

**INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION  
(of UNESCO)**

**Twenty-eighth Session of the IOC Committee on International Oceanographic Data  
and Information Exchange (IODE-28)**

**12-14 March 2025**

**Action Paper  
Version 1**

**A second and final version will be published by 10 February 2025**

**This document was prepared in English and machine-translated into French, Spanish  
and Russian. We apologize for any errors in the translation**

This document will be the main working document for the 28<sup>th</sup> Session of the IOC Committee on IODE. It includes (i) the draft introductory text that will be used for the summary report of the Meeting; (ii) (in yellow) the proposed actions requested from the Committee.

Participants in the Session are requested to carefully read this document as well as other working documents.

Draft recommendations and draft resolutions are also included in this document.

Full information and working documents are available from

<https://oceanexpert.org/event/4258>

For easy reference paragraphs have been numbered. Participants are invited to refer to paragraph numbers when submitting comments, suggestions or questions prior or during the IODE-28 Session.

## Table of Contents

|          |  |    |
|----------|--|----|
| 1.       | OPENING .....  | 5  |
| 2.       | ADMINISTRATIVE ARRANGEMENTS .....  | 5  |
| 2.1      | ADOPTION OF THE AGENDA.....  | 5  |
| 2.2      | DESIGNATION OF A RAPPORTEUR.....   | 5  |
| 2.3      | SESSION TIMETABLE AND DOCUMENTATION .....  | 5  |
| 2.4      | ESTABLISHMENT OF SESSIONAL WORKING GROUPS .....  | 6  |
| 2.5      | PRACTICAL ARRANGEMENTS FOR THE SESSION .....   | 6  |
| 3.       | REPORTING ON THE PAST INTER-SESSIONAL PERIOD (2023-2024) .....                                     | 6  |
| 3.1      | PROGRESS REPORT ON THE IODE-27 WORK PLAN .....   | 6  |
| 3.1.1    | Outcome of IOC-32.....   | 7  |
| 3.2      | IODE CONTRIBUTION TO THE IMPLEMENTATION OF THE IOC MEDIUM-TERM STRATEGY 2022-2029 .....            | 11 |
| 3.3      | STATUS OF THE IODE NETWORK .....   | 13 |
| 3.3.1    | New NODCs, ADUs, AIUs, accredited NODCs, ADUs, and AIUs.....                                       | 13 |
| 3.3.2    | Reporting summary of NODCs, ADUs and AIUs.....   | 14 |
| 3.3.3    | Review of NODC health status within the IODE network .....   | 15 |
| 3.4      | PROGRESS REPORTS OF IODE PROGRAMME COMPONENTS, PROGRAMME ACTIVITIES AND PROJECTS .....             | 17 |
| 3.4.1    | IODE Programme Components.....   | 17 |
| 3.4.1.1  | Ocean Biodiversity Information System (OBIS) .....   | 18 |
| 3.4.1.2  | Ocean Data and Information System (ODIS).....  | 20 |
| 3.4.1.3  | OceanTeacher Global Academy (OTGA) .....   | 24 |
| 3.4.2    | IODE Programme Activities .....  | 26 |
| 3.4.2.1  | AquaDocs .....   | 26 |
| 3.4.2.2  | Global Oceanographic Data Archaeology and Rescue (GODAR) .....                                     | 27 |
| 3.4.2.3  | Underway Sea Surface Salinity Data Archiving Project (GOSUD).....                                  | 28 |
| 3.4.2.4  | Global Temperature-Salinity Profile Program (GTSP) .....   | 28 |
| 3.4.2.5  | International Coastal Atlas Network (ICAN) .....   | 29 |
| 3.4.2.6  | International Quality Controlled Ocean Database (IQuOD).....                                       | 29 |
| 3.4.2.7  | OBPS (IODE/GOOS).....  | 30 |
| 3.4.2.8  | ODIS Catalogue of Sources (ODISCat) .....  | 30 |
| 3.4.2.9  | OceanExpert .....  | 31 |
| 3.4.2.10 | IODE Quality Management Framework (QMF).....   | 31 |
| 3.4.2.11 | World Ocean Database (WOD).....  | 32 |
| 3.4.3    | IODE Projects .....  | 32 |
| 3.4.4    | Implementation report of revised Rules of procedure for IODE activities .....                      | 32 |
| 3.4.5    | Report of the inter-sessional working group on the review of IODE structure and working methods 33 |    |
| 3.4.5.1  | Future of the IODE Associate Information Units (AIUs).....   | 34 |

|         |  |    |
|---------|--|----|
| 3.5     | PROGRESS REPORT ON THE IODE QUALITY MANAGEMENT FRAMEWORK .....   | 34 |
| 3.6     | PROGRESS REPORTS OF JOINT ACTIVITIES WITH IOC PROGRAMMES AND OTHER PARTNERS .....  | 34 |
| 3.6.1   | IOC Ocean Science .....  | 34 |
| 3.6.2   | Global Ocean Observing System (GOOS) .....   | 35 |
| 3.6.3   | Tsunami Warning and Mitigation Systems and the IOC Tsunami Information Systems   | 35 |
| 3.6.4   | Marine Policy and Regions .....  | 35 |
| 3.6.5   | IOC sub-commission for Africa and the Adjacent Island States (IOCAFRICA) .....   | 35 |
| 3.6.6   | IOC sub-commission for the Caribbean and Adjacent Regions (iOCARIBE) .....   | 35 |
| 3.6.7   | IOC Sub-Commission for the Central Indian Ocean (IOCINDIO) .....   | 35 |
| 3.6.8   | IOC Sub-Commission for the Western Pacific (WESTPAC).....  | 35 |
| 3.6.9   | ISC World Data System (WDS) .....  | 35 |
| 3.6.10. | Aquatic Sciences and Fisheries Abstracts - ASFA (FAO).....   | 35 |
| 3.6.11. | International Association of Aquatic and Marine Science Libraries and Information Centers (IAMSLIC)                              | 35 |
| 3.6.12  | Joint WMO-IOC Collaborative Board (JCB) .....  | 36 |
| 3.6.13  | European Commission .....  | 36 |
| 3.6.14  | Cooperation of IODE in the Ocean Decade .....  | 36 |
| 3.7     | OUTCOME OF THE “3 <sup>rd</sup> INTERNATIONAL OCEAN DATA CONFERENCE” (2025) .....  | 36 |
| 3.8     | REPORTING ON THE IMPLEMENTATION OF THE IOC STRATEGIC PLAN FOR OCEAN DATA AND INFORMATION MANAGEMENT (2023-2029).....             | 36 |
| 3.9     | IMPLEMENTATION REPORT OF THE IOC DATA POLICY AND TERMS OF USE (2023)   | 36 |
| 4.      | IODE CAPACITY DEVELOPMENT: CONTRIBUTIONS OF IODE TO THE IMPLEMENTATION OF THE IOC CAPACITY DEVELOPMENT STRATEGY (2023-2030)..... | 37 |
| 4.1     | OCEANTEACHER GLOBAL ACADEMY .....  | 37 |
| 4.2     | IODE MENTORING .....   | 37 |
| 4.3     | IOC OCEANTRAINING INTERNSHIPS 2023-2024 .....  | 38 |
| 4.4     | IODE COOPERATION WITH IOC REGIONAL SUB-COMMISSIONS .....   | 38 |
| 4.4.1   | Future of the Ocean Data and Information Networks (ODINs).....   | 39 |
| 4.5     | REPORTING ON ASSISTANCE TO NODCs, ADUs, AIUs TO ESTABLISH ODIS NODES   | 39 |
| 4.6     | CAPACITY DEVELOPMENT ACTIVITIES OF OBIS.....   | 39 |
| 5.      | IODE COMMUNICATION AND OUTREACH.....   | 41 |
| 5.1     | NEW IODE WEB SITE .....  | 41 |
| 5.2     | IODE OUTREACH AND COMMUNICATION ACTIVITIES DURING THE PAST INTER-SESSIONAL PERIOD (2023-2025).....                               | 42 |
| 5.3.    | PROPOSED OUTREACH AND COMMUNICATION ACTIVITIES 2025-2026 .....   | 42 |
| 6.      | THE FUTURE OF IODE .....   | 42 |
| 6.1     | Development of the IOC Data Architecture.....  | 42 |
| 6.2     | IODE CONTRIBUTIONS TO THE UN DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT .....   | 42 |
| 6.2.1   | REPORT ON THE ACTIVITIES OF THE DCO FOR DATA SHARING.....  | 42 |
| 6.2.2   | IMPLEMENTATION REPORT ON DECADE ACTIONS SUBMITTED BY IODE.....   | 42 |

|       |  |    |
|-------|--|----|
| 6.2.3 | IMPLEMENTATION REPORT ON DECADE ACTIONS SUBMITTED IN COOPERATION WITH IODE.....  | 43 |
| 6.2.4 | PROPOSALS FOR NEW IODE ACTIVITIES IN THE UN OCEAN DECADE 2025-2026<br>43   |    |
| 6.2.5 | REPORT ON THE PARTICIPATION OF IODE IN THE UN OCEAN DECADE CONFERENCE (BARCELONA, APRIL 2024) .....                          | 43 |
| 6.3   | RENEWAL OF THE MOU BETWEEN THE FLANDERS MARINE INSTITUTE AND IOC REGARDING THE IOC PROJECT OFFICE FOR IODE (2027-2031) ..... | 43 |
| 7.    | INTRODUCTION TO WORK PLAN AND BUDGET (FINANCIAL RESOURCES 2025-2027). 43   |    |
| 7.1   | UNESCO REGULAR PROGRAMME FINANCIAL RESOURCES REMAINING FOR THE BIENNIUM 2024-2025.....                                       | 43 |
| 7.2   | UNESCO REGULAR PROGRAMME FINANCIAL RESOURCES EXPECTED FOR THE BIENNIUM 2026-2027 .....                                       | 44 |
| 7.3   | IODE HUMAN RESOURCES (CURRENT AND REQUIRED) .....  | 45 |
| 7.3.1 | UNESCO Regular Programme, Government of Flanders staff contribution and extra-budgetary project staff.....                   | 45 |
| 7.3.2 | Internships and Secondments .....  | 46 |
| 7.4   | CONFIRMED EXTRA-BUDGETARY REVENUE FOR 2025-2027 .....  | 46 |
| 7.5   | OTHER RESOURCE OPPORTUNITIES FOR 2023-2025.....  | 47 |
| 8.    | PROPOSED WORK PLAN FOR THE NEXT INTER-SESSIONAL PERIOD (2025-2026) .....   | 47 |
| 8.1   | IODE IN THE UNESCO 33 C/5 (2026-2027).....   | 47 |
| 8.2   | IODE PROGRAMME COMPONENTS AND PROGRAMME ACTIVITIES.....  | 47 |
| 8.3   | PROPOSALS FOR NEW IODE PROGRAMME COMPONENTS, PROGRAMME ACTIVITIES OR PROJECTS .....  | 48 |
| 8.4   | PROPOSED IODE WORK PLAN AND BUDGET 2025-2026 .....   | 48 |
| 9.    | ANY OTHER BUSINESS .....   | 48 |
| 10.   | DATE AND PLACE OF THE NEXT SESSION (IODE-29, 2027) .....   | 48 |
| 11.   | ELECTION OF THE CO-CHAIRS .....  | 48 |
| 12.   | IODE ACHIEVEMENT AWARDS 2025.....  | 49 |
| 13.   | ADOPTION OF DECISIONS AND RECOMMENDATIONS.....   | 49 |
| 14.   | ADOPTION OF THE SUMMARY REPORT .....   | 49 |
| 15.   | CLOSURE .....  | 49 |

## 1. OPENING

1. The Session was opened by the IODE Co-Chairs **Ms Lotta Fyrberg** and **Dr Paula Sierra-Correa**. They welcomed the participants to the twenty-eighth Session of the IODE Committee.
2. In their opening address the Co-Chairs briefly summarized the outcome of the Third International Ocean Data Conference 2025 which was held just prior to the Committee session (10-11 March 2025) but referred to agenda item 3.7 for more detailed reporting.
3. In his opening words Mr Vidar Helgesen, IOC Executive Secretary ....[to be added after presentation]

## 2. ADMINISTRATIVE ARRANGEMENTS

### 2.1 ADOPTION OF THE AGENDA

4. The Committee was invited by the Technical Secretary, **Mr Peter Pissierssens**, to review and adopt the provisional agenda (Document IOC/IODE-28/1 prov.) available from the web site on <https://oceanexpert.org/event/4258>.
5. The Committee was requested to note that all working documents were made available only as on-line documents. Any new items or issues proposed by the Meeting were noted here and discussed either under the related Agenda Item or under Agenda Item 9 (Any other business).
6. **Proposed: The Committee adopted the agenda.**

### 2.2 DESIGNATION OF A RAPPORTEUR

7. **Mr Pissierssens** invited the Committee to elect a Rapporteur for the Session. It was recalled that for the past four sessions the Secretariat was tasked to report on the meeting and that no rapporteur was used.
8. **Proposed: The Committee, considering the limited size of most delegations, decided not to designate a Rapporteur, and tasked the Secretariat and Co-Chairs with the reporting of the Meeting.**

### 2.3 SESSION TIMETABLE AND DOCUMENTATION

9. **Mr Pissierssens** invited to review and adopt the Timetable ([Document IOC/IODE-28/1 Add. Prov.](#)) available from the web site. He informed the Committee that plenary meetings would be held on Wednesday 12 March and Thursday 13 March, starting at 0930 until 1100 followed by a 30 min. break and then between 1130 and 1300. The afternoon session would start 1430 until 1600 followed by a 30 min. break and then continue until 1800. On Friday 14 March it was planned to complete the Session at 1300.
10. The IODE Technical Secretary then reviewed the arrangements for the Session and presented the List of Documents available online through the IODE-28 web pages. He noted that the main working document for the Session would be the Action Paper, **Document IOC/IODE-28/2** (this document).
11. He reminded the Committee that this Session had only 2 days to deal with the substance of the meeting while the morning of the third day would be used to formally adopt the decisions and recommendations. Accordingly, there would be no time for extensive introductions of agenda items and participants were urged to carefully read the Action Paper and working documents in preparation for the Session.

12. All draft Recommendations and draft Decisions were included in the Action Paper and would be briefly reviewed during the concerned agenda item for final adoption during the final day of the Session.
13. **Proposed: The Committee adopted the timetable for the Session**

## 2.4 ESTABLISHMENT OF SESSIONAL WORKING GROUPS

14. The Technical Secretary, **Mr Peter Pissierssens**, informed the Committee that sessional working groups could be established to deal with specific issues that cannot be discussed at length during the plenary. Suggested groups included:
  - a. Sessional working group on work plan and budget
  - b. Sessional working group on the future of IODE
15. The Technical Secretary reminded the Committee that participants had been invited (by email) to identify the need for additional sessional working groups by email, prior to the Session. He informed the Committee of received suggestions.
16. He reminded the Committee that each Sessional Working Group should nominate a Chair who will report back to the Committee at the time the relevant agenda item is discussed in plenary. In exceptional circumstances the Committee may decide to re-arrange the timetable to accommodate a sessional working group.
17. Meetings of Sessional Working Groups could be held on Wednesday and Thursday during lunch time.

## 2.5 PRACTICAL ARRANGEMENTS FOR THE SESSION

18. The **Local representative** informed the Committee on rooms to be used for the sessional working groups as well as on practical arrangements for the Session.

# 3. REPORTING ON THE PAST INTER-SESSIONAL PERIOD (2023-2024)

## 3.1 PROGRESS REPORT ON THE IODE-27 WORK PLAN

19. This agenda item was introduced by **Mr Peter Pissierssens**. He recalled that the IODE Management Group, during their meeting between 5-7 February 2024 (held at the IOC Project Office for IODE, Oostende, Belgium) had reviewed progress of the implementation of the IODE-27 work plan, decisions, and recommendations since IODE-27 (March 2023), but had also revised the work plan and budget for 2024. This was necessary due to the decision taken by UNESCO to substantially increase the IOC Regular Programme budget in general, and the IODE allocation in particular. The report of the 5-7 February 2024 IODE Management Group meeting was available as <https://oceanexpert.org/document/33860>
20. The updated action sheet was available from <https://iode.org/about/workplan/>
21. He listed the actions that were not implemented:

**...[to be added in version 2]**
22. Mr Pissierssens concluded that most IODE-27 Action Sheet items had been completed during the inter-sessional period and referred discussions on actions that had not been completed to the relevant agenda items.
23. **Proposed: The Committee noted with satisfaction the level of completion of the IODE-27 action sheet.**

24. IODE-27 Decisions

Decision IODE-27/1 Underway Sea Surface Salinity Data Archiving Project (GOSUD): **see agenda item 3.4.2.3**

Decision IODE-27/9.1 Establishment of an Inter-Sessional Working Group on the Review of IODE Structure and Working Methods: **see agenda item 3.4.5**

25. IODE-27 Recommendations

Recommendation IODE-27.6.2\_ The IOC Strategic Plan for Ocean Data and Information Management (2023-2029): **endorsed by IOC-32** (Decision A-32/3.4.2) – Published as [IOC Manuals and Guides No. 92](#)

Recommendation IODE-27.6.4\_ IOC Data Policy and Terms of Use (2023): **adopted by IOC-32** (Decision A-32/4.4) – Available from the IODE web site on <https://iode.org/resources/ioc-data-policy-and-terms-of-use-2023/>

Recommendation IODE-27.8.4 IODE Work Plan and Budget 2023-2024: **endorsed by IOC-32** (Decision A-32/3.4.2)

26. **Proposed: The Committee noted with satisfaction the progress with implementation of the IODE-27 decisions and recommendations.**

## 3.1.1 Outcome of IOC-32

27. This Agenda was introduced by **Ms Lotta Fyrberg**, IODE Co-Chair. She informed the Committee that she and Dr Sierra-Correa had reported about the 27th Session of the IODE Committee to the 32nd Session of the IOC Assembly in June 2023.

