment Survey through closer discussion and consultations with the Global Ocean Science Report (GOSR) team. While the GOSR Ocean Science Tracker aims to collect basic information on current ocean science capacity in a given country, the Capacity Development Needs Assessment Survey was organised by the IOC Group of Experts on Capacity Development to assess the capacity development requirements of member countries in order to contribute to the implementation of the IOC CD Strategy.

56 Ms Diwa informed the Group that a joint review with the GOSR team was conducted which considered the nature of the questions included in the GOSR and 2020 CD needs assessment survey. It resulted to shorter versions of the survey due to a reduced number of questions, synthesized overlaps, shortened length and simpler structure. Following the discussions with the GOSR team towards a complementary approach in launching the GOSR and CD Needs Assessment Survey together, a revised version (Document IOC/GECD-IV/2.2.1) was prepared with some changes incorporated in the 2022 version (Annex III) as follows:

1. Respondents: Given the difficulty in reaching out to various groups in the 2020 survey, and considering the views that the responses from individuals and practitioner groups were 'not representatives', the approach this time was to seek only one national authorized response thus, targeting only IOC National Focal Points as respondents. Basically consolidating their responses through internal consultation so it will be possible to submit only ONE national response per MS. The number of responses that will come back might be less as national consultation usually takes a lot of time and effort to do, as seen in the last 2020 survey. To reach wider inputs, the survey can also serve as an informal consultation with networks associated with the IOC global programmes (eg IODE network, GOOS regional alliances, CO2, O2, HAB, regional tsunami groups, as well as the regional bodies etc). These results will not be considered as formal results but only informal for the benefit of the concerned networks.
2. Coverage: Since the GOSR will survey all countries, the CD survey will also be open to developed countries this time. The references to only developing countries and priority SIDS, LDCs, etc in the introduction part of the old version of the questionnaire were removed. A separate analysis of the responses from developed countries will be conducted.

3. Questions already covered in GOSR that were removed in the CD needs survey included:
  1. CoVid impact
  2. Number of researchers
  3. National institutions, etc.
  4. Priorities on SDG14
4. Questions already covered in CD needs survey were removed in GOSR
  1. Capacity development needs (integrated into respective sections in CD needs survey)
5. Scale Adopted star ranking (on paper) consistent with the GOSR survey
6. Shortened number of questions and no other subset questionnaires for subset groups - Currently there are only 15 questions in the draft

57 The Survey is available at <https://www.surveymonkey.com/r/JQLDQK8>, and will be co-launched with the GOSR Tracker survey from the 1<sup>st</sup> December 2022 to 31<sup>st</sup> January 2023 through a Circular Letter inviting IOC Member States for consolidated responses on both surveys.

58 The Group was invited to comment and advice how to increase and improve the survey response rates by reaching higher number of respondents from Member States.

**59 The Group noted the complementarity of the approach between the CD Needs Assessment Survey 2022 and the GOSR Ocean Science Tracker.**

**60 The Group called on the regional subsidiary bodies and IOC programmes to promote the survey and to consider the results when drafting their CD work plans and activities.**

## **2.2.2 Global Ocean Science Report**

61 Ms Kirsten Isensee introduced the agenda item on Global Ocean Science Report (GOSR). She reminded the Group that the IOC Executive Council in July 2018 in its Decision IOC/EC-LI/4.3 reaffirmed the importance of the GOSR as the main mechanism to measure progress towards the achievement of Sustainable Development Goal (SDG) 14, Target 14.a (SDG Indicator 14.a.1) and recognized that investments in ocean science are key to developing sustainable ocean economies.

62 She reported that a new Global Ocean Science Report Tracker is currently being developed based on a short questionnaire to IOC Member States. The Global Ocean Science Report Tracker questionnaire is designed to collect basic information on current ocean science capacity in a given country, based on the more extensive Global Ocean Science Report questionnaire. This short questionnaire will be the basis for the SDG 14.a.1 indicator reporting in 2023. The full analysis will be presented in the Global Ocean Science Report Tracker publication providing key up to date numbers of ocean capacity, e.g. human and technical capacity in addition to some preliminary assessments of the effects of COVID-19 on Ocean Science. The GOSR 2020 presented at the 53rd Session of the IOC Executive Council, and

the 31st session of the IOC Assembly (IOC/A-31/3.2) stressed the importance of this short assessment to track the impact of the COVID-19 pandemic on ocean science (Chapter 8).

**63 The Group welcomed the development of Ocean Science Tracker and requested the Secretariat to share the findings to the Group after the survey was completed.**

### **2.2.3 Ocean Decade**

64 Ms Alison Clausen introduced the agenda item on the Ocean Decade. She reminded participants of the broad definition of ocean science in the context of the Decade which means that the capacity development we need also is very broad and large and goes beyond the traditional mandate of the IOC. Second, she highlighted that the Decade is organized in the ten challenges where Challenge 9 is on capacity development though all remaining nine challenges have capacity development as a foundational cross cutting principle. All Decade actions, programmes, activities have to demonstrate how they are contributing to capacity development, including capacity development focusing on SIDS, LDCs, etc.

65 She shared updates on the portfolio of the Decade Actions. Currently, there are 45 programmes, 203 projects and 67 contributions, with strong thematic and geographical diversity and strong bottom-up approach driven by proponents. She updated the meeting on the emergence of new decentralized coordination structures such as Decade Collaborative Centres (DCC), Decade Coordination Offices (DCO) and highlighted that all these structures have a role to play in capacity development for the Decade. She also referenced the importance of linking capacity development in the Decade to the needs and the work of the National Decade Committees.

66 Ms Clausen shared perspectives for capacity development such as an increased scrutiny of CD elements of Decade Actions requesting endorsement. There are also strategic discussions with DCCs / DCOs / Decade Implementation Partners (DIP) and National Decade Committees on their role in CD activities to ensure coherence and collective impact. The Ocean Decade Community of Practice for endorsed Decade Actions and identification of partners for a Capacity Development DCC will be reactivated.

67 She introduced the concept of the Ocean Decade Capacity Development Facility which is currently being discussed with partners. This Facility will endeavor to match supply and demand for capacity development needs of existing and future Decade Actions, and catalysing support to develop new priority CD initiatives. The required human resources for capacity development within the Decade Coordination Unit will also be increased and there will be guidance on national capacity development needs assessment for National Decade Committees and twinning between National Decade Committees to support identified CD needs. And finally, there will be a further roll-out of co-design training courses in Africa and SIDS as a specific need.

### **DISCUSSION**

68 Regarding the difference between the CD Facility and DCC, it was clarified that DCC will be for overall coordination with broader mandate while CD Facility is for mechanism and framework.

