



**INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION**  
(of UNESCO)

**Thirty-second Session of the Assembly**  
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Item 3.4.2. of the Provisional Agenda

**IOC STRATEGIC PLAN FOR OCEAN DATA AND INFORMATION MANAGEMENT  
(2023–2029)**

Summary

Purpose of the document: IOC-XXIX/6.2.2 adopted the IOC Strategic Plan for Oceanographic Data and Information Management (2017–2021) and also agreed that the Plan should be regularly reviewed. The inter-sessional working group to revise the IOC strategic plan for oceanographic data and information exchange established through [Recommendation IODE-XXVI.6.3](#) prepared a revision of the strategic plan. IODE-XXVII adopted [Recommendation IODE-XXVII.6.2](#) submitting the revised strategic plan to IOC-32.

Financial and administrative implications: There are no financial and administrative implications

The proposed decision(s) is referenced IOC-32/3.4.2 in the Action Paper (document IOC-32/2 Prov.)



## IOC Strategic Plan for Ocean Data and Information Management (2023–2029)

### Background

- 1 IOC-XXIX/6.2.2 adopted the IOC Strategic Plan for Oceanographic Data and Information Management (2017–2021) and agreed that the Plan should be regularly reviewed. In response to the instruction of IOC-XXIX the IODE Committee, at its 26<sup>th</sup> Session (2021) established the Inter-sessional working group to revise the IOC Strategic Plan for Oceanographic Data and Information Management through [Recommendation IODE-XXVI.6.3](#).
- 2 The systems following the revised Strategic Plan would be expected to deliver: (i) interoperable, quality-controlled data on a diverse range of variables, generated according to scientifically and operationally sound methods and 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) by users who have a broad range of capabilities. The working group, through the terms of reference defined by IODE-XXVI was given a list of 16 elements that would need to be taken into consideration.
- 3 The working group, after several online drafting sessions and consultation with the IODE Management Group and other IOC programmes, submitted its work to IODE-XXVII (Paris, 22-23 March 2023) and the IODE Committee adopted [Recommendation IODE-XXVII.6.2](#).

### The revised strategic plan

- 4 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”.*
- 5 This will contribute both to the mission and vision of the IOC. The latter is:
 

*“To bring together governments and the science community in achieving the ‘Ocean We Need for the Future We Want.’”*
- 6 The IOC Strategic Plan for Ocean Data and Information Management describes the implementation of functional and interoperable data and information management practices and frameworks to ensure data and information availability. It guides IOC Programmes to effectively share and manage their data and information in a coordinated way and based on widely agreed practices so as to assist in fulfilling not only IOC’s objectives but also those of the Ocean Decade.
- 7 The **scope** of the IOC Strategic Plan for Ocean Data and Information Management is therefore intended to be **comprehensive and cover all disciplines within the mandate of IOC**. All types of data and all time scales for data delivery (e.g. real-time *versus* delayed mode) as well as synthesis products and model output are included. Different strategies might be employed to satisfy global, regional, and local requirements, and to meet timeliness needs. We must move towards a coherent ocean data and information management communications strategy to enable us to integrate the wide variety of complex marine environmental measurements and observations across disciplines, institutions, and temporal and spatial scales.

- 8 The **aim** is to ensure the establishment of ***a comprehensive and integrated ocean data and information ecosystem*** for all ocean activities. It is essential that the existing and operational national, regional, and international systems can connect to the integrated global system.
- 9 The **objectives** of the Strategic Plan 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.
- 10 The implementation of the Strategic Plan should take into account:
- (i) Developments within the IOC/IODE Ocean Data and Information System (ODIS) and the ODIScat catalogue of online data and information services as an interoperability framework to interlink international, regional and national digital resources;
  - (ii) Developments within the IOC/GOOS Observations Coordination Group (OCG) to map the data flows of the global in situ networks and develop a data implementation plan;
  - (iii) Developments within the IODE/GOOS Ocean Best Practices System (OBPS), noting that currently not all methods and best practices relevant to the IOC Strategic Plan for Ocean Data and Information Management are included;
  - (iv) The IOC Capacity Development Strategy (2023) and IOC Data Policy and Terms of Use (2023);
  - (v) The need to support the data and information requirements for marine services, transportation, ocean forecasts, climate change and variability studies and scientific research;
  - (vi) The need to support IOC’s efforts related to its custodian responsibility for indicators for SDG target 14.3.1 on ocean acidification and SDG target 14.a on marine scientific research;
  - (vii) The recognition and inclusion of Indigenous and Local Knowledge (ILK) to ensure this knowledge is appropriately integrated;
  - (viii) The support of community data principles such as FAIR (Findable, Accessible, Interoperable and Reusable), CARE (Collective benefit, Authority to control, Responsibility, Ethics), and TRUST (Transparency, Responsibility, User Focus, Sustainability, Technology); and ‘Trusted Repository’ protocols;
  - (ix) The need to undertake marine assessments and routinely provide indices on the “health” of the marine environment, such as assessments under the UN Regular Process (World Ocean Assessment) and the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES);
  - (x) The call from the Convention on Biological Diversity (CBD) to IOC and its OBIS to provide data and information for the identification of Ecologically or Biologically Significant Areas (EBSAs), and to support the CBD’s post-2020 Global Biodiversity Framework through GOOS and OBIS.
- 11 The expected outcome of the IOC Strategic Plan for Data and Information Management is to achieve significant enhancement of infrastructure, common approaches in ocean data and information

management that enable interoperable data sharing and stewardship, and enhanced collaboration between data providers and users.

- 12 It will implement a “**digital ocean ecosystem**” as a dynamic and continuous process, incorporating established approaches and technologies as well as those that are only just emerging. In close cooperation with the UN Decade of Ocean Science for Sustainable Development it will aim at representing the socio-ecological dimensions of the ocean through digital means.
- 13 If endorsed then the IOC Strategic Plan for Ocean Data and Information Management (2023–2029) will be published as IOC Manuals and Guides No. 92, in replacement of IOC Manuals and Guides No. 77.

#### Proposed decision

- 14 In light of the foregoing, the IOC Assembly may wish to consider: IOC-32/Dec.3.4.2-II proposed in the Action Paper (IOC-32/2 Prov.)