28. The Assembly adopted Decision A-32/3.4.2 (International Oceanographic Data and Information Exchange) and Decision A-32/4.4 (IOC Data Policy and Terms of Use (2023).

IOC Decision A-32/3.4.2**International Oceanographic Data and Information Exchange**

The Assembly,

**I – 27<sup>th</sup> Session of IODE, 22–23 March 2023**

Having examined the Executive Summary Report of the 27<sup>th</sup> session of the IOC Committee on International Oceanographic Data and Information Exchange (IODE-XXVII, 22–23 March 2023) (IOC/IODE-XXVII/3s),

Endorses the report of the 27<sup>th</sup> session of the IOC Committee on International Oceanographic Data and Information Exchange including the recommendations and workplan for 2023–2024 contained therein;

Strongly encourages Member States to establish IODE National Oceanographic Data Centres (NODCs), Associate Data Units (ADUs) or Associate Information Units (AIUs);

Notes that the regular budget for these activities will be identified as part of the overall Resolution on Governance, Programming and Budgeting matters of the Commission;

**II – The IOC Strategic Plan for Ocean Data and Information Management (2023–2029)**

Having examined the proposal contained in document IOC/A-32/3.4.2.Doc(1),

Recalling Decision IOC-XXIX/6.2.2 which adopted the IOC Strategic Plan for Oceanographic Data and Information Management (2017–2021) and also agreed that the Plan should be regularly reviewed and revised by the IODE Committee,

Recalling further Decision IODE-XXVI.6.3 (Establishment of an inter-sessional working group to revise the IOC Strategic Plan for Oceanographic Data and Information Management (2017-2021)),

Recognizing that IODE has developed a global network of National Oceanographic Data Centres, Associate Data Units, Associate Information Units and related networks, representing a considerable pool of expertise in data and information management and sharing, and that many IOC Member States have developed distributed networks of data management facilities involving IODE, as well as other centres, to deal with a wide variety of ocean observations,

Considering that the vision of the IOC Strategic Plan for Ocean Data and Information Management (2023–2029) is to achieve a comprehensive and integrated ocean data and information system, serving the broad and diverse needs of IOC Member States, for management, policy-making and scientific use,

Considering further that the objectives of the IOC Strategic Plan for Ocean Data and Information Management for 2023-2029 are to deliver:

(i) interoperable, quality-controlled data on a diverse range of variables: (i) generated according to scientifically and operationally sound methods; and (ii) persistently archived in well-documented, globally applicable standards and formats;

(ii) timely dissemination of data on a diverse range of variables (generated from observations and model outputs) both in real-time and delayed modes depending on the needs of user groups and their technical capabilities ("on demand" as well as automatically scheduled); and

(iii) easy discovery and access to data and information about a diverse range of variables and derived products (including forecasts, alerts and warnings) in a way that is user friendly for a wide variety of users.

Endorses the IOC Strategic Plan for Ocean Data and Information Management (2023-2029) as given in document IOC/A-32/3.4.2.Doc(1),

Agrees that the Plan should be:

(i) published and distributed widely and used as a basic data strategy throughout the programmes and projects of the IOC, and

(ii) regularly reviewed and revised by the IODE Committee, in close consultation with all IOC programmes

#### IOC Decision A-32/4.4

### **IOC Data Policy and Terms of Use (2023)**

The Assembly,

Recalling that the IOC Oceanographic Data Exchange Policy was published in 2003 (IOC Resolution XXII-6, 2003) and since then has only had one minor change: Clause 5 revised in 2019 by Decision IOC-XXX/7.2.1(II) of the Assembly at its 30th session, Paris, 26 June–4 July 2019,

Recognizing that:

(i) the timely and unrestricted international exchange of oceanographic data is essential for the efficient acquisition, integration and use of ocean observations gathered by the countries of the world for a wide variety of purposes including the prediction of weather



and climate, the operational forecasting of the marine environment, the preservation of life, the mitigation of human-induced changes in the marine and coastal environment, as well as for the advancement of scientific understanding that makes this possible,

- (ii) the global digital data, information, and knowledge ecosystem has radically changed since 2003,
- (iii) rapidly advancing technologies have altered the Data Stewardship paradigm,
- (iv) there is a need to improve interoperability and align the IOC data policy with those at national, regional, and international levels,
- (v) more and more Public-Private Partnerships are being established. To allow the best use of the data in this context as well as in the context of using data in journals from private publishers, the IOC data policy should provide clear guidance for commercial use of data,

Noting that partner and sister organizations are changing their data policies, which can serve as a model for updating the IOC data policy,

Noting also that principles of data sharing and licensing are becoming globally recognized and adopted, e.g., FAIR Principles and Creative Commons licences,

Decides to close the IOC Intersessional Working Group on the Revision of the IOC Oceanographic Data Exchange Policy (2003, 2019) (IWG-DATAPOLICY);

Adopts the IOC Data Policy and Terms of Use (2023) as detailed in Annex to this decision;

Decides to develop guidelines for the development of detailed data and metadata sharing guidelines by all IOC programmes and projects.

#### Annex to Dec. A-32/4.4

### **IOC Data Policy and Terms of Use (2023)**

#### **Section 1. Preamble**

The timely, open and unrestricted international sharing, in both real-time and delayed mode of ocean metadata, data and products is essential for a wide variety of purposes and benefits including scientific research, innovation and decision making, the prediction of weather and climate, the operational forecasting of the marine environment, the preservation of life, economic welfare, safety and security of society, the mitigation of human-induced changes in the marine and coastal environment, as well as for the advancement of scientific understanding that makes this possible. Innovation of specialised products can be stimulated and encouraged by timely, open and unrestricted access to metadata and data. Metadata, data and products should be accessible, interoperable and openly shared with minimum delay and minimum restrictions.

#### **Section 2. Purpose**

The purpose of this data policy is to outline the requirements with respect to sharing, access, preservation, and attribution to facilitate the broad use and reuse of metadata, data and products.

#### **Section 3. FAIR & CARE principles**

To support knowledge discovery and innovation both by humans and machines and to acknowledge indigenous data governance, data should meet the FAIR Guiding Principles (Findable, Accessible, Interoperable and Reusable)[1] and In the case of indigenous data and information, data should meet the CARE principles (Collective Benefit, Authority to Control, Responsibility, Ethics)[2] to the greatest extent practicable.

#### **Section 4. Conditions of use**

Data should be licensed (respecting Section 8) under a minimally restrictive and voluntary common-use licence[3] that grants permission, ensures proper attribution (for example,

citable using a persistent identifier) and allows others to copy, distribute and make use of the data.

### **Section 5. Data Repositories and the IOC ocean data and information system (ODIS)**

Data should be quality controlled (using community adopted and documented best practices or standards), accompanied by complete metadata and stored in an openly discoverable and accessible long-term data repository and made available through standards-based data services. Member States shall encourage convergence and interoperability and, where possible, use IODE data centres (National Oceanographic Data Centres or Associate Data Units) or other IOC programme related data centres that share metadata and data using the IOC Ocean Data and Information System (ODIS). ODIS is an interoperability layer and supporting technology, to allow existing and emerging ocean data and information systems to interoperate with one another.

### **Section 6: Secure long-term data archives**

To support long-term and secure archival, data and associated metadata should be submitted, to the best practicable degree, to IODE's World Ocean Database (WOD), the Ocean Biodiversity Information System (OBIS), Global Sea Level Observing System (GLOSS), other IOC related global data archives, and data centres linked to the World Data System (WDS), their successors or other global data archives.

### **Section 7. Access restrictions**

Data and associated metadata should be made available with minimal restrictions on use unless there are valid reasons to restrict access. Legitimate reasons to restrict access to, and reuse of, data include, inter *alia*, privacy and confidentiality, protection of species, populations or habitats of concern, and national security.

### **Section 8. Data sharing policies of Member States**

This Policy acknowledges the right of Member States and data owners to determine the terms of metadata, data and products sharing in a manner consistent with national jurisdictions, international conventions, and treaties, where applicable.

### **Section 9. Data and metadata sharing guidelines**

IOC programmes, projects as well as other communities of practice should develop and/or apply, where applicable, detailed metadata, data and products sharing guidelines that are consistent with this IOC Data Policy and Terms of Use.

### **Section 10. Definitions**

**'Data'** is a set of values, symbols or signs (recorded on any type of medium) that represent one or more properties of an entity[4].

**'Metadata'** is 'data about data' describing the content, quality, condition, and other characteristics of data that allows their inventory, discovery, evaluation or use.

**'Timely'** in this context means the distribution of data and/or products, sufficiently rapidly to be of value for a given application.

**'Openly'** means data that can be freely used, re-used and redistributed by anyone - subject only, at most, to the requirement to attribute and share alike.

**'Product'** means a value-added enhancement of data applied to a particular use.

[1] Wilkinson, M., Dumontier, M., Aalbersberg, I. *et al.* The FAIR Guiding Principles for scientific data management and stewardship. *Sci Data* **3**, 160018 (2016).  
<https://doi.org/10.1038/sdata.2016.18>

[2] CARE Principles for Indigenous Data Governance. <https://www.gida-global.org/care>

[3] For example: the Creative Commons family of licences  
<https://creativecommons.org/about/ccllicenses/>

[4] [Ocean Decade Implementation Plan](#): link needs to be corrected

### 3.2 IODE CONTRIBUTION TO THE IMPLEMENTATION OF THE IOC MEDIUM-TERM STRATEGY 2022-2029

29. This agenda item was introduced by **Ms Lotta Fyrberg**. She recalled that the IOC Assembly had adopted the Medium-Term Strategy for 2022-2029 at its 21st Session in 2021 through IOC Resolution A-31/2 and published as [IOC/INF-1412](#)).
30. She recalled that the MTS has 5 objectives:
1. Healthy ocean and sustained ocean ecosystem services;
  2. Effective warning systems and preparedness for tsunamis and other ocean-related hazards;
  3. Resilience to climate change and contribution to its mitigation;
  4. Scientifically-founded services for the sustainable ocean economy; and
  5. Foresight on emerging ocean science issues.
31. The document states that *“The value chain of IOC: IOC generates value through interaction of all its functions. In order to maximize the value, the IOC should work as an end-to-end system, in which observations and research enable various services and assessments, leading to informed decisions and guidance to policy and culminating in multiple societal and economic uses. Feedback from various functions in the system should lead to evolving and, generally, increasingly more and more demanding requirements for observations, science and services. The capacity development will act as the catalyst of the whole system, working both at the cutting edge and leaving no one behind.”* and *“The IOC functions will be realised through the continuously developing programmes, acting globally, regionally, nationally and locally, through activities of regional subsidiary bodies, and by undertaking shorter-term project activities.”*
32. IODE should contribute to several of the objectives either directly or indirectly through collaboration with other IOC programmes. As such IODE can be the “owner” or “co-owner” of activities under the MTS objectives. Examples are:
33. **Achieving Objective 1 (Healthy Ocean Ecosystems):**
- coordinate and catalyse research on ocean acidification, de-oxygenation, biogeochemistry, and contaminants; identifying ecosystem indicators and tipping points and the impacts of multiple stressors on marine biodiversity and ecosystem functioning; [**as co-owner through OBIS**]
  - improve and augment sustained global observations of essential biological, biogeochemical, and ecosystem variables of relevance and necessity to describing the ecosystem state, as part of GOOS; [**as co-owner through OBIS**]
  - strengthen the IODE data and information centres and networks including OBIS, ensuring resources and best practices are available to advance standardized collection of species and ecosystem data and development of data products and services contributing to the continuous monitoring of identified indicators of ecosystem state, as well as the long-term preservation and availability of high-quality ocean data and information; [**IODE as owner**]
  - support global and regional marine assessments through the United Nations World Ocean Assessment and other scientific assessments, e.g., of Large Marine Ecosystems and those under IPBES; [**as co-owner through OBIS**]
  - assist Member States in developing the necessary capacity and ecosystem-based management tools, such as maritime spatial plans, coastal area management; marine protected areas, [**as co-owner through OTGA**]

- use the IOC convening authority for strengthening cooperation and coordination between key stakeholders in the domain of ecosystem management and for building an effective science-policy-society interface. **[as co-owner through OBIS]**
  - contribute to the UN Decade of Ecosystem Restoration (2021-2030)
34. **Achieving Objective 2 (Early Warning for Ocean Hazards):**
- strengthen the regional Tsunami Information Centres and augment their ability to provide a clearinghouse for the development of educational and preparedness materials; **[as co-owner through OTGA]**
  - increase technical and scientific capacity of early detection and warning of marine invasive species (e.g., by applying novel observing technologies such as DNA metabarcoding); **[as co-owner through OBIS]**
  - target CD and technical assistance to enhance Member States' abilities to develop preparedness, mitigation and awareness in a multi-hazard framework; **[as co-owner through OTGA]**
35. **Achieving Objective 3 (Resilience to Climate Change and Variability):**
- builds capacity through training, demonstration projects, and shared tools. **[as co-owner through OTGA]**
36. **Achieving Objective 4 (Scientific Services for a Sustainable Ocean Economy):**
- delivering ocean observations and data for operational services to marine industries and for biogeochemical and biological study/research and assessments of the sustainability of ecosystem services; **[as co-owner through ODIS and OBIS]**
  - delivering fit-for-purpose data and information products and services through the Ocean Data and Information System and Ocean InfoHub including their regional nodes; **[IODE as owner]**
  - assisting Member States in developing their capacity to responsibly manage and sustainably exploit ocean resources. **[as co-owner through OTGA]**
37. **Achieving Objective 5 (Foresight of Emerging Ocean Issues):**
- an ocean observing system, with technologically advanced autonomous instruments and global data/information processing and management systems that are adaptable to new needs;
38. In September 2024 a retreat was organized for the IOC senior staff (heads of sections, heads of regional secretariats). One of the recommendations of the retreat was to improve the collaboration between the sections and their programmes towards joint implementation of the strategy. The above-mentioned (para 32) ownership and co-ownership was one of the proposed ways forward. For each of the objectives or their activity IOC working groups could be established.
39. Ms Fyrberg noted that IODE already established collaboration with e.g. GOOS and HAB and OTGA is providing training support for nearly all IOC programmes.
40. It was further noted that an IODE-GOOS workshop had been organized at the IOC Project Office for IODE, Oostende between 30 September and 2 October 2024 to which also the other IOC global programmes and Ocean decade were invited. More information on this meeting is reported on under Agenda Item 3.6.2 and 6.1.
41. She invited the Committee to recommend further actions to achieve the implementation of the IOC Medium-Term Strategy (2022-2029).
42. **Proposed: The Committee ...**

### 3.3 STATUS OF THE IODE NETWORK

#### 3.3.1 New NODCs, ADUs, AIUs, accredited NODCs, ADUs, and AIUs

43. This agenda item was introduced by **Mr Greg Reed**. He recalled the objectives of the IODE quality Management Framework are to (i) provide the overall strategy, advice and guidance to NODCs (National Oceanographic Data Centres) to establish organizational quality management systems for the delivery of oceanographic and related data, products and services, (ii) initiate and review existing standards and Manuals and Guides with respect to the inclusion of quality management procedures and practices, and (iii) apply the necessary capacity development activities to ensure accreditation of NODCs according to agreed criteria in order to bring all NODCs to a minimum agreed level
44. He recalled that the contacts for all NODCs are available from <https://oceanexpert.org/group/488>. The list of NODCs is available from [this link](#), a list of accredited NODCs from [this link](#), a list of ADUs from [this link](#), and a list of accredited ADUs from [this link](#).
45. During the intersessional period three applications to join the IODE network as NODC were received:
- 1) MAURITIUS (November 2023): NODC re-established at Department for Continental Shelf, Maritime Zones Administration & Exploration, Prime Minister's Office with contact Dr. Hemanaden Runghen, Director - Ocean Mapping/Marine Information System Unit (OceanExpert link: <https://oceanexpert.org/expert/36323> )
  - 2) PANAMA (August 2023): NODC established at Universidad de Panama - Instituto de Geociencias with contact Ms Yolanda Irene Lopez (OceanExpert link: <https://oceanexpert.org/expert/19820>)
  - 3) EGYPT (20 March 2024): NODC re-established at Marine Risk Management Center (MRMC) with contact Dr Mohamed A. NASSAR (OceanExpert link: <https://oceanexpert.org/expert/58289>)
46. In addition, two NODCs moved to other host institutions:
- 1) DR CONGO (February 2024): move of the NODC to Institut Supérieur de Pêche et de Navigation (ISPN), Muanda with contact Mr Bope Jean Marie Bope Lapwong (OceanExpert link: <https://oceanexpert.org/expert/22630>)
  - 2) MOZAMBIQUE (March 2024): NODC moved to InOM (Mozambican Institute of Oceanography) with contact Ms. Clousa Sarmento MAUEUA (OceanExpert link: <https://oceanexpert.org/expert/12099>)
47. During the intersessional period, five applications to join the IODE network as ADU were received:
- 1) Kelp Blue Trading (Pty) Ltd “, Namibia (September 2023), with contact Mr Michael James FLEISCHMAN (OceanExpert link: <https://oceanexpert.org/expert/61952>)
  - 2) National Marine Biodiversity Institute of Korea (MABIK) , Republic of Korea (August 2023) with contact Mr SangHo BAEK (OceanExpert link: <https://oceanexpert.org/expert/61528>)
  - 3) OSPAR Commission, UK (September 2024) with contact Mr Christopher MOULTON (OceanExpert link: <https://oceanexpert.org/expert/55098>)
  - 4) GBIF Ecuador (September 2024) with contact Mr Victor CHOCHO (OceanExpert link: <https://oceanexpert.org/expert/59824>)
  - 5) GBIF Norway (October 2024) with contact Mr Dag ENDRESEN (OceanExpert link: <https://oceanexpert.org/expert/64359>)

48. During the intersessional period, four applications for (re)accreditation have been reviewed and recommended by the SG-QMF and the following NODCs / ADUs (Associate Data Units) have received accreditation:
- 1) ITALY NODC: OGS (December 2023) with contact Ms. Alessandra GIORGETTI (OceanExpert link: <https://oceanexpert.org/expert/13248>)
  - 2) Ocean Tracking Network (OTN) ADU (April 2024) with contact Mr. Jonathan Derek PYE (OceanExpert link: <https://oceanexpert.org/expert/31190>)
  - 3) Australian Ocean Data Network NODC: AODN (June 2024) with contact Mr Mark REHBEIN (OceanExpert link: <https://oceanexpert.org/expert/16609>)
  - 4) British Oceanographic Data Centre NODC: BODC - re-accreditation - (September 2024) with contact Mr Mark HEBDEN (OceanExpert link <https://oceanexpert.org/expert/50704>)
49. Mr Reed noted that only 12 NODCs and 3 ADUs were now “accredited” by IODE.
50. Figure 1 shows the evolution of establishment of NODCs, accreditation of NODCs, applications (and establishment) of ADUs and accreditation of ADUs between 2010 and 2024. It is shown that the number of ADUs increases more rapidly than NODCs.