They may merge and overlap later on but the capacity development aspect will be under the CD facility. It was also clarified that manual and guidance on best practices of Decade actions will be launched and a systematic process on collecting support needs on National Decade Committees to match request to fill in support needs. Ideally, there will be twinning between countries with established Decade Committees and those who want to start establishing. It was highlighted that there are about eight years left for the Decade and like how other projects may move to another phase, its funding can be sustained through mechanisms that currently support the Decade.

**69 The Group welcomed the priority initiatives by the Decade, such as Ocean Decade CD Facility, to address the capacity development requirements of existing and future Decade Actions.**

## **2.3 REVISION OF THE IOC CD STRATEGY (SEE 3)**

# **3. PROGRESS WITH THE REVISION OF THE IOC CD STRATEGY**

## **3.1 REPORT FROM THE GE-CD WORKING GROUP ON THE REVISION OF THE IOC CAPACITY DEVELOPMENT STRATEGY**

*70* This agenda item was introduced by Mr Alan Evans, Co-Chair of the GE-CD Working Group on the revision of the IOC Capacity Development. He expressed thanks to his Co-Chair, Ms Suzan Kholeif, and the members of the WG on the revision of the GE-CD Strategy. Mr Alan Evans provided a brief overview from the adoption of the IOC CD Strategy in 2015 and the establishment of the GE-CD in 2017. He recalled the actions and decisions relating to the revision of the IOC CD Strategy adopted by the Assembly through the IOC Decision A-31/3.5.3:

### **Revision of the IOC Capacity Development Strategy**

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 [Resolution XXVIII-2](#) by which it adopted the IOC Capacity Development Strategy (2015–2021) at its 28th session,

Having examined the Report of the GE-CD Task Team related to the revision of the IOC Capacity Development Strategy 2015–2021,

Decides to extend the current IOC Capacity Development Strategy until July 2023,

Decides also to revise the Terms of Reference of the IOC Group of Experts on Capacity Development as follows:

- (i) assist global and regional programmes with the implementation of capacity development needs assessments in a consistent manner;
- (ii) assist global and regional programmes with the development of programmatic and regionally relevant capacity development work plans based on the IOC CD strategy and related needs assessments, building on ongoing activities and making use of existing training and education facilities;
- (iii) provide advice to global and regional programmes on relevant methods and tools to improve the quality and impact of CD efforts;
- (iv) repeat the CD survey at regular intervals in 2022 and biannually thereafter, possibly including CD implementation impact monitoring/metrics, also taking into account other methods such as regional reviews, science conferences etc.;
- (v) 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;
- (vi) advise the Assembly on 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 largest extent possible, of existing data and information systems and building upon the Ocean InfoHub project (2020–2023);
- (vii) revise the IOC Capacity Development Strategy and prepare a proposal for submission to the IOC Assembly at its 32nd Session;
- (viii) prepare a proposal to promote visibility and reach of the revised IOC CD Strategy so that its target audience will read through and appreciate the document as a guide in implementing capacity development activities for submission and submit it to the IOC Assembly at its 32nd Session;

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:

- (i) participate actively in the co-development of IOC capacity development by designating focal points for IOC capacity development, and by nominating members of the IOC Group of Experts on Capacity Development;
- (ii) participate actively in IOC programmes, projects and steering groups;
- (iii) involve universities in IOC surveys on capacity development needs;
- (iv) contribute to IOC capacity development activities through financial and/or in-kind contributions;

Agrees that the regular budget for these activities will be identified as part of the Resolution on Governance, Programming and Budgeting Matters of the Commission (IOC Resolution A-31/2).

71 He recalled that as decided in its third session, the GE-CD established the Working Group on the revision of the IOC CD strategy ([Document IOC/GECD-III/Fin. Report](#)) with the following terms of reference.

#### **IOC Working Group on the revision of the IOC Capacity Development Strategy**

The IOC Group of Experts on Capacity Development,

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) published as IOC/INF-1332,

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

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,

Noting that the IOC Capacity Development Strategy (2015–2021) published as IOC/INF-1332 will expire on 31 December 2021,

Noting further the Capacity Development Chapter of the Implementation Plan of the UN Decade of Ocean Science for Sustainable Development (2021-2030),

Establishes the IOC Working Group on the revision of the IOC Capacity Development Strategy with Terms of Reference as detailed in Annex I below.

#### **Annex I: Terms of Reference of the IOC Working Group on the revision of the IOC Capacity Development Strategy**

Objectives

The Working Group will

- Prepare the Draft IOC Capacity Development Strategy (2023–2030), based upon the IOC Capacity Development Strategy (2015–2021) published as IOC/INF-1332, and taking into account the results and recommendations made by the GE-CD Task Team relating to the revision of IOC CD Strategy, from the following inputs:

- (i) Outcomes of the 2nd IOC Capacity Development Survey (September 2020 - January 2021);

- (ii) Capacity Development Chapter of the Implementation Plan of the UN Decade of Ocean Science for Sustainable Development (2021-2030);

- (iii) Consultations with IOC global and regional programmes related to Capacity Development;

- (iv) Consultations with UN specialized agencies, non-UN IGOs, Global and Regional organizations, programmes and projects, NGOs and private sector partners.

- Submit a preliminary Draft IOC Capacity Development Strategy (2023–2030) to the Group of Experts on Capacity Development during its 4th Meeting on October 2022 for its review and subsequent submission of the final Draft IOC Capacity Development Strategy (2023–2030) for adoption by the 32nd Session of the IOC Assembly.

- The Working Group will carry out its work via electronic means.

Co-Chairs: Evans, Alan Kholeif, Suzan

Membership:

1. The following members of the IOC Group of Experts on Capacity Development:

BARROW, Lorraine	TRINIDAD & TOBAGO
BROWN, Bradford	UNITED STATES
EKAU, Werner	GERMANY
EVANS, Alan	UNITED KINGDOM
GONZÁLEZ-QUIRÓS, Rafael	SPAIN
KABANGI, Patrick	CONGO
REED, Allison	UNITED STATES (Joe Naughton)
SAKYA, Andi Eka	INDONESIA
TROISI, Ariel	ARGENTINA

2. The following IOC CD focal points:

KHOLEIF, Suzan	EGYPT
YAO, Koffi Marcellin	COTE D IVOIRE

3. IOC CD Secretariat:

DIWA, Johanna  
PISSIERSSENS, Peter

72 Mr Evans noted that the Working Group on the revision of the IOC CD Strategy had three meetings in early 2022 to work on the revisions of the IOC CD Strategy. He recalled the recommendations from the GE-CD Task Team on the revision of IOC CD Strategy’s review and proposed revisions ([IOC/INF-1396](#)) and summarized the discussion highlights and outcomes from the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> WG meeting in early 2022. He highlighted that the CD compendium (see 3.2) was first proposed at the first meeting of the WG.