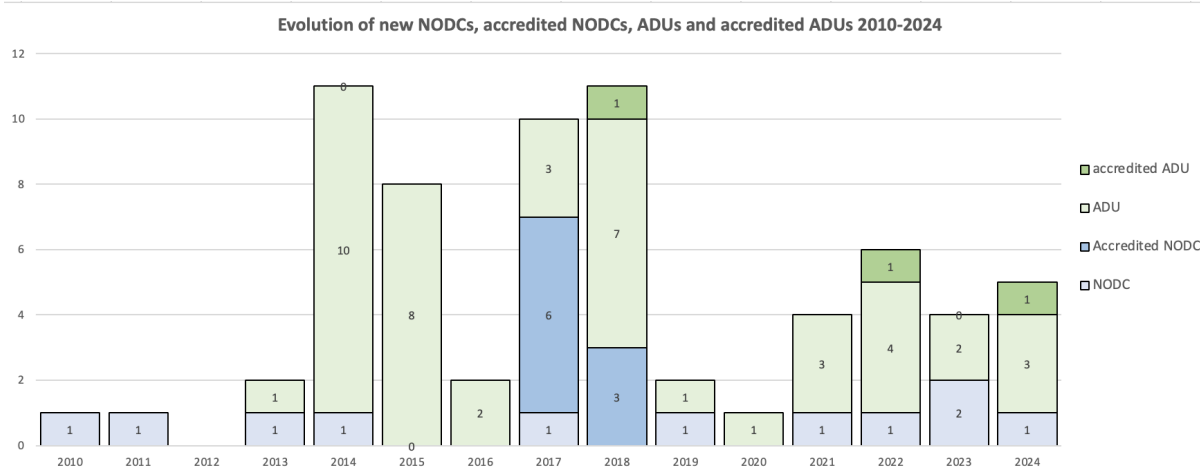


Figure 1: Evolution of new NODCs, accredited NODCs, ADUs and accredited ADUs 2010-2024 (status 2 August 2024)

51. Proposed: **The Committee congratulated** the NODC Italy, NODC Australia and ADU OTN for their accreditation and NODC UK for their re-accreditation, **welcomed** Egypt, Mauritius and Panama as new NODCs and Kelp Blue (Namibia), MABIK (Republic of Korea), OSPAR Commission (UK), GBIF (Ecuador) and GBIF (Norway) as new ADUs.
52. Proposed: **The Committee called** on NODCs and ADUs to apply for accreditation as a “quality seal” demonstrating that the data services provided are of the highest quality standards.
53. Proposed: **The Committee stressed** the importance of hosting an NODC **and urged** IOC Member States that have not yet established an NODC to do so to ensure their ocean data are shared globally and that their national ocean scientists have easy access to the global ocean data commons.

### 3.3.2 Reporting summary of NODCs, ADUs and AIUs

54. This agenda item was introduced by **Mr Greg Reed**, referring to [Document IOC/IODE-28/3.3.2](#). (Reporting Summary of IODE NODCs and ADUs ). An online version of the report will be made available through <https://surveys.ioode.org>. He noted that due to the small number of AIUs no report had been prepared for AIUs.

55. He reported that the online survey was opened on **6 August 2024** and closed on **8 October 2024**. A total of **59 valid responses** were received. This is a lower number than for 2021-2022 (which received 74 valid responses). Nearly all respondents have a record in OceanExpert.
56. He then briefly summarized significant outcomes of the survey:
- (i) There is a slow increase in the data centres/data units applying the "IOC Data Policy and Terms of Use" This has increased from 65.7% (2019-2020), 66.22% (2021-2022) to 67.8% (2023-2024).
  - (ii) There has been a sharp decline in the number of scientific staff working in the data centres/data units from average of 18 in 2019-2020, 16 in 2020-2021 to 9 in 2023-2024.
  - (iii) There is a significant increase in centres that have links with major science programmes with 54% responding they have links with and/or manage data from major science programmes (e.g., CLIVAR, IMBER, Argo, Future Earth, SOLAS, etc).
  - (iv) There is a significant increase in the availability of data discovery portals that are openly available online with 94% responding "yes".
  - (v) The geographic origin of data users from national sources has declined sharply, however the number of international users has increased.
  - (vi) None of the respondents provided a positive response to the question if their country will be providing direct financial support to IODE in 2025-2026 through the IOC. The majority of respondents was unable to respond positively to the question if their country/data centre will be able to provide a visiting expert/secondment to the IOC Project Office for IODE in 2025-2026.
  - (vii) There is a decline in data centres/data units planning activities in the Ocean Decade from 78% in 2019-2020, to 68% in 2021-2022, to 63% in 2023-2024.
57. The Committee was invited to review the results of the 2023-2024 survey (and its comparison to the 2021-2022 and 2019-2020 surveys).
58. Proposed: **The Committee welcomed** the availability of the detailed information provided by the 2023-2024 survey and considered this to be a useful information source for the IODE activities.
59. Proposed: **The Committee**, while welcoming the increase in the availability of data discovery portals that are openly available online, **noted with concern** the decline in the number of scientific staff working in data centres/data units.

### 3.3.3 Review of NODC health status within the IODE network

60. This agenda item was introduced by **Dr Paula Sierra-Correa**, IODE Co-Chair. She recalled that IODE-27 had extended the "*Inter-sessional working group on the review of NODC health status within the IODE network*" for another inter-sessional period and had instructed the working group to (i) provide a status report on the procedures to the IODE Management Group (2024); and (ii) finalize the procedures for submission to the 28<sup>th</sup> Session of the IODE Committee (2025). The group, under the leadership of Dr Lesley Rickards prepared a document ([Document IOC/IODE-MG-2024/2.2.3](#)) for discussion by the IODE Management Group at its February 2024 meeting. The Management Group had (i) instructed the Secretariat to undertake a first provisional health status check of all NODCs by IODE-28 and based on the criteria documented in Document IOC/IODE-MG-2024/2.2.3; (ii) Instructed the Secretariat, taking into account the experiences with the first provisional health status check preparations, to submit a revised version of Document IOC/IODE-MG-2024/2.2.3 to IODE-28 for approval; and (iii) invited Secretariats of RSBs to collaborate in ensuring continued communication and participation with IODE after staff changes at NODCs, ADUs or AIUs.

61. She recalled that IODE-27 had also decided that, once a year, the IODE Secretariat should send out an IOC Circular Letter to all IOC Member States, inviting them to designate or update information on IODE national coordinators (data management and information management) and update the list on the IODE web site. Dr Sierra-Correa reported that IOC Circular Letter 2969 (<https://oceanexpert.org/document/33362>) was sent on 25 October 2023. Responses had been received from 27 Member States (Angola, Argentina, Australia, Belgium (VLIZ), Bulgaria, Canada, Chile, Colombia, Côte d'Ivoire, Cyprus, Dominican Republic, Ecuador, Egypt, France, Georgia, Germany, Islamic Republic of Iran, Israel, Madagascar, Malaysia, Mauritius, Mozambique, Pakistan, Russian Federation, Sweden, United Kingdom and United States). Out of the 91 IODE National Coordinators for Data Management this represents a response rate of 30%. A second Circular Letter (IOC Circular Letter 3002) (<https://oceanexpert.org/document/34645>) was sent on 23 July 2024. To this Letter a total of 26 Member States responded.
62. The IWG met online on 29 September 2023 and discussed and carried out revisions of the preliminary health status checks. The brief document, referred to above by Dr Lesley Rickards, was updated by Dr Rickards in July 2023 and the IWG was invited to take this document into consideration during its discussions.
63. The IODE Management Group met in February 2024 and:
  - (i) Instructed the Secretariat to undertake a first provisional health status check of all NODCs by IODE-28 and based on the criteria documented in Document IOC/IODE-MG-2024/2.2.3;
  - (ii) Instructed the Secretariat, taking into account the experiences with the first provisional health status check preparations, to submit a revised version of Document IOC/IODE-MG-2024/2.2.3 to IODE-28 for approval.
  - (iii) Invited Secretariats of RSBs to collaborate in ensuring continued communication and participation with IODE after staff changes at NODCs, ADUs or AIUs.
64. Dr Sierra-Correa then introduced the First Provisional Health Status Check of all NODCs ([Document IOC/IODE-28/3.3.3](#))
65. She reported that 4 NODCs scored 0: Cameroon, Comoros, Dr Congo and Senegal and 10 NODCs scored between 1-10: Benin, Côte d'Ivoire, Guinée, Indonesia, Kazakhstan, Madagascar, Mauritania, Nigeria, Togo, and Tunisia. 65.5% of the NODCs obtained a score of less than 40% and 34.5% obtained a score of more than 40%. This indicates that the majority of NODCs requires attention in terms of their involvement in international IODE activities.
66. When analyzing the results it was remarked that the current set of health checks does not consider whether NODCs share data internationally and does not report on data usage by users. It also does not include participation in groups other than Steering Groups, e.g. technical groups, task teams, regional groups, which can be included in future assessments.
67. It is important for the next iteration of the health check that NODC data sharing internationally is included, although it may not be straightforward to obtain this information for some projects where there may be multiple incoming data streams and data may also be harvested possibly leading to duplication of data and loss of association of with the relevant NODC may occur. Steering Groups could assist in providing this information.
68. In Table 2 of the report several recommendations have been made to resolve issues that the NODCs may have. As a first action all NODCs with scores 0 or 1-10 were contacted by email on 24 September. Responses were received from Kazakhstan, Madagascar and Benin (not included in the report)
69. The following actions are recommended to improve the situation:



- Overall: Consult with NODCs to assess their interest in participation in IODE and identify reasons if that interest is low;
- Criteria 1: Consult with NODCs why they are not responding to emails or Circular Letters. Consult with NODCs if they have a good relationship with their IOC focal point(s);
- Criteria 2: Consult with NODCs what are the reasons for low participation in sessions of the IODE Committee. In this regard it has been stated that the cost of participation in such 1-week events (including the IODC and IODE Session) is too high for most developing countries. Their lack in participation then excludes them in the co-design and decision process of the IODE programme;
- Criteria 3: Consult with NODCs what are the reasons for low participation in inter-sessional activities such as working groups or online surveys;
- Criteria 4: Consult with NODCs what are the reasons for the lack of an NODC web site and discuss ways to assist;
- Criteria 5: Consult with NODCs what are the reasons for the lack of mentioning of IODE in their NODC web site;
- Criteria 6: Consult with NODCs what are the reasons for low participation in IODE programme components or programme activities;
- Criteria 7: Consult with NODCs what are the reasons for low participation in IODE training courses (OTGA);
- Criteria 8: Consult with NODCs what are the reasons for not applying for NODC accreditation.

70. The report further provides some recommendations to improve health check criteria. These are included in detail in [Document IOC/IODE-28/3.3.3](#).

71. Dr Sierra-Correa informed the Committee that it had not been possible to prepare a revised version of Document IOC/IODE-MG-2024/2.2.3 but noted that the version discussed by the February 2024 IODE management group had already been edited and improved prior to the First NODC Health Check as reflected in Table 1 of Document IOC/IODE-28/3.3.3.

72. Proposed: **The Committee noted** the results of the First NODC Health Check and expressed its concern over the NODCs that scored low.

73. Proposed: **The Committee urged** all low-scoring NODCs and IOC focal points to contact the IODE Secretariat to discuss actions that may improve their performance.

74. Proposed: **The Committee instructed** the Secretariat to undertake the remedial actions as listed in Table 2 of Document IOC/IODE-28/3.3.3.

75. Proposed: **The Committee approved** the recommendations to improve health check criteria as detailed in Document IOC/IODE-28/3.3.3 and **instructed** the Secretariat and Co-Chairs to revise Document IOC/IODE-28/3.3.3 for discussion by the next meeting of the IODE Management Group.

### 3.4 PROGRESS REPORTS OF IODE PROGRAMME COMPONENTS, PROGRAMME ACTIVITIES AND PROJECTS

#### 3.4.1 IODE Programme Components

76. This agenda item was introduced by **Mr Greg Reed**. He referred to Document [IOC/IODE-28/3.4.1.1 \(Ocean Biodiversity Information System \(OBIS\)\)](#), [IOC/IODE-28/3.4.1.2 \(Ocean Data and Information System \(ODIS\): a plan for the future\)](#) and [IOC/IODE-28/3.4.1.3 \(Progress Report Programme Component: OceanTeacher Global Academy \(OTGA\)\)](#). He informed the Committee that, due to the very limited time available it would not be possible

to provide extensive oral presentations on the progress reports of all programme components, project activities and projects. Instead, reporting has been requested from all and included in the mentioned document and Chairs of the Steering Groups of the three Programme Activities were invited to provide brief presentations.

77. Mr Reed explained that all IODE projects must meet the specified evaluation criteria and are evaluated by the IODE-MG Executive annually, based on the reports provided by each project. The criteria for evaluation of ongoing project performance are described in [IOC Manuals and Guides No. 81rev3](#) (Procedures for Proposing and Evaluating IODE Programme Components, Programme Activities and Projects (3rd Revised edition)). Existing Programme Components, Programme Activities and Projects that do not receive a positive evaluation (“Not satisfactory or satisfactory with modifications requested”) will be notified of what actions need to be taken to improve performance and given an appropriate time frame for improvement.
78. Reporting is included in the above-mentioned document on the following Programme Components. The proposed work plan and budget for 2025-2026 will be discussed under Agenda Item 8.1.

#### 3.4.1.1 Ocean Biodiversity Information System (OBIS)

79. This agenda item was introduced by **Ms Katherine Tattersall**, Co-Chair of the SG-OBIS. She referred to the document [IOC/IODE-28/3.4.1.1 \(Ocean Biodiversity Information System \(OBIS\)\)](#) for a full activity progress report, the proposed OBIS 2025 work plan and requested budget.
80. During the intersessional period (May 2023 to November 2024) OBIS published 23.75 million new marine species occurrence records from 598 new datasets, adding 13,240 previously unreported marine species to OBIS. OBIS now holds 132 million records from 5,375 datasets on 194,000 marine species (18 Nov 2024).
81. The IODE Steering Group for OBIS (SG-OBIS) held its twelfth session in Gunsan, Republic of Korea, from 25-29 March 2024. This session brought together 23 participants representing 16 OBIS nodes and the secretariat. A key outcome of SG-OBIS-12 was the agreement on a new priority strategy and management structure to align with the Rules of Procedure for IODE Programme Components. The new strategy focuses on two thematic areas: Data Mobilization and Data Application. To implement the strategy, two OBIS coordination groups were established:
- **OBIS Data Coordination Group (DCG):** This group is tasked with reviewing data standards, specifications and implementation models and ensuring the long-term archiving of data. Key performance indicators focus on the review and implementation of biodiversity Essential Ocean Variables (EOVs) specifications, engagement with external data-related groups, and integration with the IOC data architecture.
  - **OBIS Products Coordination Group (PCG):** This group focuses on enhancing access to FAIR OBIS Products. Activities include developing an OBIS Products Catalogue and a JupyterHub for testing.
82. Additionally, an **OBIS Nodes Coordination Group (NCG)** was formed to facilitate communication and coordination among OBIS Nodes regarding ongoing activities, priorities, and challenges.
83. To support the new coordination and community engagement activities, a part-time OBIS staff member (consultant) has been employed, funded by increased regular program funding from UNESCO to IODE. Another significant decision was to convene an OBIS All-Hands meeting, biennially. This meeting will serve as a platform to bring together the broader OBIS Community of Practice.

84. The SG-OBIS-12 also developed a communication plan and allocated a budget for creating and disseminating branding materials.
85. To align with the new IOC Data Policy and Terms of Use, the SG-OBIS-12 revised and adopted new guidelines for data sharing and use within OBIS.
86. An *ad-hoc* online meeting of the IODE Steering Group for OBIS (SG-OBIS-12+) occurred on 30 May 2024. The primary objective was to address the status of the work plan and budget and to elect a new SG-OBIS Co-Chair, following Martha Vides' completion of her two terms. Dan Lear (MBA/OBIS-UK) was appointed as the new incoming SG-OBIS Co-Chair. The SG-OBIS also decided that it would be a co-organizer of the Living Data 2025 conference, together with TDWG, GEO BON and GBIF.
87. The joint marine strategy and action plan with GBIF was formally announced on 28 May 2024, with webinars taking place on 13 June 2024, to inform the community. A joint OBIS-GBIF Implementation Committee has been established which meets monthly.
88. The 6th session of the OBIS Executive Committee (EC-OBIS-6) took place in Oostende from 14–16 October 2024, focusing on planning the activities of the three new coordination groups and drafting the 2025 OBIS work plan and budget, alongside a long-term vision for OBIS's future. Discussions also covered developing a new website and outreach materials to enhance OBIS's visibility and attract resources. The EC-OBIS-6 also planned OBIS's participation in the upcoming meetings: IODC-3, IODE-28 and decided to have the next SG-OBIS meeting (SG-OBIS-13) and OBIS coordination group meetings in Bogota, Colombia, 18-20 October 2025, back-to-back with the Living Data 2025 Conference, which will take place on 21-24 October 2025 (this will replace the All-Hands meeting in 2025).
89. In December 2022, COP15 of the Convention on Biological Diversity called upon OBIS to support the monitoring framework of the Kunming-Montreal Global Biodiversity Framework (GBF), which aims to halt biodiversity loss, reduce risks and restore natural ecosystems. Specifically, OBIS is mentioned in complementary indicators for countries to report on Goal D and target 21 (access to data and information). COP16 reconfirmed this and also added OBIS in target 20 (capacity to use data). Of importance is that COP16 recognized OBIS, with GOOS and ODIS as the marine component of a Global Biodiversity Observing System (GBIOS) to support the GBF monitoring framework. OBIS will need to provide robust indicators and guidance for state parties to use OBIS in their national reports. This work will be brought to the OBIS EC for endorsement as a work plan amendment.
90. The OBIS budget request for 2025 and 2026 includes three scenarios (base, medium, and preferred). The major difference between the scenarios is the inclusion of funds for in-person workshops, consultant support, and data training workshops.
91. In conclusion, OBIS has made significant progress in mobilising and sharing marine biodiversity data. The implementation of the new strategic framework, with its focus on data and product coordination and node engagement, is expected to support international frameworks such as the GBF, and further enhance the impact and sustainability of OBIS in the coming years. However, addressing potential risks, such as securing sufficient funding and filling key staff positions, is crucial to ensure continued success. Several new Horizon Europe projects involving the OBIS Secretariat were initiated in 2023-2024, enabling staff growth and retention. The secretariat now has 8 staff members of which 3 are project appointments and 4 are consultants. A second UNESCO regular programme (P3 level) post for OBIS has been created. The vacancy for the OBIS technical and scientific coordinator was posted on 25 January 2024, however the recruitment process for this position is still ongoing (Nov 2024).
92. Proposed: The **IODE Committee expressed its appreciation** to the OBIS community for the significant progress in mobilising and sharing biodiversity data.
93. Proposed: The **IODE Committee welcomed** the OBIS report (IOC/IODE-28/3.4.1.1) and approved the OBIS 2025 work plan.

94. Proposed: The **IODE Committee thanked** OBIS for setting a new priority strategy and management structure to align itself with the new Rules of Procedure for IODE Programme Components and for revising its guidelines for data sharing and use within OBIS to align itself with the new IOC Data Policy and Terms of Use.
95. Proposed: The **IODE Committee welcomed** the closer collaboration with the Global Biodiversity Information Facility (GBIF) which will increase our network and capacity for high-quality data about marine and coastal biodiversity, necessary to support research and decision-making.
96. Proposed: The **IODE Committee welcomed** the mention of OBIS in the CBD's Kunming-Montreal Global Biodiversity Framework (CBD/COP/DEC/15/5), specifically to provide complementary indicators related to joint scientific papers (capacity to use data) and growth in marine species occurrence records (capacity to deliver data) and **requested** that OBIS develops robust indicators and guidelines for State Parties on how to use OBIS in their national reporting to the CBD.
97. Proposed: The **IODE Committee thanked** the IOC Executive Secretary for creating a P-3 regular programme post for the OBIS Technical and Scientific Coordinator, which is a critical position to ensure the continuation and success of OBIS beyond 2024 and **urged** the UNESCO Director General to appoint the selected candidate without further delay.

#### 3.4.1.2 Ocean Data and Information System (ODIS)

98. This agenda item was introduced by **Dr Pier Luigi Buttigieg**, Chair of the SG-ODIS. He referred to Document [IOC/IODE-28/3.4.1.2 \(Ocean Data and Information System \(ODIS\): a plan for the future\)](#).
99. He reported ODIS is a global initiative supported by the IOC/UNESCO to:
- Improve access to marine and coastal data and information
  - Provide an openly accessible online platform to network stakeholders and facilitate the exchange of Ocean data and knowledge
100. The Ocean InfoHub Project (2020 – June 2024) successfully supported the initial development of the Ocean Data and Information System (ODIS), which provides the interoperability layer and supporting technology to allow existing and emerging ocean data and information systems, from any stakeholder, to interoperate with one another. Although we first worked with global IOC partners and three pilot regions (Africa, LAC, PSIDS), we gradually expanded over time so that now ODIS is engaging with over 120 organisations at some level, to enable them to expose their metadata and to join the growing network. ODIS is now a global federation of independent systems that uses common conventions to share and exchange their (meta)data over the Web. ODIS can help any organisation or individual to share their ocean (meta) data, as well as to access a growing ecosystem of Ocean data.
101. OIH/ODIS has supported the three pilot regions in the specific ways they wanted to link to ODIS.
- INVEMAR has a regional node, which links ODIS to datasets from 12 countries in the LAC region as well as regional partners that include CLME+ Training and Capacity Development Portal, The Sargassum Information Hub and the Caribbean Marine Atlas.
  - IOCAfrica has developed three thematic portals that link to ODIS,
  - The Pacific has linked its two existing regional portals to ODIS.
102. Globally, ODIS currently links 50 data sources from 42 partner organisations from around the world. A Global Search portal has been developed as a demonstration of ODIS (<https://oceaninfohub.org>). The portal currently (December 2023) contains over 130,000

content items in seven content categories: (i) Experts (27,000); (ii) Institutions (13,000); (iii) Documents (42,000); (iv) Training (1,500); (v) Vessels (113); (vi) Projects (3,600); and (vii) Datasets (48,000). The Ocean InfoHub Project and ODIS have succeeded in creating a self-sustaining network of partners, but there remains much work to do to widen the collaboration to other regions and nations, build capacity and digital equity in regions with low resourcing, and continually upgrade the capabilities of the network.

103. ODIS offers a long-term solution for any organisation, **including NODCs and ADUs** and new partners to keep ownership and complete control over their data holdings, while choosing which (meta)data to share with a growing global ocean digital ecosystem
104. Mr Buttigieg presented the ODIS Strategic Planning Document (2025-2030) and the proposed revision of the Terms of Reference of ODIS together with the work plan and budget (2025-2026) to be addressed under 8.3.
105. **Proposed: The Committee urged all Member States to participate in the Ocean Data and Information System to increase the visibility of their data holdings to the world, and to enable improved and more efficient access to global Ocean data**
106. **Proposed: The Committee adopted Recommendation IODE-28/3.4.1.2**

### **Recommendation IODE-28/3.4.1.2**

#### **Revision of the Terms of Reference of the Ocean Data and Information System (ODIS)**

The IODE Committee,

Recalling the establishment, by the 31st Session of the IOC Assembly through Annex II to Decision A-31/3.4.2, of the IOC Ocean Data and Information System Project (ODIS),

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

Recognizing the key role that distributed and interoperable data, information, and digitized knowledge resources will have during the UN Decade of Ocean Science for Sustainable Development,

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

Recalling further that the IODE Committee, at its 27th Session, approved the designation of IODE activities as Programme Components, Programme Activities and Projects, considering that this should make IODE activities more attractive to partners for cooperation, and decided to designate ODIS, OBIS and OTGA as Programme Components and to take this into consideration in the work plan and budget 2023-2025,

Noting with appreciation that IODE has:

1. Established the IOC Ocean Data and Information System Catalogue of Sources Project (ODISCat) in 2019;
2. Implemented the Ocean InfoHub project as a three-year project (2020-2023) funded by the Government of Flanders (Kingdom of Belgium) successfully;
3. Successfully interlinked 55 ODIS nodes from 45 partners around the world, with more in progress.
4. Established a Global Search Hub for ODIS content.

5. Supported community co-development of data exchange standards and norms to increase digital inclusion and equity
6. Contributed to the data section of the UN Ocean Decade Implementation Plan (2021), its Data and Information Strategy (2023), the Data and Information Strategy's Implementation Plan (upcoming), and Vision 2030 Whitepaper 8 (2024)

Considering that the rapid growth of the ODIS network as a federation of data systems requires an efficient and agile governance mechanism, focused on co-design, user requirements and community feedback,

Recommends the revision of the ODIS terms of reference as attached in Annex A, the terms of reference of the ODIS Steering Group as attached in Annex B, and establishment of the ODIS Operations Group,

Invites all IOC programmes, IOC regional subsidiary bodies and partner organizations to collaborate in ODIS by sharing their ocean data and information with ODIS,

#### **Annex A to Recommendation IODE-28/3.4.1.2**

##### **Terms of Reference of the IOC Ocean Data and Information System (ODIS)**

Objectives: The objectives of this Programme Component are to:

1. develop the IOC Ocean Data and Information System (ODIS) as a foundational digital ecosystem where users can discover and access data and information products, services, and other assets provided by Member States, projects and other partners associated with IOC;
2. work with partners, linked and not linked to the IOC, to improve the accessibility and interoperability of existing data and information and digital service orchestration across data systems.;
3. promote the collective maturation of the ODIS digital ecosystem towards greater interoperability and seamless, trusted, and secure data and information flows across partner systems (e.g. towards data fabric and data space models).

#### **Annex B to Recommendation IODE-28/3.4.1.2**

##### **Terms of Reference of the IODE Steering Group for the IOC Ocean Data and Information System (ODIS-SG)**

The ODIS-SG will have the following Terms of Reference:

1. In coordination with the ODIS Secretariat, propose a set of strategic priorities for one-, five-, and ten-year time horizons for the ODIS Programme Component, revised each year;
2. Review high-level work plans for the ODIS Programme Component, proposed by the ODIS Operations Group (ODIS-Ops), proposing changes where needed;
3. Advise the ODIS Secretariat and ODIS-Ops on relevant developments in national, regional, global, or sectoral data and information policy, national and international data law and practice which may impact ODIS operations;
4. Propose and, where feasible, facilitate coordination between ODIS Secretariat and new stakeholder or other interest groups;
5. Identify funding sources to further develop ODIS.

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

- A Chair or co-Chairs of the Steering Group (\*);
- Representatives from IOC Programmes;

- Invited Experts, prioritising the coverage of regions, digital capacity levels<sup>[1]</sup>, socio-economic sectors, UN Ocean Decade Programmes, and key groups pursuing, consolidating, or maintaining digital sovereignty;
- Representatives of major interest groups and selected ODIS partners including regional/international organisations developing multi-year / decadal data strategies or with unique insight into strategically relevant issues;
- ODIS programme manager;
- IODE Secretariat;
- A representative from each of the UN Ocean Decade Decade Coordination Offices and Centres

Membership will be for a period of one year (renewable).

(\*) A Chair and Co-Chair of SG-ODIS will be elected at the end of the first meeting (and thereafter annually) by the members of the Group in accordance with the Rules of Procedure for IODE Programme Components, Programme Activities and Projects (IOC Manuals and Guides No. 91).

### **Annex C to Recommendation IODE-28/3.4.1.2**

#### **Terms of reference of the Operations Group for the IOC Ocean Data and Information System (ODIS-Ops)**

The ODIS Operations Group (ODIS-Ops), will comprise a representative from each ODIS Partner maintaining one or more ODIS Nodes<sup>[2]</sup>,.

#### Tasks

The main tasks of ODIS-Ops will be:

1. To ensure the uninterrupted operation of ODIS Nodes by remedying issues identified by the ODIS-SG, ODIS Secretariat or by other ODIS Partners.
2. To promote broader and deeper interoperability between all ODIS Nodes, beginning at metadata / asset catalogues, and progressing to subject data, services, and other capacities as identified;
3. To guide the ODIS Nodes, and ODIS as a whole, in fulfilling the UN Decade of Ocean Science for Sustainable Development's Data and Information Strategy and its Implementation Plan, and - more broadly - addressing its Challenges;
4. To hold monthly meetings (online) not exceeding 60 minutes, distributed across time zones of the Group's members;<sup>[3]</sup>
5. To contribute to, or produce status briefings on, the state of the ODIS Federation (i.e. the collection of ODIS partner organisations) as a whole, and of individual ODIS Nodes, detailing any issues limiting data and information exchange, as well as any opportunities to enhance it;
6. To identify and work to resolve any issues relating to data and information exchange and cross-Federation interoperability, by posting and pursuing issues on the ODIS-Arch GitHub repository<sup>[4]</sup> or another appropriate repository;
7. To make all members of ODIS-Ops aware of regionally, nationally, or locally specific requirements, regulations, or legal frameworks regarding data access and/or exchange which may affect the operations of the ODIS Federation;
8. To identify and describe opportunities for ODIS to provide utility to (potential) user groups and other;
9. To review and regulate the addition, suspension, or removal<sup>[5]</sup> of ODIS Nodes to/from the Federation;
10. To report operational affairs to the ODIS Chair, SG-ODIS and ODIS Secretariat, and consult these for strategic and programmatic guidance.

### Membership

Membership of ODIS-Ops shall initially include:

- ODIS Chair or Co-Chairs (\*)
- ODIS Programme Manager (ODIS Secretariat)
- One technical expert which has been selected by each ODIS Partner operating at least one ODIS Node;
- External experts - in advisory roles - in areas relevant to the activities of the Group;
- Representatives of other IODE programme components and/or IODE programme activities or IODE Projects
- Other, ad hoc members, as agreed by the regular membership

Membership will be for a period of one year (renewable).

(\*) A Chair and Co-Chair of ODIS-Ops will be elected at the end of the first meeting (and thereafter annually) by the members of the Group in accordance with the Rules of Procedure for IODE Programme Components, Programme Activities and Projects (IOC Manuals and Guides No. 91).

---

<sup>[1]</sup> The standing capacity of an entity to participate in digital activities

<sup>[2]</sup> An "ODIS Node" is a data system which provides a machine-to-machine interface to the digital assets each ODIS Partner wishes to share. An ODIS Node 1) has a current and valid registration in the ODIS Catalogue of Sources (ODISCat), 2) provides sufficient metadata in ODISCat for its asset catalogues to be discovered and processed, 3) maintains its asset catalogues in a form which is interoperable across the ODIS Federation, and in compliance to the ODIS Architecture specifications, and 4) provides valid (meta)data and services described by its asset catalogue to other Nodes across the Federation.

<sup>[3]</sup> Where resources allow, ad hoc, in-person meetings may be organised, particularly to more effectively resolve or pursue regional or thematic issues or opportunities.

<sup>[4]</sup> <https://github.com/iodepo/odis-arch>

<sup>[5]</sup> ODIS Nodes may be suspended or removed if they begin producing erroneous, invalid, or poor quality (meta)data, or if their products are incompatible with the ODIS Architecture and interoperability conventions. Nodes may be reinstated as soon as any outstanding issues are resolved and interoperability is verified.

#### 3.4.1.3 OceanTeacher Global Academy (OTGA)

107. This agenda item was introduced by **Ms Carolina Garcia**, Chair of the SG-OTGA. She referred to Document [IOC/IODE-28/3.4.1.3 \(Progress Report Programme Component: OceanTeacher Global Academy \(OTGA\)\)](#).
108. Ms Garcia reported that, during the period 2023-24, OTGA successfully delivered 106 training courses through its network of Regional and Specialized Training Centres (RTC/STC). More than 5,500 learners enrolled in courses which were delivered in English, Spanish, Portuguese and French. Starting in 2023, OTGA introduced self-paced instruction whereby learners progress through the material at their own speed and on their own schedule. The introduction of self-paced training has contributed to increased accessibility resulting in nearly 3,000 enrolments in self-paced courses during this period.
109. OTGA directly contributed 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, including the Tsunami Resilience, Ocean Literacy, Harmful Algal Bloom programme, IODE, MSP, Ocean Sciences and the Ocean Decade, amongst others. OTGA is an endorsed Ocean Decade Action and is hosting Ocean Decade courses on Co-design and Indigenous and local knowledge (ILK). In the context of the Ocean Decade, Ms. Garcia highlighted the collaborative action with: (i) the DCU to sponsor the development of course in Indigenous and Local Knowledge; (ii) the Decade Capacity



Development Facility project (CDF) to develop a training in Co-design; and (iii) the DCC for Coastal Resilience to develop a course focused on business sustainability; and (iv) the ECOPs network courses that focused on the young community. Likewise, many other OTGA courses target challenges of the Decade, and in 2024, the OTGA secretariat built a Competency Framework to monitor this connection link to the e-Learning Platform.