73 Some of the key updates made resulted to a slightly shortened Strategy, removing references to specific projects, which were instead captured by the CD compendium, and an Outreach WG to help for wider dissemination. The Executive Summary incorporated an increased recognition that the ocean plays in political, commercial, science and society and the importance of capacity development in the delivery of the Decade of Ocean Science. It also highlighted IOC’s critical role in fostering international cooperation while using the strategy as the motivation to develop an implementation plan, such that IOC CD activities are clearly articulated and that the benefits are more readily identified.

74 Mr Evans referred to [Document IOC/GECD-IV/3 Draft 0 CD Strategy 2023-2030](#) and presented the resulting summary table with 6 outputs, 16 activities and 31 actions (see Figure 1). He further discussed the revisions/additions made from the previous version of the Strategy as highlighted on the annotated version below.

Output	Activity	Action
1. Human resources developed at individual and institutional levels	1.1 Academic and higher education	1.1.1 Promote and assist with the strengthening and establishment of consortia of higher education and research institutions at the appropriate geographical scale
		1.1.2 Promote collaboration between UNESCO Chairs and IOC, and between IOC and other organizations dealing with ocean matters on human resources development
	1.2 Continuous professional development	1.2.1 Promote and assist with the organization of training courses, workshops and “summer schools”, relevant to the IOC mandate, including training of trainers/technicians and executive career development for institutional managers/decision makers, in collaboration with other organisations
		1.2.2 Establish, or collaborate with other organizations to develop internship/fellowship and on-board training programmes
		1.2.3 Establish and collaborate with other organisations on visiting lecturer/scholar/researcher programmes and professional exchanges (peer to peer)
		1.2.4 Promote and assist with the establishment of regional training (and research) centres relevant to the IOC mandate
		1.2.5 Promote the development and sharing of training materials and tools

Output	Activity	Action
	1.3 Sharing of knowledge and expertise including through community building	1.3.1 Establish a travel grant “fund” 1.3.2 Establish or collaborate with other organizations on a mentoring programme 1.3.3 Promote and assist with the development and strengthening of IOC alumni networks, and professional networks including for youth leaders 1.3.4 Promote funding, grant and scholarship programs to facilitate ocean research, technical development and scientific exchange through bringing visibility of opportunities via an online CD hub
	1.4 Integration of ocean science in basic education	1.4.1 Promote the integration of ocean science in curricula of primary and secondary schools
		1.4.2 Promote careers in ocean research and ocean management
	1.5 Improving gender, generational and geographic diversity	1.5.1 Promote participation of women in ocean research
		1.5.2 Promote and support “young scientist” and “women in science” awards
2. Access to technology, physical infrastructure, data and information established or improved	2.1 Facilitating access to technology and infrastructure	2.1.1 Establish and maintain a register of infrastructure to facilitate access, and promote transfer of marine technology 2.1.2 Promote the development of regional collaboration on sustainable scientific infrastructure 2.1.3 Promote involvement of citizen science in ocean research
	2.2 Facilitating equitable access to and sharing of ocean data and information	2.2.1 Promote the development and wide use of regional and global data and information systems 2.2.2 Promote the sharing of ocean data and information by stakeholders
3. Global, regional and sub-regional mechanisms strengthened	3.1 Further strengthening and supporting secretariats of regional sub-commissions	3.1.1 Improve staffing of secretariat of regional sub-commissions 3.1.2 Reinforce budgeting of regional sub-commissions
	3.2 Enhancing effective communication between regional sub-commission secretariats and global programmes as well as other communities of practice (incl. other organizations)	3.2.1 Establish an effective coordination and communication mechanism between the secretariats of the regional sub-commissions and the global programmes
	3.3 Identifying specific national and regional capacity development needs through regular needs assessment	3.3.1 Organise and conduct biennial capacity development needs survey

Output	Activity	Action
	3.4 Encouraging regional and sub-regional organisations to be leaders in, and amplifiers of capacity development	3.4.1 Reinforce engagement of regional and sub-regional organizations in consultation process and capacity development initiatives
4. Development of ocean research policies in support of sustainable development objectives promoted	4.1 Fostering the development of ocean research policies	4.1.1 Compile and compare information on existing ocean research policies, and disseminate to member states for their use
		4.1.2 Assist and enable Member States with the development of ocean research policies, making use of the results of 4.1.1
5. Visibility, awareness and understanding on the roles and values of the ocean and ocean research in relation to human wellbeing and sustainable development increased	5.1 Fostering the development of ocean related public information and communication services	5.1.1 Encourage the development of public information (communication) departments in ocean research institutions
	5.2 Fostering the development of ocean literacy	5.2.1 Assist with the strengthening and development of ocean literacy programmes at national and regional levels
6. Sustained (long-term) resource mobilization reinforced	6.1 Enhancing sustained support (in-kind and financial) to the IOC for its international coordination role	6.1.1 Foster partnerships to increase in-kind support opportunities
	6.2 Promoting sustained bilateral and multilateral support among Member States	6.2.1 Encourage resource mobilisation in particular from Member States, and other donors to support the outcomes of the IOC Capacity Development needs assessment

75 The Group was requested to provide their comments and feedback on the draft 0 of the IOC CD Strategy 2023-2030.

76 The Group was invited to approve the draft for finalization and for submission to the 32<sup>nd</sup> Assembly in June 2023.

77 Since the current Working Group has completed its task on revising the IOC CD Strategy and prepare the draft IOC CD Strategy 2023-2030, it was proposed that the current WG be abolished.

## DISCUSSION

78 As requested, the Secretariat received some proposed edits from Japan and USA which will be implemented in the final draft. Regarding the question on the timing of the Implementation Plan, it was clarified that the GE-CD does not have the mandate to develop an Implementation Plan. As the new proposed IOC CD Strategy 2023-2030 is yet to be approved by the 32<sup>nd</sup> Assembly in June 2023, the mandate to develop the Implementation Plan may come after the adoption of the new CD Strategy.

79 It was also clarified that the mandate of the Working Group on the revision of the IOC CD Strategy was to come up with a draft for approval by the GE-CD at the 4<sup>th</sup> Session which was already completed so no further work will be required. The Chair, supported by the Secretariat, will prepare the final draft to submit to the 32<sup>nd</sup> Assembly.

**80 The Group approved draft 0 of the IOC CD Strategy 2023-2030 with the edits proposed by the GE-CD and requested the Secretariat to prepare the final draft for submission to the 32<sup>nd</sup> Assembly of the IOC in June 2023.**

**81 The Group abolished the Working Group on the revision of the IOC Capacity Development Strategy.**

## **3.2 PROGRESS WITH THE DEVELOPMENT OF THE COMPENDIUM OF CD ACTIVITIES**

82 This agenda item was introduced by Ms Johanna Diwa. She recalled the actions and decisions made at the First Meeting of the Working Group on the Revision of the IOC CD Strategy ([Document IOC/GECD/WG Strategy/1](#)) including a proposal *to develop a compendium of CD activities by other global and regional programmes, UN specialized agencies, intergovernmental organizations, non-governmental organizations and national aid programmes, etc. to be maintained as an online portal*. It was requested to seek external funding to hire a consultant to carry out the work.

83 In response to this request, a consultant was hired in May 2022 (Lisa Benedetti) to conduct an information discovery and collection exercise on existing capacity development activities and opportunities relating to ocean science, observation, data management, services (including DRR), marine policy and related SDGs that are currently being implemented by global, regional and national organizations.

84 Ms Diwa informed the Group that IOC Circular Letter 2980 invited National Focal Points to respond to a short Capacity Development Compendium survey by informing the CD Secretariat of relevant national contacts who could provide information on capacity development (CD) activities provided by their country or organization. A total of 14 Member States responded and submitted contact information of relevant people, whom the Secretariat later reached out to in order to compile CD related activities (especially for developing country nationals) and detailed information that can be entered in the compendium. She highlighted several ways where CD Compendium will be beneficial to:

1. Serve as a one stop to easily search for available CD opportunities (for CD beneficiaries)
2. Identify synergies and potential partnerships with other organizations (for CD providers)
3. Help avoid duplication of effort and save resources (for CD providers)
4. Help Member States report on progress and achievements towards: SDGs, UN Ocean Decade, BBNJ, etc.

85 Ms Diwa updated the Group that the prototype of the product is now available for testing at its homepage: <https://oceancd.org/>. She also noted that it was proposed to rename the service from “compendium of CD activities” to “Ocean CD-Hub”. This was proposed

because the word “compendium” may not be easily understood and the meaning of the word in its English version may not translate well into other languages.

86 The Ocean CD-Hub presents users with currently 13 buttons representing different categories of CD activities and opportunities. A [demonstration video](#) was prepared for some quick user guides. The video was shown during the meeting.

87 The Group was requested to provide their feedback and comments in the current prototype of the Ocean CD-Hub in preparation for its launching in January 2023.

## DISCUSSION

88 The participants expressed appreciation of the work that was done in the development of the Ocean CD-Hub. Regarding the potential life of the compendium granting that there may be an avalanche of information coming in from various parts of the world, it was clarified that the next phase of the compendium would aim to allow the submission of entries by owners/providers themselves and the CD Secretariat will just then have to do quality control and monitoring.

89 Regarding the strategy for further development of the Ocean CD-Hub such as making sure that the entries are continuously updated and active, use of keywords, advanced search function, etc., it was clarified that the continued development and updating of the Ocean CD-Hub will be included in the CD Facility, which aims to match CD requirements to CD opportunities, wherein Ocean CD-Hub can contribute to through identifying existing CD opportunities. So in the next two years, it is possible that as the Ocean CD-Hub snowballs into more visibility and usefulness, it can continue beyond the initial two years depending on fund availability.

**90 The Group welcomed the development of the Ocean CD-Hub and recommended to promote the product widely especially through IOC social media and websites.**

**91 The Group requested IOC CD focal points to explore the Ocean CD-Hub and to further promote its use to find opportunities in CD-related activities in their respective countries.**

# 4. PROGRESS WITH GE-CD WORKING GROUP FOR OUTREACH

## 4.1 REPORT FROM THE GE-CD WG ON OUTREACH

92 This agenda item was introduced by Ms Johanna Diwa. She recalled that as discussed under 3.1, the actions and decisions relating to the revision of the IOC CD Strategy adopted by the Assembly through the IOC Decision A-31/3.5.3 instructed the GE-CD to:

- viii) prepare a proposal to promote visibility and reach of the revised IOC CD Strategy so that its target audience will read through and appreciate the document as a guide

in implementing capacity development activities for submission and submit it to the IOC Assembly at its 32nd Session;

93 The GE-CD Co-Chairs issued a call to the GE-CD members to nominate experts to serve in the GE-CD Working Group on Outreach related to the IOC Capacity Development Strategy 2023-2030 (shortened to GE-CD working group on outreach) and resulted in one GE-CD member, three external experts from Indonesia, United Kingdom and USA, and one Communications Officer from the Decade Coordination Unit (DCU).

94 The First Meeting of the GE-CD WG on outreach was held on 1 September 2022. It reviewed its terms of reference and identified the next steps and timeline.

### **Terms of Reference for the IOC GE-CD Working Group on Outreach related to the IOC Capacity Development Strategy 2023-2030**

#### Objectives

The Working Group will

- Assist in the development of an outreach and communications plan for the promotion of the IOC CD Strategy 2023-2030 by taking into account its core messages and key recommendations;
- Propose innovative approaches in producing user-friendly materials on key highlights of the IOC CD Strategy 2023-2030 for wider readership and easy digests targeting key audience groups (e.g. decision-makers, policy leaders, public, etc.) including standard harmonization and promotion of equitable access on capacity development programs;
- Submit an Outreach Plan proposal for the proposed IOC CD Strategy 2023-2030 Outreach Plan to the IOC Assembly at its 32nd Session in June 2023.

The Working Group will work online and by correspondence.

The Working Group will comprise:

1. the following members of the IOC Group of Experts on Capacity Development:  
*Brown, Bradford* UNITED STATES OF AMERICA
2. the following nominated external experts:  
Sean Mahaffey UNITED STATES OF AMERICA  
Jackie Pearson UNITED KINGDOM (Elected Chair)  
Irina Rafliana INDONESIA
3. IOC  
*Diwa, Johanna*  
*Pissierssens, Peter*  
*Rapose, Sharon*

95 The Chair of the GE-CD working group on outreach, Ms Jackie Pearson, addressed the GE-CD and provided an update on the work of the GE-CD WG on outreach. She shared

that the Outreach WG is currently preparing a succinct version with a 2-page summary of the Strategy which can be used as a brief summary material for promotion and outreach. She noted the potential of the Ocean CD-Hub as a wonderful resource, similar to the UK Marine Science and Technology Compendium. The Outreach WG will also look at engaging more groups in promoting the Ocean CD-Hub such as with networks of young professionals that can be linked with the hub.