110. OTGA has collaborated with UN Agencies, other intergovernmental organizations, and international programmes in the co-organization of various types of training and use of its e-learning platform.
111. Ms Garcia noted that the OTGA secretariat worked closely with IOC CD secretariat and RSB officers to provide information for the needs and priorities assessment and match-making exercise in support of the regions. For this biennium, OTGA and IOCAFRICA (and other partners) co-developed one blended training held in Kenya. IOCAFRICA also co-sponsored travel grants for ECOPs to attend training in Malta. Plans for a joint course in eDNA with IOCAFRICA and OBIS is under discussion for the next years. Increased involvement from the IOC RSBs ensures the capacity development needs of the regions are being met.
112. The host of OTGA, the UNESCO-IOC Project Office for IODE, is certified as an ISO Learning Services Provider for learning services outside formal education and was successfully audited in April 2024.
113. She further reported that Dr Ana Carolina Mazzuco joined the IODE Project Office as IODE Training Coordinator and OTGA Project Coordinator in June 2023.
114. The fourth session of the Steering Group for the OceanTeacher Global Academy took place online between 11-13 June 2024. The Group reviewed the activities for 2023-24 and the OTGA work plan for 2024-25 and the future of the programme component was discussed. The Steering Group elected Ms Filomena Martins (RTC Portugal) and Ms Carolina Garcia (RTC Colombia) as SG Co-Chairs for the next intersessional period.
115. In 2024, OTGA was granted an extension of the ongoing extra-budgetary funds from UNESCO IOC FUST (Government of Flanders, Kingdom of Belgium) to support training activities until the end of 2024. OTGA has successfully mobilized additional extra-budgetary funds including GEF/UNDP Small Grants Program to support marine litter training and monitoring in Cape Verde, the European Union Horizon Europe Blue Cloud project to develop the online training component for the Blue Cloud Training Academy, and the UNESCO IOC NORAD FUND OceanTraining Internship Program to support on-site and online training courses on ocean best practices in the Caribbean. Other extra budgetary funds were mobilized by affiliated partners to develop courses jointly, which includes the OD DCC-Coastal Resilience to develop a trainings series for different stakeholders (first focused on business), the UNESCO MAB/MangRes project to develop Massive Open Online Courses (MOOC) trainings in mangrove restoration, and the UNESCO-IOC/European Commission DGMARE MSPglobal project to develop self-paced trainings in marine spatial planning.
116. She informed the Committee that in the past 10 years, OTGA has mainly relied on extra-budgetary funds from the Government of Flanders (FUST-2). The OTGA Secretariat budgeted the operation and further development of the training programme and associated network for the next 5 years, following the approved 2026-2030 vision, reaching an estimate of USD 5,000,000. For 2025 to 2027, OTGA has requested USD 150,000 /year from the Regular Programme, to secure core services (management of training courses, e-learning platform, travel grants, and development of new learning materials). Programme component coordination and IT are guaranteed until 2026 from Flanders/VLIZ staff secondment. Throughout 2024, OTGA has participated in calls for project proposals, engaged with collaborators, and met with potential donors for resource mobilization. Although no core extra-budgetary funding has been secured to cover the full training programme, funding has been confirmed for specific training activities.

117. Proposed: **The Committee acknowledged** OTGA for the successful achievements with its training and capacity development activities.
118. **The Committee recommended** that the OTGA Steering Group should develop a Resource Mobilization Strategy and take action to its implementation.

#### 3.4.2 IODE Programme Activities

119. This agenda item was introduced by **Ms Lotta Fyrberg**, IODE Co-Chair. She recalled that AquaDocs, GODAR, GOSUD, GTSP, ICAN, IQuOD, OBPS, OceanExpert, ODISCat, QMF and WOD had been designated as Programme Activities under the Programme Component ODIS. She informed the committee that all reports of programme activities were compiled by Mr Greg Reed into Document [IOC/IODE-28/3.4.2 \(IODÉ Programme Activities: Progress Reports 2023-2024\)](#).
120. **Ms Lotta Fyrberg**, IODE Co-Chair invited Chairs of Programme Activity steering groups to briefly address the Committee to address specific issues or concerns related to their programme activities that require consideration by the Committee, a decision or formal recommendation.

##### 3.4.2.1. AquaDocs

121. **Ms Jennifer Walton**, SG-AquaDocs Co-Chair informed the Committee that AquaDocs is the joint open access repository of the [UNESCO/IOC International Oceanographic Data and Information Exchange \(IODE\)](#) and the [International Association of Aquatic and Marine Science Libraries and Information Centers \(IAMSLIC\)](#) with support from the [FAO Aquatic Sciences and Fisheries Abstracts \(ASFA\)](#).
122. AquaDocs contains almost 37,000 publications covering the natural marine, coastal, estuarine/brackish and freshwater environments, and was created by merging content from two repositories (OceanDocs and Aquatic Commons). AquaDocs serves as a repository for more than 130 organizations and projects to make aquatic and marine science information Findable, Accessible, Interoperable, Reusable (FAIR). Since its launch on August 17, 2021, the repository has grown by more than 1700 publications and added 14 new communities.
123. Of significance to IOC and IODE were the completion of the ASFA Trust Fund project to deposit 200 items of IOC historic grey literature, and the selection of AquaDocs as the repository for the UN Decade of Ocean Science for Sustainability - 10 Challenges. The focus in 2024 for the project managers and others on the Steering Group was to migrate AquaDocs to a new hosting platform with DSquare Technologies resulting in significant cost savings for IODE. The first phase of the migration was completed in January 2025.
124. Ms Walton outlined the benefits of partnership with AquaDocs:
- IAMSLIC members manage the AquaDocs project. Experienced information professionals volunteer hundreds of hours of their time to manage the project, operate the repository, onboard new depositors, provide training and promotion, curate records, and contribute content.
  - IODE funds the hosting of the repository with an external DSpace-certified vendor. External hosting offers a robust, streamlined interface with *dedicated* technical support. In addition, the IODE Project Office offers technical advice to the AquaDocs Steering Group, and administrative support for contract renewal.
  - ASFA supports AquaDocs in two key ways to increase the visibility of aquatic publications: 1) by harvesting records from AquaDocs to include in the OpenASFA search interface; 2) by supporting organizations to digitize grey literature and deposit into AquaDocs.
125. She identified the benefits to IODE are:

- AquaDocs offers persistent identifiers called Handles (similar to DOIs) which simplifies citing and linking to documents, and ensures access if the IODE website or OceanExpert are re-developed.
- AquaDocs serves as a repository for other oceanographic projects and organizations. Examples include the Partnership for Observation of the Global Ocean (POGO) and Scientific Committee on Oceanic Research (SCOR). In addition, other emerging IOC programmes/products (e.g. Harmful Algal Information System) could link to specific documents already available in AquaDocs.
- AquaDocs is part of the ODIS/OIH ecosystem which increases discoverability of IOC and global marine and aquatic documents.

126. She identified the benefits of external hosting as:

- IT support needed from IODE project office is minimal
- Full-solution with additional features not available in standard Dspace installation (e.g. user export of results, harvesting, statistics module, content management tools with WYSIWYG editors for static pages and FAQs)
- Support guaranteed within an agreed time
- No network security risks
- Consistent maintenance
- Contract can be terminated and content exported back to the self-hosting model.

127. Ms Walton then introduced the proposed work plan and budget that will be discussed under Agenda Item 8.1.

128. Proposed: **The Committee expressed its appreciation** for the progress made by AquaDocs and **decided** to continue this Programme Activity.

129. Proposed: **The Committee instructed** all IODE projects and **invited** Member States to contribute research and informational documents to AquaDocs.

130. Proposed: **The Committee invited** institutions and organizations with limited capacity to host their own repository to use AquaDocs.

#### 3.4.2.2. Global Oceanographic Data Archaeology and Rescue (GODAR)

131. **Dr Hernan Garcia**, GODAR Project Leader, reported that the IODE Global Oceanographic Data Archaeology and Rescue (GODAR) Programme Activity is tasked to identify historic ocean profile data which are not readily available publicly and may be in danger of disappearing from the public record, and adding it to the World Ocean Database (WOD) for preservation and open public access. Historic in this context means any oceanographic data taken more than five years from the present date. GODAR added historic oceanographic profile casts to the WOD over the last two years. GODAR expects to continue and expand communications with oceanographic data centres worldwide to increase data access including the World Data Service for Oceanography. IODE is urged to continue to facilitate this communication and continue to remind member states of the great need to share historic data in danger of obsolescence to the WOD for sustained open availability. GODAR will continue to devote resources to this digitization effort and to work closely with atmospheric and marine meteorological data rescue efforts. GODAR plans include working through the IODE Secretariat to assess and prioritize global ocean science-based data digitization needs

132. Dr Garcia then introduced the proposed work plan and budget that will be discussed under Agenda Item 8.1.

133. Proposed: **The Committee noted with appreciation** the progress made by GODAR and **decided** that Programme Activity should be continued

### 3.4.2.3. Underway Sea Surface Salinity Data Archiving Project (GOSUD)

134. **Mr Ludovic Drouineau**, GOSUD Programme Activity Lead was unable to attend. On his behalf, **XXXX** reported that the main objective of GOSUD (Global Ocean Surface Underway Data Project) is to collect, process, archive and disseminate in real time and delayed mode, sea surface salinity and other variables collected underway, by research and opportunity ships. He recalled that IODE-27 had adopted Decision IODE-27/3.3.1.3 renaming GOSUD to the Underway Sea Surface Data Archiving Project but continuing the acronym GOSUD.
135. ...[REPORT]
136. **XXXX** then introduced the proposed work plan and budget that will be discussed under Agenda Item 8.1.
137. It was noted that the word “Project” in the title could cause confusion as GOSUD is no longer a Project but a Programme Activity.
138. Proposed: **The Committee decided** to rename GOSUD to “Underway Sea Surface Salinity Data Archiving Programme Activity” (GOSUD).
139. Proposed: **The Committee expressed its appreciation** for the progress made by GOSUD and **decided** to continue this Programme Activity.

### 3.4.2.4. Global Temperature-Salinity Profile Program (GTSP)

140. **Mr Christopher Paver**, Chair of the SG-GTSP, reported that the mission of GTSP is to acquire, synthesize, and generate data products for near-real time and delayed mode (i.e. science quality) water temperature and salinity profiles. The main sources of the data are the Global Telecommunications System (GTS) mostly for near real time data and directly from contributing SOT SOOP regional Data Assembly Centers (DACs) for delayed mode data. US NOAA/NCEI continues to maintain the synthesized profile database and generate operational Real Time and Best Copy data products. Canada DFO continues to acquire data from the GTS and process for submission to US NOAA/NCEI. The regional DACs (i.e. US NOAA/AOML, University of California San Diego - SCRIPPS, Australia CSIRO and Bureau of Meteorology) continue to submit delayed mode data to US NOAA/NCEI. The Japan Meteorological Agency (JMA) manages the GTSP Data Product Centre for the North Pacific Ocean.
141. The products and services provided as part of GTSP are used by many downstream data products and research initiatives, to include those as part of IODE and beyond to support climate studies, physical processes modeling, and refinement of quality control techniques. Without this program, the scientific community and operational systems would face severe setbacks, both in terms of resource demands and the loss of reliable, synthesized ocean profile datasets. This underscores the critical importance of sustaining GTSP to support global ocean monitoring and research efforts. Although GTSP continues to operate under reduced staffing in some partner organizations, the program continues to address gaps in data as it relates to end user products by developing pathways to GTSP for real time and delayed mode data. The program is looking into parallel data streams for real time GTS data from GOOS, and reestablishing pipelines with the French Institute for Ocean Science (IFREMER) and Canadian Department of Fisheries and Oceans (DFO) to acquire delayed mode data. GTSP will also start to develop a new pipeline for delayed mode expendable bathythermograph (XBT) data with the Italian National Institute of Geophysics and Volcanology (INGV). As GTSP moves database and product management into the cloud in the coming years as part of the US NOAA/NCEI initiative to be 100% cloud based, the program will solicit stakeholders for potential development projects to enable more cloud native and FAIR compliant data products. As part of these activities, GTSP requests funding to participate in joint meetings with other IOC programs and stakeholders to coordinate data management activities and product development.

142. Mr Paver then introduced the proposed work plan and budget that will be discussed under Agenda Item 8.1.
143. It was noted that the word “Program” in the title could cause confusion as GTSP is not a Programme but a Programme Activity.
144. Proposed: **The Committee decided** to rename GTSP to “Global Temperature-Salinity Profile Programme Activity” (GTSP).
145. Proposed: **The Committee expressed its appreciation** for the progress made by GTSP and **decided** to continue this Programme Activity.

#### 3.4.2.5. International Coastal Atlas Network (ICAN)

146. **Ms Tanya Haddad** (co-chair of the ICAN Steering Group) reported that during the intersessional period (May 2023 to November 2024) ICAN successfully hosted multiple summer scholars in continued partnership with Oregon Sea Grant. Scholars assisted the network in continued activities in support of members and priority projects. Accomplishments included the re-launch of the African Coastal and Marine Atlas project on a new and improved GeoNode platform, and the migration of ACMA data archives into the new system. Additionally, ICAN member presentations were migrated into a new YouTube channel and organised into language specific playlists. An additional scholar produced an updated and georeferenced inventory of projects, including several story maps and a collection of annotations highlighting project connections to the Ocean Decade Challenges. Further updates to the African Coastal and Marine Atlas included recruitment and enrolment of many new data contributors, and the preparation and delivery of an on-site training workshop titled “Training on the Implementation of FAIR Principles to African Marine and Coastal Data” in Mombasa Kenya. A final activity (online webinar) was delayed until 2025, and is still under development.
147. Ms Haddad then introduced the proposed work plan and budget that will be discussed under Agenda Item 8.1.
148. Proposed: **The Committee expressed its appreciation** for the progress made by ICAN and **decided** to continue this Programme Activity.

#### 3.4.2.6. International Quality Controlled Ocean Database (IQuOD)

149. **Dr Gael Forget** IQuOD Co-Chair, reported that through the coordination of resources and expertise into a single best practice international community effort, the IQuOD project aims to produce, freely distribute and curate the highest quality, most complete and consistent global ocean subsurface temperature profile repository for Earth system, climate and ocean studies, with (intelligent) metadata and an uncertainty estimate for every observation.
150. IQuOD aims to produce, freely distribute and curate the highest quality, most complete and consistent global ocean subsurface temperature profile repository for Earth system, climate and ocean studies. IQuOD has published version 0.1 of the dataset which contains IQuOD uncertainty assignments for each individual measurement. The dataset is hosted through World Ocean Database. Recently, IQuOD developed a publicly available duplicate check algorithm and benchmark dataset to effectively identify duplicates in ocean databases (doi: 10.3389/fmars.2024.1403175), and a new bias correction algorithm for CTD data obtained from mammal mounted CTDs (<https://doi.org/10.1175/JTECH-D-23-0081.1>). Ongoing interactions and collaborations have been established between IQuOD, GTSP, ODIS, XBT Science, reanalysis community members and the SOOPIP at a joint meeting hosted by INGV in Bologna, Italy in November, 2024. The outcomes of the meeting will be published in the IQuOD repository on Aquadocs. In the coming two years, IQuOD will continue to maintain collaborations with these groups and establish new collaborations. IQuOD will release the next version of the database with Automatic Quality Control flags attached (as described in <https://doi.org/10.3389/fmars.2022.1075510>), and any improvements in uncertainty estimates, metadata and bias corrections.

151. Dr Forget then introduced the proposed work plan and budget that will be discussed under Agenda Item 8.1.

152. Proposed: **The Committee noted with appreciation the progress made by IQuOD and decided to continue this Programme Activity.**

#### 3.4.2.7. OBPS (IODE/GOOS)

153. **Dr Cristian Muñoz Mas** (OBPS Co-Chair) reported that OBPS (IODE/GOOS Ocean Best Practices System) recently convened its sixth annual Steering Group meeting (SG-OBPS-VI), in Paris, France, from November 12–14, 2024. The meeting provided an opportunity to assess the progress of work packages, evaluate the implementation of the 2024 work plan, and discuss future developments for the OBPS repository. The meeting emphasized several technical priorities, including upgrading the DSpace software and reconfiguring analytics, to ensure the system remains operational and effective. Efforts to evaluate repository content were also a major focus. These included the implementation of a robust review process to ensure only relevant content is retained. A robust review process is being implemented to remove any materials that do not align with these updated criteria. The role of endorsing entities in managing best practices was also extensively discussed, and the need for a rigorous endorsing review process. This year, an Advisory Board was established, whose recommendations were reviewed and discussed. They emphasized the importance of stakeholder engagement with regional and funding organizations, and the need for trust-building mechanisms to strengthen OBPS.

154. A comprehensive roadmap and implementation plan were identified as top priorities, supported by the adoption of a biennial review cycle for strategic alignment. One of the most notable strategic discussions centered on expanding OBPS's role within IOC mandates to maximize impact across the ocean value chain. The group proposed adopting a "federation model," which would integrate IOC Programmes and Regional Sub-Commissions. This model aims to enhance global representation, establish a structured governance framework across the IOC. The session concluded with plans to finalize terms of reference and steering group membership.

155. Dr Muñoz then introduced the proposed work plan and budget that will be discussed under Agenda Item 8.1.

156. Proposed: **The Committee expressed its appreciation for the progress made by OBPS and decided to continue this Programme Activity.**

157. Proposed: **The Committee urged the IODE community to further document their methodologies and best practices and share them in the Ocean Best Practices System.**

#### 3.4.2.8. ODIS Catalogue of Sources (ODISCat)

158. **Ms Lucy Scott**, ODIS Programme Activity Manager, reported that the ODIS Catalogue of Sources (ODISCat) (<https://catalogue.odis.org>) is an annotated catalogue of online resources serving ocean-related data and information products, currently containing over 3100 records. She noted that Mr Arno Lambert has continued the maintenance of the ODISCat software application during the past inter-sessional period.

159. ODISCat and ODIS have always been closely linked, but now they are integrated. The ODISCat record is now the source for the institutional partners' links to ODIS, enabling an automated indexing of metadata records. Partners have ownership of their ODISCat record, which they keep updated. Their sitemap is included in this ODISCat record, which enables the automated discovery of their metadata.

160. Proposed: **The Committee instructed NODCs and ADUs create or update their ODISCat record/s which firstly ensures the visibility of their institution to the world, and secondly, is the first step to joining ODIS.**

161. Ms Scott then introduced the proposed work plan and budget that will be discussed under Agenda Item 8.1.

162. Proposed: **The Committee expressed its appreciation** for the progress made by ODISCat and **decided** to continue this Programme Activity.