96 Noting the deadline to submit the proposal to the 32<sup>nd</sup> Assembly by March 2023, the WG will prepare infographic material with the assistance of a graphic artist at NOC. She requested the Secretariat to arrange another WG meeting in December so the Group can determine the next steps.

## **DISCUSSION**

97 With the new Strategy, it is important to ask who will be its target audience. Usually, the Strategy serves as a guide on criteria of capacity development activities to be delivered by the global and regional programmes. The Outreach WG may then also look at how the plan can capture ways on how activities from the Strategy can be achieved, or how success stories can be illustrated, or for potential donors who are interested in partnerships to find what funding or support mechanisms can be made available. Further, messages should be adapted to target audiences as one size does not fit all, and decision-makers and representatives should also be included as target audience. The tools available that support each requirement of the Strategy were also identified and mentioned, e.g. Ocean CD-Hub, OTGA, etc. so if Member States offer similar tools, all these links and products and services can be linked together as another potential resource.

98 The Group was invited to provide feedback on the work of the GE-CD working group on outreach, specifically its expected outputs and target audience. It was also suggested that the incoming GE-CD members contribute to the development of work packages for outreach and promotion.

**99 The Group recommended circulating the proposed outreach plan from the Working Group on Outreach for further contribution and inputs in preparation for submission to the 32<sup>nd</sup> IOC Assembly in June 2023.**

# **5. RECOMPOSITION OF THE GE-CD**

## **5.1 GE-CD MEMBERSHIP**

100 This agenda item was introduced by Mr Peter Pissierssens, IOC CD Coordinator. He recalled that at its 29th Session in 2017, the IOC Assembly established the IOC Group of Experts on Capacity Development (Decision IOC-XXIX/10.1), primarily to assist the global and regional programmes with the implementation of capacity development (CD) needs assessments, the development of related work plans, mobilization of resources, and provide advice on relevant methods and tools to deliver CD.

Decision IOC-XXIX/10.1 (2017)

**IOC Group of Experts on Capacity Development**

The Assembly,

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

Recalling the adoption, at its 28<sup>th</sup> Session, of the IOC Capacity Development Strategy (2015–2021),

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

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,

Establishes the IOC Group of Experts on Capacity Development with the following terms of reference:

- (i) assist global and regional programmes with the implementation of capacity development needs assessments in a consistent manner;
- (ii) assist global and regional programmes with the development of programmatic and regionally relevant capacity development work plans based on the IOC CD strategy and related needs assessments, building on ongoing activities and making use of existing training and education facilities;
- (iii) assist with the mobilization of financial and in-kind resources to enable the implementation of global and regional capacity development work plans;
- (iv) provide advice to global and regional programmes on relevant methods and tools to improve the quality and impact of CD efforts;
- (v) advise the Assembly on, and start 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 largest extent possible, of existing data and information systems already available at IOC;

Invites Member States to nominate suitable candidate members for the Group; Instructs the Group to report to each session of the Assembly;

Decides to allocate resources in the IOC Programme and Budget resolution XXIX-2 to cover a meeting of the group per biennium (\$ 30,000).

101 He then referred to the necessary revision of the IOC Capacity Development Strategy (2015–2021), the validity of which has been extended to 2023, and he noted that the Assembly, at its 31st Session, revised the terms of reference of the GE-CD through IOC Decision A-31/3.5.3. In the wake of the revision of the mandate of the Group and taking into account that the composition of the Group dates back to 2017 (see IOC Circular letter 2680), it was deemed appropriate to renew the membership of the Group.

102 He referred to the [IOC Circular Letter No. 2906](#) that was issued on 12 September 2022 inviting the Member States to nominate suitable experts as members of the IOC Group of Experts by 15 October 2022. The deadline was later extended to 26 October 2022. Member States who sent their official nominations included Argentina, Bangladesh, Belgium, Congo, Ecuador, Egypt, Germany, Indonesia, Japan, Kuwait, Malaysia, Mauritania, Morocco, Norway, Pakistan, Portugal, Russia, Trinidad and Tobago, Tunisia, the United Kingdom and the United States of America. He further informed the Group that, in accordance with the IOC rules, the 21 new members below were selected by the IOC Executive Secretary, based on the CVs of the nominated candidates. He noted that considering the ideal size as well as the geographic and gender balance in representation of the Group, it was decided to select only one expert per country.

## 2022 GE-CD CALL SELECTION RESULTS

1. Ariel Troisi	ARGENTINA
2. K M Azam Chowdhury	BANGLADESH
3. Ann-Katrien Lescrauwaet	BELGIUM
4. Patrick Kabangi	CONGO
5. Nelson Pazmiño Manrique	ECUADOR
6. <a href="#">Amr Hamouda</a>	EGYPT
7. Rebecca Lahl	GERMANY
8. Andi Eka Sakya	INDONESIA
9. Totani Gen	JAPAN
10. Faiza Al-Yamani	KUWAIT
11. Aidy Muslim	MALAYSIA
12. Ahmed Toleb Moussa	MAURITANIA
13. M. Aïssa Benazzouz	MOROCCO
14. Ellen Kristine Viken	NORWAY
15. Samina Kidwai	PAKISTAN
16. Luis Pinheiro	PORTUGAL
17. Natalia Stepanova	RUSSIA
18. Lorraine Barrow	TRINIDAD & TOBAGO
19. Jamila Ben Souissi	TUNISIA
20. Fatma Jebri	UNITED KINGDOM
21. Joseph Naughton	UNITED STATES OF AMERICA

103 The Group was invited to welcome the new membership and discuss how to ensure a smooth transition and continuation of the workplan with the new members of the GE-CD. The new members made some short introduction one by one. It was noted that the newly formed Group will elect (Co-)Chair(s) at its next meeting which can be scheduled in the fourth quarter of 2023.