#### 3.4.2.9. OceanExpert

163. **Ms Sofie de Baenst**, OceanExpert Programme Activity Lead, explained that OceanExpert continues to be used by many IOC programmes and partners. The OE team (2 people working 20-25% of their staff time – in kind) are working on improving the database and user interface responding to evolving security requirements as well as user feedback, taking care of quality control, handling requests and updates by the end-users (the number of experts keeps on growing in the directory). More IOC websites are using OceanExpert content (people, organizations, events, documents) through the single sign-on system. In 2023 some IOC websites will be updated, where the API connection will need to be reintegrated and tested. The registration process of new users is rewritten and is currently developed and tested on the test website of OceanExpert. Once final, this will be updated to the live OceanExpert website.

164. Ms De Baenst then introduced the proposed work plan and budget that will be discussed under Agenda Item 8.1.

165. Proposed: **The Committee expressed its appreciation** for the progress made by OceanExpert and **decided** to continue this Programme Activity.

#### 3.4.2.10. IODE Quality Management Framework (QMF)

166. **Mr Greg Reed**, SG-QMF Chair, reported the main objectives of the IODE-QMF Programme Activity are to (i) provide the overall strategy, advice and guidance to NODCs /ADUs to establish organizational quality management systems for the delivery of oceanographic and related data, products and services, (ii) initiate and review existing standards and Manuals and Guides with respect to the inclusion of quality management procedures and practices, and (iii) apply the necessary capacity development activities to ensure accreditation of NODCs/ADUs according to agreed criteria in order to bring all NODCs/ADUs to a minimum agreed level

167. During the intersessional period,

- Three applications seeking accreditation as an NODC were received. These were from the Norwegian Marine Data Centre (NMD), the Italian National Oceanographic Data Centre (hosted at the National Institute of Oceanography and Applied Geophysics - OGS) and the Australian Ocean Data Network (AODN). All applications were reviewed by the SG-QMF which recommended the NODCs be awarded the status of Accredited IODE National Oceanographic Data Centre.
- One application was received from the Ocean Tracking Network (OTN) seeking accreditation as an ADU. This was reviewed by the SG-QMF which recommended OTN be awarded the status of Accredited IODE Associate Data Unit.
- One application was received from the British Oceanographic Data Centre (BODC) seeking re-accreditation as an NODC. This was reviewed by the SG-QMF which recommended BODC retaining accredited NODC status.

168. The IODE/OTGA Quality Management System Essentials for NODCs and ADUs training course was delivered onsite from 16-18 January 2024 and 16 participants representing 11 NODCs and ADUs successfully completed the course. Trainers from the UK, Norway, Ireland and Australia provided instruction for the course.

169. Mr Reed reported that there is a need for Quality Management training delivered in Spanish and requests for training have been received. Any Accredited NODC or ADU that would

like to contribute to a QMF training course in Spanish should contact the IODE Training Coordinator, Ms Ana Carolina Mazzuco.

170. The Steering Group reviewed and revised the IODE Quality Management Framework for National Oceanographic Data Centres and Associate Data Units (IOC Manuals and Guides 67) and the revised edition was published October 2023.
171. IODE-XXVII approved changes to the IODE accreditation process to include certification by CTS as meeting the requirements for IODE accreditation. Any NODC or ADU which has been certified by CTS will be awarded the status of Accredited IODE National Oceanographic Data Centre or Accredited IODE Associate Data Unit provided they can show evidence of (i) providing national reports to the IODE Committee and (ii) adherence to IODE Standards and Best Practice. The SG-QMF has reviewed these requirements and **recommends an additional requirement for CTS certified data centres to be included (iii) adherence to the IOC Data Policy and Terms of Use (2023).**
172. Mr Reed advised the Committee that he is stepping down from the Steering Group.
173. Mr Reed then introduced the proposed work plan and budget that will be discussed under Agenda Item 8.1.

174. Proposed: **The Committee expressed its appreciation for the progress made by the IODE QMF and decided to continue this Programme Activity.**

175. Proposed: **The Committee instructed the SG-QMF to revise the IOC Manuals and Guides 67, IODE Quality Management Framework for National Oceanographic Data Centres and Associate Data Units, to include the additional accreditation requirement for CTS certified centres.**

#### 3.4.2.11 World Ocean Database (WOD)

176. **Mr Tim Boyer**, WOD Programme Activity Lead, reported...

177. **. ...[... to be added in version 2]**

178. Proposed: **The Committee expressed its appreciation for the progress made by WOD and decided to continue this Programme Activity.**

#### 3.4.3 IODE Projects

179. This agenda item was introduced by **Ms Lotta Fyrberg**, IODE Co-Chair. She noted that IODE Projects, as defined in their definition, are fully dependent on extra-budgetary funding and have their own work plan, budget and evaluation procedures. Reporting on these activities is therefore intended for information only. Reports are available from the IODE-28 web pages under agenda items 3.4.3.1 to 3.4.3.10.

180. Proposed: **The Committee ...[to be added in version 2]**

#### 3.4.4 Implementation report of revised Rules of procedure for IODE activities

181. This agenda item was introduced by **Dr Paula Sierra-Correa**, IODE Co-Chair. She recalled that the new Rules of Procedure were published as [IOC Manuals and Guides No. 91](#) (Rules of Procedure for IODE Programme Components, Programme Activities and Projects).

182. She recalled that the Management Group, at its February 2024 meeting had agreed that all Programme Components and Programme Activities should prepare documentation for IODE-28 detailing how the new Rules of Procedure have been adopted in their management structure. The IODE Secretariat had invited all Programme Components and Programme Activities had been invited to submit a brief report on this matter. She informed the Committee that only OBIS had reported on progress on this agenda item.

183. **Ms Katherine Tattersall** (SG-OBIS Co-Chair) reported that OBIS established an Intersessional Working Group (IWG-OBIS-Structure) to propose a new OBIS management structure aligned with the new IODE rules and procedures. The IWG-OBIS-Structure



reviewed and updated the Terms of Reference (TORs) for several components of its management structure, including the IODE Steering Group for OBIS (SG-OBIS), the SG-OBIS Co-Chairs, OBIS nodes and the OBIS Executive Committee. In addition, ToRs were created for three new Coordination Groups (Nodes, Data and Products) to guide and support Priority Area 1: Data Mobilization and Priority Area 2: Data Application. The three OBIS coordination groups are replacing the various OBIS task teams and project teams. This new OBIS management structure was adopted by the 12<sup>th</sup> session of the IODE Steering Group for OBIS (March 2024).

184. Proposed: **The Committee expressed its appreciation to OBIS for the progress made but expressed regret that no other IODE programme component or programme activities had indicated any progress.**

3.4.5 Report of the inter-sessional working group on the review of IODE structure and working methods

185. This agenda item was introduced by **Dr Paula Sierra-Correa**, IODE Co-Chair. Dr Sierra-Correa recalled that IODE-27 had established the inter-sessional working group on the review of IODE structure and working methods through Decision IODE-27/9.1. Its objectives were to:

- (i) Review IODE structure and working methods and evaluate for efficacy and efficiency;
- (ii) Develop, if necessary, a proposal of required measures to adjust programme structure and working methods; and
- (iii) Submit its final report including a draft proposal to IODE-XXVIII.

186. Its membership included Mr Ariel Troisi, Mr Sergey Belov, Mr Taco de Bruin, Mr Francisco Arias, Ms Lotta Fyrberg, Ms Paula Sierra, Mr Kimmo Tikka, Mr Lennert Tyberghein, Mr Michael Linthon, Mr Jonathan Pye, Ms Sun Miao, Ms Fangfang Wan, Mr Marc Taconet, Mr Jan-Bart Calewaert, Mr Joon-Soo Lee, Mr Sheldon Carter, Mr Patrick Gorrington, Mr Mortaza Tavakoli and Mr Hernan Garcia.

187. Dr Sierra-Correa recalled that, regarding (i) above (IODÉ structure), IODE-27 had discussed the structural elements of the IODE programme under agenda item 3.3.3 and had approved the designation of IODE activities as Programme Components, Programme Activities and Projects, considering that this should make IODE activities more attractive to partners for cooperation. IODE-XXVII had decided to designate ODIS, OBIS and OTGA as Programme Components and to take this into consideration in the work plan and budget 2023-2025.

188. IODE-27 had further instructed the IODE Management Group to (i) further clarify and finetune the naming definitions; (ii) propose the designation of all other IODE activities; and (iii) propose procedures to guide applications for new components, activities and projects, and submit these to the 28th Session of the IODE Committee in 2025.

189. The IODE Management Group had an *ad hoc* meeting on 1 September 2023 and had completed the task “further clarify and finetune naming definitions” but had identified several issues that required further discussion. The Management Group decided to continue its work to “propose procedures to guide applications for new Components, Activities and Projects, and submit these to the 28th Session of the IODE Committee in 2025.” through ad hoc meetings and complete its work by December 2024

190. Regarding (i) above (working methods) she noted that new Rules of Procedure for IODE Programme Components, Programme Activities had been published as IOC Manuals and Guides No. 91 (<https://oceanexpert.org/document/32232>). In addition a revision of the IODE Quality Management Framework for National Oceanographic Data Centres and Associate Data Units (2nd Revised edition) had been published as IOC Manuals and Guides 67 rev. 2 (<https://oceanexpert.org/document/33321>)

191. Dr Sierra-Correa informed the Committee that the inter-sessional working group had met online on XXXX 2024 and discussed any follow up required on Decision IODE-27/9.1 taking into consideration the actions taken by the IODE Management Group including the publication of several relevant documents.
192. Proposed: **The Committee noted** with satisfaction the actions taken related to IODE structure and working methods.
193. Proposed: **The Committee tasked** the Management Group to monitor the implementation of the new structure and to identify any issues that need attention.

#### 3.4.5.1. Future of the IODE Associate Information Units (AIUs)

194. This agenda item was introduced by **Dr Paula Sierra-Correa**, IODE Co-Chair. She recalled that the creation of AIUs as a structural element had been recommended by the former IODE Group of Experts on Marine Information Management (GE-MIM) and was adopted through Recommendation IODE-XXIV.5 in 2017. The intention was to create a global network of marine libraries. The IODE Committee repeatedly invited Member States to establish AIUs. In addition, the IAMSLIC (International Association of Aquatic and Marine Science Libraries and Information Centers) was also urged to promote membership on an AIU network among its members. Despite repeated invitations only 6 libraries registered (see <https://oceanexpert.org/group/423>). Few participated in IODE Sessions as AIU.
195. Dr Sierra-Correa therefore invited the Committee to consider whether the AIU should remain as a structural element of IODE. Instead, IODE could consider promoting the development of a “marine librarian” community through AquaDocs. AquaDocs already has an extensive group of library experts that submit documents to the AquaDocs repository. They could be organized into a community mailing list
196. Proposed: **The Committee**, considering the limited membership of marine libraries as AIUs, **decided** to abolish AIUs as structural elements of IODE
197. Proposed: **The Committee instructed** the AquaDocs Programme Activity to create a community of practice mailing list composed of all AquaDocs document submitters.

### 3.5 PROGRESS REPORT ON THE IODE QUALITY MANAGEMENT FRAMEWORK

198. See 3.4.2.10.

### 3.6 PROGRESS REPORTS OF JOINT ACTIVITIES WITH IOC PROGRAMMES AND OTHER PARTNERS

#### 3.6.1 IOC Ocean Science

199. This agenda item was introduced by **Ms Kirsten Isensee**. He/she referred to Document [IOC/IODE-28/3.6.1 \(Joint activities with Ocean Science Programme\)](#). She noted that the report covered cooperation on:
- Harmful Algal Information System (HAIS)
  - Global Ocean Oxygen Database and Atlas(GO<sub>2</sub>DAT)
  - Cooperation with IOC Ocean Science Section in SDG 14.3.1 data portal
  - Support to the Global Ocean Science Report (GOSR)
  - Support to the State of the Ocean Report (StOR)
200. She noted that the request to the IODE Committee concerned mainly in-kind staff time to assist with further development and maintenance of online services related to the 5 activities listed above. One request concerned a small financial contribution.

3.6.2 Global Ocean Observing System (GOOS)

201. **Ms Joanna Post**, Head OOS, reported that ...[to be added in version 2]

202. Proposed: **The Committee.**

3.6.3 Tsunami Warning and Mitigation Systems and the IOC Tsunami Information Systems

203. **Mr Bernardo Aliaga**, Head TSR reported ... to be added in version 2]

204. Proposed: **The Committee.**

3.6.4 Marine Policy and Regions

205. **Mr Julian Barbière**, Head MPR, informed the Committee that... to be added in version 2]

206. Proposed: **The Committee.**

3.6.5 IOC sub-commission for Africa and the Adjacent Island States (IOCAFRICA)

207. This agenda item was introduced by **Mr Ibukun Adewumi**. He reported... to be added in version 2]

208. Proposed: **The Committee ...**

3.6.6 IOC sub-commission for the Caribbean and Adjacent Regions (iOCARIBE)

209. This agenda item was introduced by **Ms Lorna Inniss**. She reported to be added in version 2]

210. Proposed: **The Committee ...**

3.6.7 IOC Sub-Commission for the Central Indian Ocean (IOCINDIO)

211. This agenda item was introduced by **Mr Julian Barbieri**. He reported to be added in version 2]

212. Proposed: **The Committee ...**

3.6.8 IOC Sub-Commission for the Western Pacific (WESTPAC)

213. This agenda item was introduced by **Ms Lotta Fyrberg**. She reported to be added in version 2]

214. Proposed: **The Committee ...**

3.6.9 ISC World Data System (WDS)

215. This agenda item was introduced by **Ms Lotta Fyrberg**. She reported to be added in version 2]

216. Proposed: **The Committee ...**

3.6.10 Aquatic Sciences and Fisheries Abstracts - ASFA (FAO)

217. This agenda item was introduced by **xxx**. He/she reported to be added in version 2]

218. Proposed: **The Committee ...**

3.6.11 International Association of Aquatic and Marine Science Libraries and Information Centers (IAMSLIC)

219. This agenda item was introduced by **xxx**. He/she reported to be added in version 2]

220. Proposed: **The Committee ...**

### 3.6.12 Joint WMO-IOC Collaborative Board (JCB)

221. This agenda item was introduced by **Ms Lotta Fyrberg**. She reported [to be added in version 2]

222. Proposed: **The Committee ...**

### 3.6.13 European Commission

223. This agenda item was introduced by **Mr Ward Appeltans**. He reported that in addition to the four EU projects announced at IODE-27, the IODE secretariat (through OBIS) as well as the GOOS secretariat now also participates in a 5th EU project under the Mission Climate, Cluster 6 Biodiversity and ecosystem services: HORIZON-CL6-2023-CLIMATE-01-8: Closing the research gaps on Essential Ocean Variables (EOVs) in support of global assessments:

- Project: Co-Creating Transformative Pathways to Biological and Ecosystem Ocean Observations (BioEcoOcean)

224. Proposed: **The Committee ...**

### 3.6.14 Cooperation of IODE in the Ocean Decade

225. This topic is covered under agenda item 6.1.

## 3.7 OUTCOME OF THE “3<sup>rd</sup> INTERNATIONAL OCEAN DATA CONFERENCE” (2025)

226. This agenda item was introduced by **Dr Paula Sierra-Correa**. [to be added after the Session]

227. Proposed: **The Committee ...**

## 3.8 REPORTING ON THE IMPLEMENTATION OF THE IOC STRATEGIC PLAN FOR OCEAN DATA AND INFORMATION MANAGEMENT (2023-2029)

228. This agenda item was introduced by **Dr Paula Sierra-Correa**. She referred to [IOC Manuals and Guides No. 92 \(IOC Strategic Plan for Ocean Data and Information Management \(2023–2029\)\)](#). She recalled that the Strategic Plan had been adopted by the 32nd Session of the IOC Assembly as element II of IOC Decision A-32/3.4.2 (International Oceanographic Data and Information Exchange)

229. [to be added in version 2]

230. Proposed: **The Committee ...**

## 3.9 IMPLEMENTATION REPORT OF THE IOC DATA POLICY AND TERMS OF USE (2023)

231. This agenda item was introduced by **Mr Greg Reed**. He recalled that the IOC Data Policy and Terms of Use was adopted by the 32nd Session of the IOC Assembly (2023) and can be found on <https://iode.org/resources/ioc-data-policy-and-terms-of-use-2023/>

232. Mr Reed reported that the 2023-2024 survey revealed that implementation of the Policy had been part of the survey discussed under agenda item 3.3.2. The % that reported using the IOC data policy is increasing slowly over the 3 reporting periods, from 65.7% (2019-2020), 66.22% (2021-2022) to 67.8% (2023-2024). 76% of respondents reported that their organization has its own data policy.

233. Proposed: **The Committee noted** the importance of the IOC Data Policy and Terms of Use (2023) and **called** on Member States to use the policy as a basis for national policies on oceanographic data exchange and to ensure maximum compliance with the policy.

## 4. IODE CAPACITY DEVELOPMENT: CONTRIBUTIONS OF IODE TO THE IMPLEMENTATION OF THE IOC CAPACITY DEVELOPMENT STRATEGY (2023-2030)

### 4.1 OCEANTEACHER GLOBAL ACADEMY

234. This agenda item was introduced by **Dr Ana Carolina Mazzuco** (OTGA Programme Component Manager).
235. Dr Mazzuco highlighted that OTGA and its network of Regional and Specialized Training Centres (RTC/STCS) and affiliated partners have remained committed to supporting training needs and priorities of the IOC Programmes and regions. A full report is detailed in 3.4.1.3 OTGA Programme Component.

### 4.2 IODE MENTORING

236. This agenda item was introduced by **Dr Ana Carolina Mazzuco** (OTGA Programme Component Manager). She referred to [Document IOC/IODE-28/4.2 \(IODE Mentoring\)](#).
237. Dr Mazzuco highlighted that IODE mentoring aims to foster international collaboration among NODCs, ADUs, and AIUs to develop the capacity of IOC Member States to share ocean data globally complying with quality assurance procedures and standards (reference: IODE Quality Management Framework).
238. This mentoring responds to the needs identified by the Committee to increase the number of accredited NODCs, ADUs, and AIUs, and to provide guidance to national data centres being established or seeking accreditation. Such assistance can consist of: answering questions on "how to"; undertaking a visit to the (candidate) NODC to meet with staff and to provide advice; hosting staff of the new NODC so they can acquire the necessary hands-on experience in ocean data management; and participating as lecturer in relevant (OTGA) courses.
239. Dr Mazzuco reported that in 2024, IODE actively engaged with NODCs and ADUs to develop mentoring activities and referred to the working document for details and results. In summary, a call was sent to some NODCs as an invitation to help other member states with the establishment of an NODC or ADU, with positive responses from many of them. NODC Argentina hosted a staff member of a new NODC (Uruguay) for 3 months of personalized training on data management, sponsored by OTGA. Several NODCs and ADUs participated as lecturers in OTGA training courses.
240. Proposed: **The Committee** acknowledged the action accomplished and invite other NODCs, ADUs, and AIUs to express interest in collaborating as mentors or the need of mentoring in their own institution.
241. The **Committee** recommended that IODE open another call for invitation to all NODCs, ADUs, and AIUs to participate in the mentoring.

### 4.3 IOC OCEAN TRAINING INTERNSHIPS 2023-2024

242. This agenda item was introduced by **Ms Johanna Diwa** (IOC assistant CD coordinator) referring to [Document IOC/IODE-28/4.3 \(UNESCO-IOC Ocean Training Internships\)](#).
243. Ms Diwa reported that one of the capacity development proposals submitted to NORAD in 2024 was the UNESCO-IOC Ocean Training Internships. It was launched in April 2024 and was implemented from September to December 2024.
244. The UNESCO-IOC Ocean Training Internships aims to provide opportunities for hands-on learning and upskilling through a temporary assignment at host institutions with expertise on subject areas relevant to the IOC mandate. The internships were open to young professionals from IOC Member States who are employed by government institutions and are working on activities contributing to the implementation of regional work plans in line with the capacity development regional priorities.
245. Ms Diwa referred to Document IOC/IODE-28/4.3 (UNESCO-IOC Ocean Training Internships) for the complete details of the host institutions and interns who participated in the 2024 cohort. For the 2024 cohort, the IOC Ocean Training Internships received and approved applications from 6 host institutions, including two OBIS nodes (Australia and Deep-sea nodes), two OTGA Regional Training Centres (RTC India and RTC Colombia), one OTGA Specialized Training Centre and International Tsunami Information Center (ITIC), and one NODC (Argentina). The working plans submitted were on ocean data management and tsunami resilience. Seven interns from seven Member States were selected in the 2024 cohort for placements in one of the six 2024 host institutions. Two deferred the internship into 2025. The Tsunami global programme supported the additional intern placed at ITIC Hawaii.
246. Ms Diwa shared with the Group that the preparations for the 2025 cycle of the Internships are currently on-going. Host institutions will be identified by March and intern applications will be open by April 2025. She asked the support of the Committee to promote the UNESCO-IOC Ocean Training Internships and encouraged them to help circulate the call to reach more intern applicants.
247. Proposed: **The Committee welcomed** the updates on the 2024 cohort of the UNESCO-IOC Training Internships and expressed their support in promoting the call for the 2025 cohort of the internships.

### 4.4 IODE COOPERATION WITH IOC REGIONAL SUB-COMMISSIONS

248. This agenda item was introduced by **Dr Ana Carolina Mazzuco** (OTGA Programme Component Manager).
249. Dr Mazzuco reported that IODE has been actively engaging with IOC RSBs through the IOC Capacity Development unit to explore opportunities for collaboration, including inviting RSB officers to IODE meetings and project proposals.
250. She reported that in 2024, collaboration was successfully achieved with IOCAFRICA and IOCARIBE, in the following formats: participation of Regional Subsidiary Bodies (RSB) officers in IODE project component and activity meetings, including (Ocean OIH project meetings, OTGA Steering Group meeting; co-development and co-funding of training courses already mentioned in this report; a joint proposal submitted to FUST call (BIOES).
251. Dr Mazzuco invited RSBs and IODE PCs and PAs to report on ongoing and future collaborations.
252. Proposed: **The Committee endorsed** the continuation of the collaborative action between IODE and IOC RBS, and **requested** yearly collaborative meetings inviting all IODE PCs and PAs to participate.

#### 4.4.1 Future of the Ocean Data and Information Networks (ODINs)

253. This agenda item was introduced by **Dr Ana Carolina Mazzuco** (OTGA Programme Component Manager).
254. Dr Mazzuco highlighted that IODE-27 agreed to revive ODINs as regional communities of practice in ocean data and information management, led by the IOC Regional Subsidiary Bodies (RSBs) in collaboration with the global IODE programme and its programme elements.
255. She reported that IODE has actively approached RSBs to call for leads of the reactivation of the ODINs, including offering support on discussion and joint implementation. Action was taken by: IOC/WESTPAC, which proposed a meeting to discuss an action plan with IODE secretariat; and IOCAFRICA, which organized a data management training in Kenya (September 2024), focused on African NODCs, and included in the agenda a topic on reactivation of the network.
256. Dr Mazzuco invite the above mentioned and other RSBs to report on the achievement of the ODINs within their regions.
257. Proposed: **The Committee recommended that IOC RSBs and ODINs jointly develop an action plan.**

### 4.5 REPORTING ON ASSISTANCE TO NODCs, ADUs, AIUs TO ESTABLISH ODIS NODES

258. This agenda item was introduced by **Ms Lucy Scott** (ODIS Programme Component Manager).
259. Ms Scott highlighted that IODE-27 had invited IOC Programmes and member states to participate in the OIH Project and join ODIS.
260. OIH/ODIS has and continues to work actively with a number of NODCs, ADUs and AIUs, to enable them to link to the ODIS federation. These include, among others: the Indian National Centre for Ocean Information Services (INCOIS), Marine Information Management System (MIMS) South Africa, Indonesia National Oceanic Data Center.
261. Under development: Kenya Marine and Fisheries Institute, Ministry of Fisheries and Marine Resources (Namibia), National Institute of Marine Science and Technology (Tunisia)
262. ODIS has developed a Getting Started Guide to introduce the process of joining: <https://book.odis.org/gettingStarted.html>
263. OIH/ODIS together with OceanTeacher, supports a self-paced learning course on an ongoing basis (2023-2024 and still open).
264. Proposed: **The Committee urges NODCs, ADUs and AIUs to join the growing ODIS network.**

### 4.6 CAPACITY DEVELOPMENT ACTIVITIES OF OBIS

265. **Ms Katherine Tattersall** (SG-OBIS Co-Chair) reported on the OBIS (Ocean Biodiversity Information System) Capacity Development (CD) activities, which align with several IOC CD objectives, including:
- **Continuous Professional Development (1.2):**
    - OBIS continuously maintains and updates the OBIS Manual (<https://manual.obis.org>) as biodiversity data standards evolve. The Manual received a considerably major update in 2023 by the OBIS CD Officer, supported by funding from NORAD and LifeWatch ERIC.

- OBIS released 26 YouTube video tutorials on data formatting and controlled vocabulary. These resources, along with the OBIS/OTGA online course (<https://oceanexpert.org/event/3983>), also supported by NORAD and LifeWatch ERIC, promote the development of marine biodiversity data management skills. With over 250 participants from 63 countries and 48 individuals currently certified, OBIS contributes to the global professional development of marine biodiversity experts.
- Through the 2024 IOC Ocean Training Internships (<https://obis.org/2024/06/13/internships-2024/>), OBIS deep-sea will host an intern to support their OBIS related data management activities which will allow interns to further develop the acquired biodiversity data skills within their home institutions.
- Through the PacMAN project, OBIS led two iterations of the eDNA OTGA course, “Marine Invasive Species Early Detection: Utilising Molecular Tools” (2022, blended: <https://oceanexpert.org/event/3631>; 2023, self-paced: <https://oceanexpert.org/event/3911>). Together, the courses enrolled nearly 200 participants from 40 countries, certifying 85 individuals. By providing hands-on training (blended) and technical knowledge (self-paced) in molecular tools for invasive species detection, these courses develop local capacity for early detection and response of invasive species.
- At the OBIS-SG-12 (<https://oceanexpert.org/event/3965>), the OBIS Secretariat, led by the OBIS CD Officer, conducted a training session on data standardization for OBIS Nodes. Participants reported improved understanding of fundamental data standardization practices that will facilitate their work within the network, and allow them to share this knowledge within their respective regions.
- **Integration of Ocean Science in Basic Education (1.4):**
  - As part of the Horizon Europe project MPA Europe (<https://mpa-europe.eu>), OBIS developed a marine biology curriculum for elementary school students in Ostend. This initiative integrated ocean science into basic education, helping foster early interest in marine biology and environmental stewardship among young generations.
- **Facilitating access to technology and infrastructure (2.1)**
  - The OBIS CD Officer is leading a work package focusing on capacity development in the Horizon Europe project BioEcoOcean (<https://bioecoocean.org>). The project is developing a question-based Blueprint for Integrated Ocean Sciences, with the aim to guide ocean observing programs through each step of the ocean observation value chain. OBIS will develop CD resources to support the uptake of the Blueprint, which will have specific modules targeting each step in the BioEco ocean observing value chain: from early planning stages, data collection and management, data synthesis, to product development, and application in policy and decision making. Work from this project also touches on other IOC CD activities (e.g. 2.2, 3.2, 4.1).
  - OBIS led the UNESCO eDNA Expeditions in World Heritage Marine Sites project, a citizen science initiative which engaged >200 school children across 17 countries to collect samples from local World Heritage sites using cutting edge eDNA methods.
- **Facilitating Equitable Access to Ocean Data (2.2):**
  - OBIS is committed to enhancing accessibility and data sharing. This is reflected in the creation of Spanish-language resources, including translations of



YouTube tutorials and a Spanish version of the OBIS/OTGA online course, released October 2024 (<https://oceanexpert.org/event/4571>). These efforts, spearheaded by OBIS Colombia, OBIS Caribbean, and ESP OBIS nodes, promote inclusivity and ensure broader access to training materials.

- The OBIS Secretariat co-organized the marine biodiversity data mobilization workshop along with OBIS-USA, IOOS, Hakai, CIOOS, MBON, OTN, Caribbean-OBIS, and OBIS-Chile ([https://ioos.github.io/bio\\_mobilization\\_workshop/](https://ioos.github.io/bio_mobilization_workshop/)). The third annual workshop attracted over 400 applicants and included dedicated sessions for Spanish speaking participants, which further supports equitable data sharing practices.
- Collaborating with GOOS through the BioEcoOcean project, OBIS is co-developing EOVS Specification Sheet guidelines to enhance the sharing and accessibility of ocean data and information.
- **Enhancing Communication between Global and Regional Programmes (3.2):**
  - The SG-OBIS-12 (<https://oceanexpert.org/event/3965>) agreed upon a new structure (see agenda item X). The OBIS Data and Products Coordination Groups will liaise with global and regional communities within e.g. IODE, GOOS, Ocean Science, GBIF, GEO BON, TDWG, etc.
- **Encouraging Regional Leadership in Capacity Development (3.4):**
  - Regional and sub-regional OBIS nodes have been empowered to lead capacity-building efforts, as seen in the collaborative development of the Spanish OBIS/OTGA course and training initiatives across Latin America as well as the OTGA biodiversity data management training course for Europe, organized by EurOBIS/EMODNet.
  - The newly established OBIS Nodes Coordination group is also working to strengthen and encourage regional data management capacity development in the OBIS community.
- **Enhancing in-kind support (6.1)**
  - OBIS fosters partnerships with organizations such as EurOBIS-EMODNet, GOOS, GBIF (via the Joint Strategy for Marine Biodiversity Data), BODC, TDWG, and ODIS to expand in-kind support for capacity development opportunities.
- **Promoting sustained bilateral and multilateral support (6.2)**
  - Through active participation in European Union and Horizon Europe projects (e.g., BioEcoOcean, DTO-BioFlow, eDNA Aquaplan, MARCO-BOLO, MPA Europe) and collaborations with organizations like NORAD, LifeWatch ERIC, FUST/OTGA, and Flanders, OBIS encourages resource mobilization to support impactful capacity development outcomes.

266. Proposed: The **IODE Committee expressed** great appreciation to OBIS for all its capacity development activities.

## 5. IODE COMMUNICATION AND OUTREACH

### 5.1 NEW IODE WEB SITE

267. This agenda item was introduced by **Ms Sofie de Baenst**, IODE Secretariat.

268. [added in version 2]

269. Proposed: **The Committee.**

## 5.2 IODE OUTREACH AND COMMUNICATION ACTIVITIES DURING THE PAST INTER-SESSIONAL PERIOD (2023-2025)

270. This agenda item was introduced by **Ms Sofie de Baenst**, IODE Secretariat.

271. [added in version 2]

272. Proposed: **The Committee.**

## 5.3 PROPOSED OUTREACH AND COMMUNICATION ACTIVITIES 2025-2026

273. This agenda item was introduced by **Ms Sofie de Baenst**, IODE Secretariat.

274. [added in version 2]

275. Proposed: **The Committee.**

# 6. THE FUTURE OF IODE

## 6.1 Development of the IOC Data Architecture

276. This agenda was introduced by ...[to be added in version 2]

277. Proposed: **The Committee**

## 6.2 IODE CONTRIBUTIONS TO THE UN DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT

### 6.2.1 REPORT ON THE ACTIVITIES OF THE DCO FOR DATA SHARING

278. This agenda was introduced by ...[to be added in version 2]

279. Proposed: **The Committee..**

### 6.2.2 IMPLEMENTATION REPORT ON DECADE ACTIONS SUBMITTED BY IODE

280. This agenda item was introduced by **Dr Paula Sierra-Correa**. She recalled that 6 decade actions had been submitted:

- e-DNA expeditions in marine World Heritage sites (Ward Appeltans)
- Ocean Practices for the Decade (Patricia Cabrera)
- OceanTeacher Global Academy: Building Capacity and Accelerated Technology Transfer for the Ocean Decade (Ana Carolina Mazzuco, Greg Reed, Sofie de Baenst)
- Pacific Islands Marine Bioinvasions Alert Network (PacMAN) (Ward Appeltans, Pieter Provoost)
- OceanData-2030 (Lucy Scott)
- OBIS 2030 (Ward Appeltans)

281. Dr Sierra-Correa invited the leads for each of the decade actions to provide a brief report on the status of implementation.

282. Proposed: **The Committee...**

### 6.2.3 IMPLEMENTATION REPORT ON DECADE ACTIONS SUBMITTED IN COOPERATION WITH IODE

283. This agenda item was introduced by **Dr Paula Sierra-Correa**. She recalled that 4 decade actions had been submitted in cooperation with IODE:

- Database Programme (WODP): Openly discoverable, accessible, adaptable, and comprehensive digital global profile oceanographic data of known quality (submitted by Hernan Garcia, NCEI/NOAA, United States as a Decade contribution)
- CoastPredict - Observing and Predicting the Global Coastal Ocean (Nadia Pinardi, Italy)
- Ocean Observing Co-Design: evolving ocean observing for a sustainable future
- Marine Life 2030

284. She invited **Mr Julian Barbieri** (Head IOC/MPR) to briefly report on the status of implementation of these decade actions.

285. [to be added in version 2]

286. Proposed: **The Committee** ..

### 6.2.4 PROPOSALS FOR NEW IODE ACTIVITIES IN THE UN OCEAN DECADE 2025-2026

287. This agenda item was introduced by **Dr Paula Sierra-Correa**. She invited the Committee to identify new proposals for submission as Decade actions.

288. [to be added in version 2]

289. Proposed: **The Committee**...

### 6.2.5 REPORT ON THE PARTICIPATION OF IODE IN THE UN OCEAN DECADE CONFERENCE (BARCELONA, APRIL 2024)

290. This agenda item was introduced by **Dr Paula Sierra-Correa** and **Mr Ward Appeltans**.

291. [to be added in version 2]

292. Proposed: **The Committee**...

## 6.3 RENEWAL OF THE MOU BETWEEN THE FLANDERS MARINE INSTITUTE AND IOC REGARDING THE IOC PROJECT OFFICE FOR IODE (2027-2031)

293. This agenda item was introduced by **Ms Lotta Fyrberg**.

294. ..[to be added in version 2]

295. Proposed: **The Committee**...

## 7. INTRODUCTION TO WORK PLAN AND BUDGET (FINANCIAL RESOURCES 2025-2027)

### 7.1 UNESCO REGULAR PROGRAMME FINANCIAL RESOURCES REMAINING FOR THE BIENNIUM 2024-2025

296. This agenda item was introduced by **Mr Peter Pissierssens**, IODE Technical Secretary. He informed the Committee that the IODE-27 work plan and budget had been drafted based on the expected continued low level of funding of approx. US\$ 77,500/year. Thanks to the

return of the United States to UNESCO in July 2023 and strong requests by a number of UNESCO Member States to the UNESCO Executive Board and UNESCO General Conference the overall UNESCO regular programme as well as IOC budget has been increased considerably for the 2024-2025 biennium. The new allocations are shown below.

|                                  | BIENNIUM            | 2024              | 2025              |
|----------------------------------|---------------------|-------------------|-------------------|
| Africa InfoHub                   | 150,000             | 75,000.00         | 75,000.00         |
| IODE & OBIS core systems         | 432,155             | 216,077.50        | 216,077.50        |
| IODE & OBIS products & services  | 432,155             | 216,077.50        | 216,077.50        |
| IODE & OBIS training & education | 282,771             | 141,385.50        | 141,385.50        |
| <b>subtotal</b>                  | <b>1,297,081.00</b> | <b>648,540.50</b> | <b>648,540.50</b> |

Fig 2: Revised UNESCO RP allocations 2024-2025

297. Accordingly, the IODE Management Group, at its February 2024, had revised the work plan and budget for 2024, taking into consideration the substantial increase in RP funding. Mr Pissierssens noted that the funds for “Africa InfoHub” had been decentralized to the IOC office in Nairobi to support ODIS/OIH development in Africa. Figure 3 (below) shows the contributions to the IODE budget from the UNESCO Regular Programme between 2004 and 2025 (and unconfirmed estimates for 2026-2027).