**104 The Group welcomed the new members of the GE-CD and thanked the Co-Chairs, Mr Ariel Troisi and Mr Alan Evans for their considerable contribution to the GE-CD during the past inter-sessional periods.**

## 6. WORKPLAN FOR THE NEXT INTERSESSIONAL PERIOD

### 6.1 WORKPLAN AND TIMELINE

105 This agenda item was introduced by Ms Johanna Diwa. She recalled the instructions from the 31<sup>st</sup> Session of the IOC Assembly, and the proposed timeline below:

<i>Review and approve proposed IOC CD Strategy 2023-2030 at the GE-CD-IV</i>	<i>November 2022</i>	<i>GE-CD</i>
<i>Follow-up works on required actions/revisions to finalize the IOC CD Strategy 2023-2030</i>	<i>December 2022- January 2023</i>	<i>GE-CD//SECRETARIAT</i>
<i>Ocean CD-Hub launch</i>	<i>January 2023</i>	<i>SECRETARIAT</i>
<i>CD Needs Assessment Survey (conduct and results)</i>	<i>December 2022- February 2023</i>	<i>SECRETARIAT (JD)</i>
<i>Finalize IOC CD Strategy 2023-2030 for submission to the Assembly</i>	<i>February 2023</i>	<i>CHAIR/SECRETARIAT</i>
<i>Finalize the Outreach Plan for submission to the Assembly</i>	<i>February 2023</i>	<i>CHAIR/SECRETARIAT</i>
<i>Submit meeting documentation to IOC-XXXII Secretariat</i>	<i>March 2023</i>	<i>SECRETARIAT</i>
<i>IOC-XXXII Assembly</i>	<i>June 2023</i>	
<i>Follow-up actions on instructions from IOC-XXXII</i>	<i>August 2023</i>	<i>GE-CD</i>
<i>5<sup>th</sup> Session of GE-CD</i>	<i>September/ October 2023</i>	<i>GE-CD</i>

### DISCUSSION

106 It was clarified that the workplan is for the new membership of the GE-CD.

107 The Group noted the workplan and proposed the Secretariat to coordinate its implementation closely with the new members of the GE-CD.

## 7. PROPOSAL FOR THE REVISION OF THE TOR OF THE GE-CD

108 This agenda item was introduced by Mr Ariel Troisi. Recalling the discussions under 5.1 following the completion of the tasks of the current GE-CD membership under its revised ToR in line with the IOC Decision A-31/3.5.3, and considering the workplan for the new membership as discussed under 6.1, he presented the proposed revisions in the Terms of Reference of the GE-CD for the approval of the Assembly, by its 32<sup>nd</sup> Session in June 2023:

### Terms of Reference Group of Experts on Capacity Development

1. Recognizing the importance of Capacity Development as one of the six functions of the IOC Medium-Term Strategy (2022-2029), 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,
2. Recalling the extension of the IOC Capacity Development Strategy (2015-2021) until July 2023 through IOC Decision A-31/3.5.3,
3. Having examined the recommendations and revisions proposed by the Group of Experts on the IOC Capacity Development Strategy,
4. Adopts the IOC Capacity Development Strategy 2023-2030 (IOC/INF-XXXX)
5. Decides to revise the Terms of Reference of the IOC Group of Experts on Capacity Development as follows:
  - (i) assist global and regional programmes with the implementation of capacity development needs assessments in a consistent manner;
  - (ii) assist global and regional programmes with the development of programmatic and regionally relevant capacity development work plans based on the IOC CD strategy and related needs assessments, building on ongoing activities and making use of existing training and education facilities;
  - (iii) develop an implementation plan for the current IOC CD Strategy 2023-2030 and submit for adoption to the 57th Session of the IOC Executive Council;
  - (iv) provide advice to global and regional programmes on the implementation of the IOC Capacity Development Strategy 2023-2030 and on relevant methods and tools to improve the quality and impact of CD efforts;
  - (v) 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.;

(vi) ensure coordination of the work of the Group of Experts and its Task Teams with GOSR and CD aspects of the **United Nations Decade of Ocean Science for Sustainable Development**;

(vii) advise the Assembly on 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 largest extent possible, of existing data and information systems already available at IOC and building upon the Ocean InfoHub project (2020-2023);

(viii) **guide the further development and promotion of the Ocean CD-Hub by highlighting linkages of CD activities and collaboration opportunities between users and providers and among other global, regional and national organizations;**

(ix) **provide advice to Member States on the promotion of visibility and reach of the IOC Capacity Development Strategy 2023-2030 to assist with the planning and implementation of their capacity development efforts.**

## DISCUSSION

109 Regarding the timing of the Implementation Plan, it was clarified that given that the task could not be started until the Assembly has adopted the IOC CD Strategy 2023-2030, the work will start on the 5<sup>th</sup> Session of the GE-CD and will seek adoption by the 57<sup>th</sup> Session of the Executive Council instead. In theory, the work on the Implementation Plan should have taken place and adopted by the Executive Council between the interim period of September/October 2023 and September 2024.

110 **The Group agreed on the proposed revisions in the Terms of Reference of the GE-CD and instructed the Secretariat to submit the revised ToR for the approval of the IOC Assembly, at its 32<sup>nd</sup> session in June 2023.**

## 8. ELECTION OF CHAIR

111 This agenda item was introduced by Mr Peter Pissierssens. He referred to the IOC Rules of Procedure (Document IOC/INF-1166), and more particularly to Rule 25, para 2. He informed the Group that, in accordance with the above Rules, Mr Ariel Troisi had completed two terms and an exceptional 3<sup>rd</sup> term, and therefore was required to step down at the end of the 4<sup>th</sup> session. Mr Alan Evans, on the other hand, had completed 2<sup>nd</sup> term and considering the renewal of the membership of the GE-CD, can be re-elected for a 3<sup>rd</sup> and exceptional term.

112 Since the election of another Co-Chair will not occur until the 5<sup>th</sup> session, the Group considered the continuation of the term of Mr Alan Evans with a re-election for a 3<sup>rd</sup> and exceptional term.

113 **The Group thanked Mr Ariel Troisi for his considerable contribution to the GE-CD during the past inter-sessional periods, referring especially to the considerable challenges posed by the Covid pandemic.**

**114** The Group elected Mr Alan Evans as GE-CD Chair for the next inter-sessional period.

## **9. PLACE AND DATE OF NEXT SESSION**

**115** This agenda item was introduced by Ms Johanna Diwa. The Group was invited to consider holding the meeting in September/October 2023, following the expected adoption of the IOC CD Strategy 2023-2030 at the 32<sup>nd</sup> Assembly in June 2023.

**116** The Group requested the Secretariat to prepare provisional agenda for the 5<sup>th</sup> Session of the GE-CD by July 2023 and share it with the Group, and to propose a venue and dates for the 5<sup>th</sup> Session of the GE- CD.

## **10. ANY OTHER BUSINESS**

**117** No additional issues were discussed.

## **CLOSING OF THE MEETING**

**118** Mr Evans highlighted the achievements made by the GE-CD and thanked all the members, especially Mr Ariel Troisi who had efficiently guided the Group in carrying out the tasks. Mr Troisi also thanked Mr Evans and the Secretariat for all the contributions given to support the experts to deliver their tasks.

**119** The Co-Chairs closed the Session on Friday 25 November at 16:25.

**120** The Group instructed the IOC CD Secretariat to finalize the report, send out a draft for possible edits/corrections and decided that the report would be adopted by email.