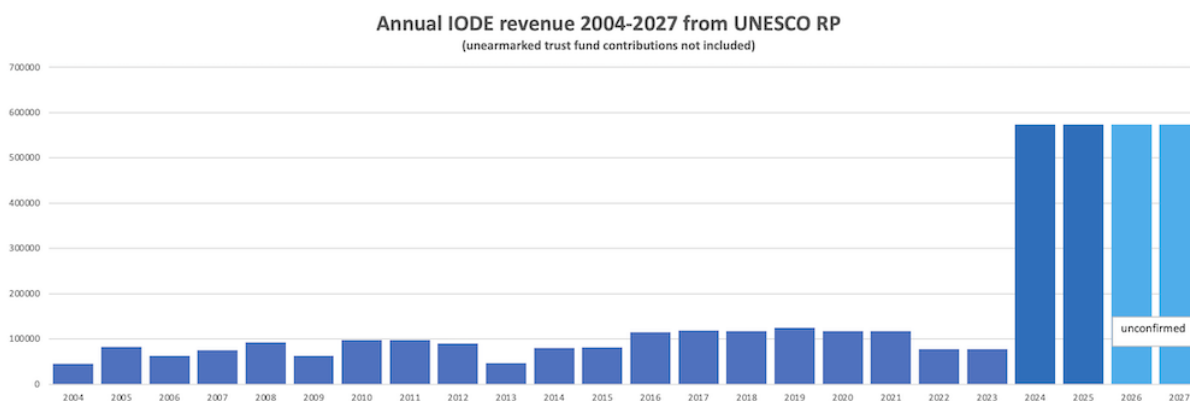


Fig 3: contributions to the IODE budget from the UNESCO Regular Programme between 2004 and 2027.

298. Proposed: **The Committee welcomed** the substantial allocation for IODE in the IOC/UNESCO Regular Programme budget and **thanked** Member States for their strong support expressed during the UNESCO Executive Board and UNESCO General Conference in 2023.

## 7.2 UNESCO REGULAR PROGRAMME FINANCIAL RESOURCES EXPECTED FOR THE BIENNIUM 2026-2027

299. This agenda item was introduced by **Mr Peter Pissierssens**, IODE Technical Secretary.

300. Mr Pissierssens reported that the assumption is that the UNESCO regular programme for 2026-2027 would be similar to that in 2024-2025. Nevertheless, adjustments may happen depending on the overall financial situation of UNESCO and revisions by the IOC Assembly, UNESCO Executive Board or General Conference in 2025.

### 7.3 IODE HUMAN RESOURCES (CURRENT AND REQUIRED)

#### 7.3.1 UNESCO Regular Programme, Government of Flanders staff contribution and extra-budgetary project staff

301. This agenda item was introduced by **Mr Peter Pissierssens**, IODE Technical Secretary. He reported that IODE Project Office staff was now at a level of 17 (9 posted in Oostende, Belgium), 7 in their home countries and 1 at IOC Headquarters. An additional admin staff (Ms Mithona Prak was recruited in November 2024 as administrative assistant). Figure 4 shows the current IODE staff.

| #  | Name                     | Unit            | Type of contract                                | Comment            |
|----|--------------------------|-----------------|---|--------------------|
| 1  | Appeltans, Ward          | OBIS            | UNESCO Regular position P-3                     |                    |
| 2  | Benedetti, Lisa          | OBIS            | Consultant (EU funds)                           |                    |
| 3  | Chmiel, Laurent          | OBIS            | Consultant (IODE RP funds)                      |                    |
| 4  | Fils, Douglas            | ODIS            | Consultant                                      |                    |
| 5  | Lambert, Arno            | IT              | VLIZ secondment                                 | n/a                |
| 6  | Lawrence, Elizabeth      | OBIS            | Consultant, EU                                  |                    |
| 7  | Mazzucco, Ana Carolina   | OTGA            | VLIZ secondment                                 | n/a                |
| 8  | McKenna, Jeff            | ODIS            | Consultant                                      | ending             |
| 9  | Pissierssens, Peter      | IODE management | UNESCO Regular Position P-5                     | retiring 30/5/2025 |
| 10 | Prak, Mithona            | Admin           | Service contract (IODE RP funds)                | ending 4/2025      |
| 11 | Principe de Souza, Silas | OBIS            | Project Appointment (EU funds)                  |                    |
| 12 | Provoost, Pieter         | OBIS            | Project Appointment (Flanders, EU and US funds) |                    |
| 13 | Scott, Lucy              | ODIS            | Consultant                                      |                    |
| 14 | Suominen, Saara          | OBIS            | Project Appointment (Flanders and EU funds)     |                    |
| 15 | de Baenst, Sofie         | Admin           | UNESCO project appointment G-3                  |                    |
| 16 | de Lichtervelde, Kristin | Admin           | VLIZ secondment                                 | n/a                |
| 17 | Boulangier, Emilie       | OBIS            | Consultant (EU funds)                           |                    |
| 18 | Reed, Greg               | OTGA            | Consultant                                      | retired 31/12/2024 |

Figure 4: IODE staff table 2025

302. He noted that Dr Claudia Delgado, OTGA project manager, had left the IOC Project Office for IODE on 15 January 2023 and had taken up a new appointment. She was replaced by Dr Ana Carolina Mazzuco (Brazil) on 13 June 2023. Mr Greg Reed continued to serve IODE/OTGA as consultant but retired on 31/12/2024.
303. Proposed: **The Committee thanked the Government of Flanders (Kingdom of Belgium)** for continuing to provide three full-time staff members to the IOC Project Office for IODE, and **invited** the Government of Flanders (Kingdom of Belgium) to continue this support.
304. Proposed: **The Committee welcomed** the recruitment of an additional administrative support staff but **noted with concern** that this position is temporary and funded from IODE Regular Programme, thereby reducing funding available for programme implementation.
305. Proposed: **The Committee requested** that the new administrative support position should be funded from staff cost as from the next biennium.
306. Proposed: **The Committee expressed its great appreciation** to Mr Greg Reed for his considerable contribution to IODE's training programme for over 25 years. **The Committee noted** that without Mr Reed's continued support the OTGA programme component would not be where it had reached today.
307. Proposed: **The Committee requested** the IOC Executive Secretary to create an administrative support position for IODE.

### 7.3.2 Internships and Secondments

308. This agenda item was introduced by **Mr Peter Pissierssens**. He noted with regret that no internships or secondments had been offered during the past inter-sessional period. He also referred to the results of the NODC/ADU survey which indicated that, even if secondments could be provided, they would likely be of short duration.
309. Proposed: **The Committee called on Member States** to consider seconding, either at the IOC Project Office for IODE, in Oostende, Belgium or in-kind (working from their usual place of work) in order to strengthen the IODE Secretariat.

## 7.4 CONFIRMED EXTRA-BUDGETARY REVENUE FOR 2025-2027

310. This agenda item was introduced by **Mr Ward Appeltans**, IODE Secretariat. Figure 5 (below) shows the different sources of revenue between 2016 and 2027. An increase in revenue from participation in European Commission funded projects is observed as from 2023.

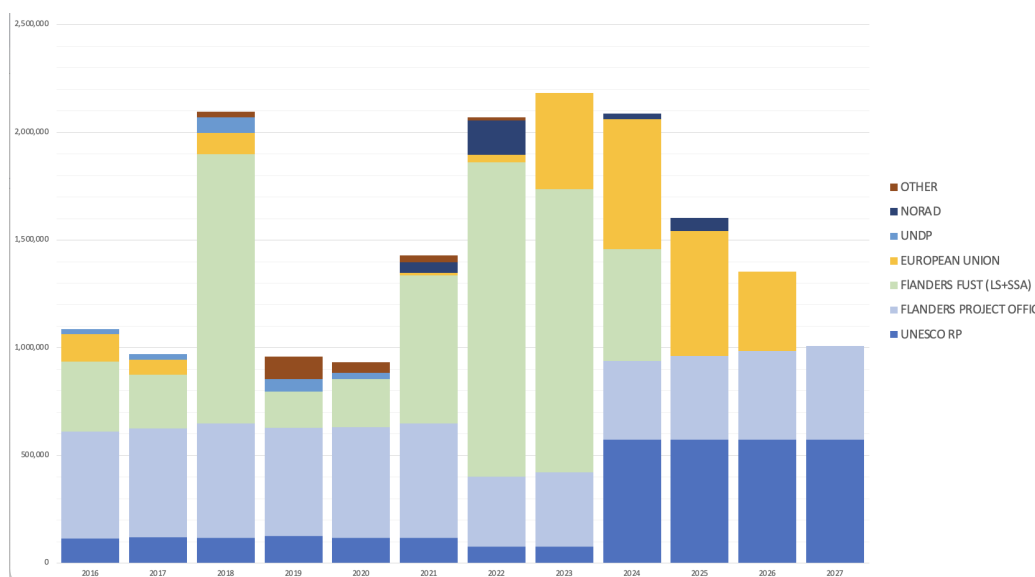


Figure 5: IODE Revenue 2016-2027 by source

311. Proposed: **The Committee strongly urged** IOC Member States to follow Flanders' example and establish long-term funds-in-trust agreements to support IODE.

312. Proposed: **The Committee called on** its members and parent institutions to involve IODE in any project proposal that includes data or information management elements.

## 7.5 OTHER RESOURCE OPPORTUNITIES FOR 2023-2025

313. This agenda item was introduced by **Mr Ward Appeltans**, IODE Secretariat. He recalled that in 2023 funding had been received from the government of Norway through NORAD (US\$ 500,000/year for capacity development related activities). This provided support for the project "Biodiversity Data Hub for the High Seas" (US\$ 85,000) and "OceanTraining internships to enhance global human capacity related (\$ 85,000), in cooperation with IOC CD. It was unclear if NORAD support would be continued and at what level.

## 8. PROPOSED WORK PLAN FOR THE NEXT INTER-SESSIONAL PERIOD (2025-2026)

### 8.1 IODE IN THE UNESCO 33 C/5 (2026-2027)

314. This agenda item was introduced by **Ms Lotta Fyrberg**.

315. [to be added in version 2]

### 8.2 IODE PROGRAMME COMPONENTS AND PROGRAMME ACTIVITIES

316. This agenda item was introduced by Mr Greg Reed. He recalled that all IODE programme components and programme activities were requested to report on programme implementation in 2023-2024 but also to submit a draft work plan and budget for 2025-2026. These would be discussed by the Sessional Working Group on work plan and budget that would meet on 12 and/or 13 March.

### 8.3 PROPOSALS FOR NEW IODE PROGRAMME COMPONENTS, PROGRAMME ACTIVITIES OR PROJECTS

317. This agenda item was introduced by **Mr Greg Reed**. He reported that no new programme components, programme activities or projects have been submitted.

### 8.4 PROPOSED IODE WORK PLAN AND BUDGET 2025-2026

318. This agenda item was introduced by **Mr Peter Pissierssens**. He noted that, as has been the case in the past the Committee was invited to submit a work plan and budget for the remaining months of 2025 (April – December 2025) and 2026 (January-December 2026). As the next Session will take place in February or March 2027 no work plan should be submitted for 2027.

319. **The Committee adopted Recommendation IODE-28/8.4**, added in Annex II.

## 9. ANY OTHER BUSINESS

320. This agenda item was introduced by **Dr Paula Sierra-Correa** based upon input from the Committee under agenda item 2.1.

**(this will be completed during the Session)**

## 10. DATE AND PLACE OF THE NEXT SESSION (IODE-29, 2027)

321. This agenda item was introduced by **Ms Lotta Fyrberg**, IODE Co-Chair. The Committee was invited to consider holding the meeting during the month of February or March 2027, taking into consideration the need to report to the IOC Assembly in June 2027.
322. Countries that would be prepared to host the next Session were kindly requested to inform the IODE Secretariat of their intention to host, not later than 12 months before the next Session dates, (i.e., before March 2026). Full information on the in-kind contributions expected from a Host are available upon request from the IODE Secretariat.

## 11. ELECTION OF THE CO-CHAIRS

323. The IODE Technical Secretary, **Mr Peter Pissierssens**, introduced this item by referring to the IOC Rules of Procedure (Document IOC/INF-1166), and more particularly to Rule 25, para 2. The Technical Secretary informed the Committee that, in accordance with the above Rules, the current two Co-Chairs (Ms Lotta Fyrberg and Dr Paula Sierra-Correa) had completed one term and could therefore be re-elected for a second term if they so desired.
324. The IODE Technical Secretary then informed the Committee that Ms Fyrberg and Dr Sierra-Correa had informed the Secretariat that they were willing to continue as IODE Co-Chairs for a second term.

325. Proposed: **The Committee unanimously re-elected Ms Lotta Fyrberg and Dr Paula Sierra-Correa as IODE Co-Chairs for the next inter-sessional period.**

326. The iCo-Chairs briefly addressed the Committee..... **this will be completed during the Session.**



## 12. IODE ACHIEVEMENT AWARDS 2025

*[note: the IODE achievement awards 2025 will be handed over during a ceremony to be held during the Ocean Data Conference 2023 and IODE-28 Reception]*

327. This agenda item was introduced by **Ms Lotta Fyrberg and Dr Paula Sierra-Correa**. They recalled that IODE Sessions have been bestowing "IODE Achievement Awards" since the twentieth Session of the IODE Committee in 2009 in order to express special appreciation to some of these experts who contributed time and effort to the IODE programme. Between 2009 and 2023 a total of 45 awards have been given. The award ceremony was traditionally held during the Session Dinner or Reception. A full list of awards issued during previous sessions is found on <http://www.iode.org/awards> .
328. IODE Achievement Awards (2025) were bestowed to the following experts, who contributed exceptional time and effort to the IODE programme:
- ... **this will be completed during the Session**
  - ...
329. **The Committee expressed its great gratitude to ( this will be completed during the Session)** members of the IODE community thanking them for their exceptional contributions to continue building "our" IODE.

## 13. ADOPTION OF DECISIONS AND RECOMMENDATIONS

330. This Agenda Item was introduced by both Co-Chairs. The Committee was invited to adopt the Decisions and Recommendations which had been reviewed during the Session and included in the action paper.

*[Note: Adopted Decisions and Recommendations will be attached as an Annex to the Summary Report of the Session].*

## 14. ADOPTION OF THE SUMMARY REPORT

331. This agenda item was introduced by Mr Peter Pissierssens. He invited the Committee to review and adopt all action items (marked in yellow in the action paper) during the Session. Introductions and other text would not be reviewed. He informed the Committee that the Secretariat would review and finalize the report. The report would then be posted on the IODE web site and circulated to all participants by the end of April 2025. An executive Summary containing the adopted Decisions and Recommendations would be prepared for the IOC Assembly in June 2025.
332. Proposed: **The Committee requested** its Co-Chairs and the IODE Secretariat to make editorial corrections as necessary, taking into account the discussions held during the session.
333. Proposed: **The Committee requested** the IODE Co-Chairs to present the Executive Summary to the Thirty Second Session of the IOC Assembly that would take place in June 2025.

## 15. CLOSURE

*[Note: text to be added after the Session]*

334. The Co-Chairs addressed the Committee.
335. The Co-Chairs closed the Session on Friday 14 March 2025 at **XXXX**



Annex I

**AGENDA**

To be added

Annex II

**IODE-28 DECISIONS AND RECOMMENDATIONS**

**Draft Decisions and Recommendations have been included under the relevant agenda item above. They will be included in Annex II of the summary report after adoption by the IODE Committee**

Decision IODE-28/...

Recommendation IODE-28/..

Recommendation IODE-28/..

Recommendation IODE-28/..

Recommendation IODE-28/8.4      IODE Work Plan and Budget 2025-2026

DECISIONS

...

RECOMMENDATIONS

**Recommendation IODE-28/8.4**

**IODE Workplan and Budget 2025-2026**

The IODE Committee,

**Having reviewed** its programme implementation requirements for the period 2025-2026,

**Welcoming** the substantial increase in UNESCO regular programme funds allocated to IODE,

**Re-emphasizing** the importance of high-quality oceanographic data and information, products and services for scientific, observation and ocean-based disaster warning and mitigation programmes of the Commission, for Member States, the private sector and other users,

**Welcoming** the growing collaboration with, and contribution to other IOC Programmes and activities, demonstrated by joint development of products and services as well as capacity development activities,

**Recognizing** IODE's active and pro-active response to the call on IODE to contribute to the United Nations Decade of Ocean Science for Sustainable Development through several decade actions and the hosting, by the IOC Project Office for IODE, of the Decade Coordination Office for Ocean Data Sharing,

**Expressing great appreciation** to (i) the Government of Flanders (Kingdom of Belgium) for hosting and supporting the IOC Project Office for IODE ; and (ii) other donors and Member States who are providing financial and in-kind support for IODE,

**Appreciating and calling** on Member States to continue (i) the in-kind support for the IODE Programme through establishing and maintaining IODE National Oceanographic Data Centres, Associate Data Units (including OBIS nodes), Associate Information Units, provision of experts; (ii) the provision of valuable ocean data and information products and services, and (iii) the provision of financial and other in-kind contributions to IODE,

**Requests** the IODE Co-Chairs to bring to the attention of the 33<sup>rd</sup> Session of the IOC Assembly, the IODE Programme and Budget for the period 2025-2026, as attached in the Annex to this Recommendation.

#### **Annex to Recommendation IODE-28/8.4**

[costing table, to be added after Session]

[end of document]