**121** The Group requested the IOC CD Secretariat to present the Executive Summary of the meeting to the Thirty Second Session of the IOC Assembly that will take place in June 2023.

## **ANNEXES**

- Annex I.      Agenda
- Annex II.     List of Participants
- Annex III.    CD Needs Assessment Survey 2022

## **Annex I. AGENDA**

1. OPENING OF THE MEETING
  - 1.1 ADDRESS BY THE CO-CHAIRS
  - 1.2 ADOPTION OF AGENDA
  - 1.3 ADOPTION OF THE TIMETABLE
  
2. PROGRESS REPORT WITH THE GE-CD-III WORKPLAN
  - 2.1 COORDINATION OF GLOBAL AND REGIONAL PROGRAMMES IN IMPLEMENTING IOC CD STRATEGY
  - 2.2 CD REQUIREMENTS OF IOC MEMBER STATES IN RELATION TO THE IOC CD STRATEGY
  - 2.3 REVISION OF THE IOC CD STRATEGY (SEE 3)
  
3. PROGRESS WITH THE REVISION OF THE IOC CD STRATEGY
  - 3.1 REPORT FROM THE GE-CD WORKING GROUP ON THE REVISION OF THE IOC CAPACITY DEVELOPMENT STRATEGY
  - 3.2 PROGRESS WITH THE DEVELOPMENT OF THE COMPENDIUM OF CD ACTIVITIES
  
4. PROGRESS WITH GE-CD WORKING GROUP FOR OUTREACH
  - 4.1 REPORT FROM THE GE-CD WG ON OUTREACH
  
5. RECOMPOSITION OF THE GE-CD
  
6. WORKPLAN FOR THE NEXT INTERSESSIONAL PERIOD
  
7. PROPOSAL FOR THE REVISION OF THE TOR OF THE GE-CD
  
8. ELECTION OF CHAIR
  
9. PLACE AND DATE OF NEXT SESSION
  
10. ANY OTHER BUSINESS

## **Annex II. LIST OF PARTICIPANTS**

### **IOC GE-CD In-Person**

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## Annex III



### IOC Capacity Development Needs Assessment 2022 Survey Questionnaire

Capacity Development (CD) is an essential tenet of IOC's mission. It enables 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. The vision contained in the IOC Capacity Development Strategy identifies capacity development as the primary catalyst through which IOC will achieve its four high level objectives in the current 2022-2029 IOC Medium-Term Strategy.

While the GOSR Tracker aims to collect basic information on current ocean science capacity in a given country, this Capacity Development Needs Assessment Survey is organised by the IOC Group of Experts on Capacity Development to assess the capacity development requirements of all member countries in order to contribute to the implementation of the IOC CD Strategy

By completing this survey you will be contributing to assessing your country's capacity development needs in ocean science related issues. In addition, the information gathered by this survey will contribute to providing a holistic understanding of the capacity needs and requirements related to the UN Decade of Ocean Science for Sustainable Development, that could also be of benefit to other agencies and organizations.

The survey is composed of 2 sections:

Section 1: Respondent details

Section 2: Capacity development needs assessment

In case it is preferred not to use the online version of the questionnaire (xx), please use the word file below.

For any additional questions or guidance please contact IOC CD Secretariat, Mr Peter Pissierssens ([p.pissierssens@unesco.org](mailto:p.pissierssens@unesco.org)) and Ms. Johanna Diwa ([jp.diwa@unesco.org](mailto:jp.diwa@unesco.org)).

We thank you in advance for taking the time to complete this survey. Your feedback is important to us in how we can answer you/your country's needs in Capacity Development. This survey should take about 10-15 minutes to complete.

## Section 1: Respondent Details

1. Please note that this information will be used to follow up with the respondent in case further questions regarding the information provided arise. Data and information provided are treated as a national authorized submission.

Country:  
Full name of respondent (First name, Family name):  
Job Title:  
Institution/Organization:  
Email Address  
Tel. No:  
Gender:  
OceanExpert ID:

2. Does your country have a “national coordinating body” to coordinate its cooperation with IOC?

YES                      NO

If “NO” then why not: ....

3. Has your country designated a IOC national focal point for capacity development?

YES                      NO

If “NO” then why not: .....

## Section 2: Capacity Development Needs Assessment: human, infrastructure, policies, visibility, resource mobilization, etc.

1. Please rank the capacity development needs that are most critical to build **ocean science capacity** in your country (5 stars highest to 1 star as lowest).

- Qualified ocean science professionals
- Research vessels and inshore boats
- Ocean observation equipment (buoys, AUVs, tide-gauges etc.)
- Ocean science sampling equipment and instrumentation
- Laboratory equipment and facilities
- Access to remotely sensed satellite data
- Access to regional and/or global data
- Digital infrastructure (computers, software etc.)
- Internet connectivity
- Access to high power computing
- Access to current scientific literature
- Membership/involvement in international ocean research communities
- Strengthened international partnerships and regional networks for collaboration
- Development of national ocean research policy
- Legal frameworks, regulation and enforcement
- Increased awareness, ocean literacy and public outreach
- Gender equality
- Funding and investment in ocean science
- CD to facilitate stakeholder engagement
- Access to communities of practice



Please add other CD needs if the ones provided above do not correspond to the needs of your country.

2. Please rank the following capacity development needs related to human resources in your country (from 5 highest priority to 1 lowest priority).

- Higher education degree (BSc-PhD) programmes in ocean science in your country
- Advanced professional development training courses (specific short courses, training etc.)
- Continuous professional development throughout your career
- Management training for senior researchers and heads of institution
- Establishment of consortia of higher education in your country or region
- Increased collaboration with UNESCO Chairs and IOC
- Establishment of an internship/fellowship programme
- Access to on-board, research vessel-based training
- Establishment of a visiting lecturer programme
- Establishment of regional training (research) centres relevant to the IOC mandate
- Establishment of a mentoring programme
- Development of IOC alumni networks
- Establishment of “young scientist” awards
- Promoting gender equality and participation of women in ocean science research
- Sharing of training materials
- Establishment of a travel grant “fund”



Please add other CD needs if the ones provided above do not correspond to the needs of your country.

3. Please rank the following capacity development needs in terms of achieving increased access to **physical infrastructure** for your country (from 5 highest priority to 1 lowest priority).

- Establishment and maintenance of a register of regional scientific research (facilities, instruments, vessels) to facilitate access ☆☆☆☆☆ infrastructure
- Sampling and analysis equipment (e.g. for water, geological, biological, chemical) ☆☆☆☆☆ samples)
- Observation facilities and equipments (remote sensing equipment, buoys, tide gauges, shipboard and other means of ocean observation) ☆☆☆☆☆ gauges,
- Equipment for in situ and laboratory observations, analysis and experimentation ☆☆☆☆☆
- Computer and computer software, including models and modeling techniques ☆☆☆☆☆
- Organizing shared access to regional scientific research infrastructure ☆☆☆☆☆
- Provision of new equipment by donors to your institution/organization ☆☆☆☆☆
- Provision of used equipment by donors or other institutions ☆☆☆☆☆
- Organizing low-cost access to spare parts for equipment ☆☆☆☆☆
- Training on the use and maintenance of physical infrastructure and equipment ☆☆☆☆☆
- Technical training for ocean science related to ocean observation ☆☆☆☆☆
- Technical training for ocean science data management ☆☆☆☆☆
- Access to best practices on the use and maintenance of physical infrastructure and equipment ☆☆☆☆☆

Please add other CD needs if the ones provided above do not correspond to the needs of your country.

4. Please rank the following capacity development needs in terms of **strengthened coordination** with global, regional or sub-regional IOC communities and local networks (from 5 highest priority to 1 lowest priority).

- Improved staffing of secretariat of regional sub-commissions ☆☆☆☆☆
- Reinforced budgeting of regional sub-commissions ☆☆☆☆☆
- Establishing an effective coordination and communication mechanism between regional sub-commissions ☆☆☆☆☆ the
- Establishing an effective coordination and communication mechanism between regional sub-commissions and the global programmes ☆☆☆☆☆ the
- Establishing an effective coordination and communication mechanism between not covered by IOC regional subsidiary bodies and the global programmes ☆☆☆☆☆ countries

Please add other CD needs if the ones provided above do not correspond to the needs of your country.

5. Please rank the following capacity development needs in terms of development of **ocean research policies** in support of sustainable development in your country (from 5 highest priority to 1 lowest priority).

- Sharing of information on existing ocean research priorities among government and other organizations ☆☆☆☆☆ and
- Assistance with the development of national marine science management and national policies ☆☆☆☆☆ procedures
- Support in *methodologies for co-design processes* to joint development of policies ☆☆☆☆☆

- Technical training for ocean science related to research activities, climate change, ocean acidification, eutrophication



Please add other CD needs if the ones provided above do not correspond to the needs of your country.

6. Please rank the following capacity development needs in terms of increasing **visibility and awareness** of ocean research in your country (from 5 highest priority to 1 lowest priority).

- Support for development of effective public communication in ocean research institutions
- Technical training for ocean science communication
- Support for communicating ocean science research to policy makers
- Development of an IOC ocean literacy 'community of practice' to share experience and across regions



Please add other CD needs if the ones provided above do not correspond to the needs of your country.

7: Please rank the following capacity development needs in terms of **mobilising sustained (long-term) resources** in your country (from 5 highest priority to 1 lowest priority).

- Assistance in fostering partnerships to increase in-kind support opportunities
- Assistance in financial resource mobilisation from Member States, Institutional and Sector Partners



Please add other CD needs if the ones provided above do not correspond to the needs of your country.

8. What other specific support can IOC global and regional programmes (GOOS, IODE, MPR, Ocean Info Hub, Tsunami, etc.) provide to contribute to addressing your country's CD requirements?

Textbox:

9. In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade Challenges are capacity development needs greatest in your country (from 5 highest priority to 1 lowest priority)?

**CHALLENGE 1:** Understand and map land and sea-based sources of pollutants and contaminants and their potential impacts on human health and ocean ecosystems and develop solutions to remove or mitigate them.



**CHALLENGE 2:** Understand the effects of multiple stressors on ocean ecosystems, and develop solutions to monitor, protect, manage and restore ecosystems and their biodiversity under changing environmental, social and climate conditions.



**CHALLENGE 3:** Generate knowledge, support innovation, and develop solutions to optimise the role of the ocean in sustainably feeding the world's population under changing environmental, social and climate conditions.



**CHALLENGE 4:** Generate knowledge, support innovation, and develop solutions for equitable and sustainable development of the ocean economy under changing environmental, social and climate conditions.



**CHALLENGE 5:** Enhance understanding of the ocean-climate nexus and generate knowledge and solutions to mitigate, adapt and build resilience to the effects of climate change across all geographies and at all scales, and to improve services including predictions for the ocean, climate and weather.



**CHALLENGE 6:** Enhance multi-hazard early warning services for all geophysical, ecological, biological, weather, climate and anthropogenic related ocean and coastal hazards, and mainstream community preparedness and resilience.



**CHALLENGE 7:** Ensure a sustainable ocean observing system across all ocean basins that delivers accessible, timely, and actionable data and information to all users.



**CHALLENGE 8:** Through multi-stakeholder collaboration, develop a comprehensive digital representation of the ocean, including a dynamic ocean map, which provides free and open access for exploring, discovering, and visualizing past, current, and future ocean conditions in a manner relevant to diverse stakeholders.



**CHALLENGE 9:** Ensure comprehensive capacity development and equitable access to data, information, knowledge and technology across all aspects of ocean science and for all stakeholders.



**CHALLENGE 10:** Ensure that the multiple values and services of the ocean for human wellbeing, culture, and sustainable development are widely understood, and identify and overcome barriers to behaviour change required for a step change in humanity's relationship with the ocean.



**10.** In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade objectives are capacity development needs greatest in your country (from 5 highest priority to 1 lowest priority)?

**OBJECTIVE 1:** Identify required knowledge for sustainable development, and increase the capacity of ocean science to deliver needed ocean data and information



**OBJECTIVE 2:** Build capacity and generate comprehensive knowledge and understanding of the ocean including human interactions, and interactions with the atmosphere, cryosphere and the land sea interface.



**OBJECTIVE 3:** Increase the use of ocean knowledge and understanding, and develop capacity to contribute to sustainable development solutions.



**11.** How would you rate the level of capacity available right now in your country to achieve Sustainable Development Goal 14?

**I don't know**

**Low capacity**

**Partial capacity**

**Significant capacity**

**12.** In your opinion, to what extent are the following aspects of capacity lacking to achieve SDG 14 in your country (from 5 most lacking to 1 least lacking)?

Capacity to generate knowledge



Capacity to communicate science



Capacity to translate science into policy



**13.** Does your country have a national ocean science capacity development strategy?

I don't know

No

Yes

If yes, please specify (provide URL)

14. Has your country carried out an ocean science capacity needs assessment?

I don't know

No

Yes

If yes, please specify (provide URL)

15. Any comment you'd like to add, please write here:

Textbox:

*Thank you for your kind participation.*