



PICES-2018 Data management WS, Yokohama, Oct. 25, 2018

Enhancing collaborations between PICES and IOC/IODE in open data access

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Co-Chair of IOC/IODE

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IODE(International Oceanographic Data and Information Exchange)

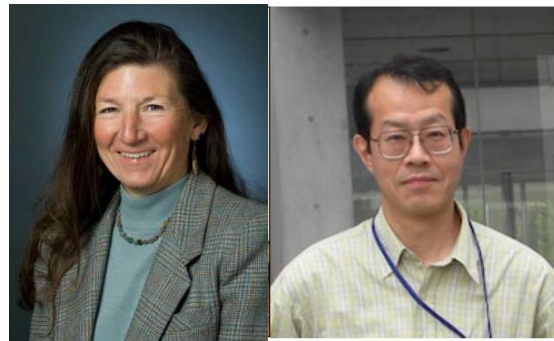


- Established in 1961 by IOC
- Exchange of oceanographic data and information between participating Member States through
 - NODCs (National Oceanographic Data Centers) 66
 - ADUs (Associate Data Units) 24
 - WDS (World Data System) of ISC
- ~90 oceanographic data centers in member countries

Election of new IODE Co-Chairs (2015-2017)



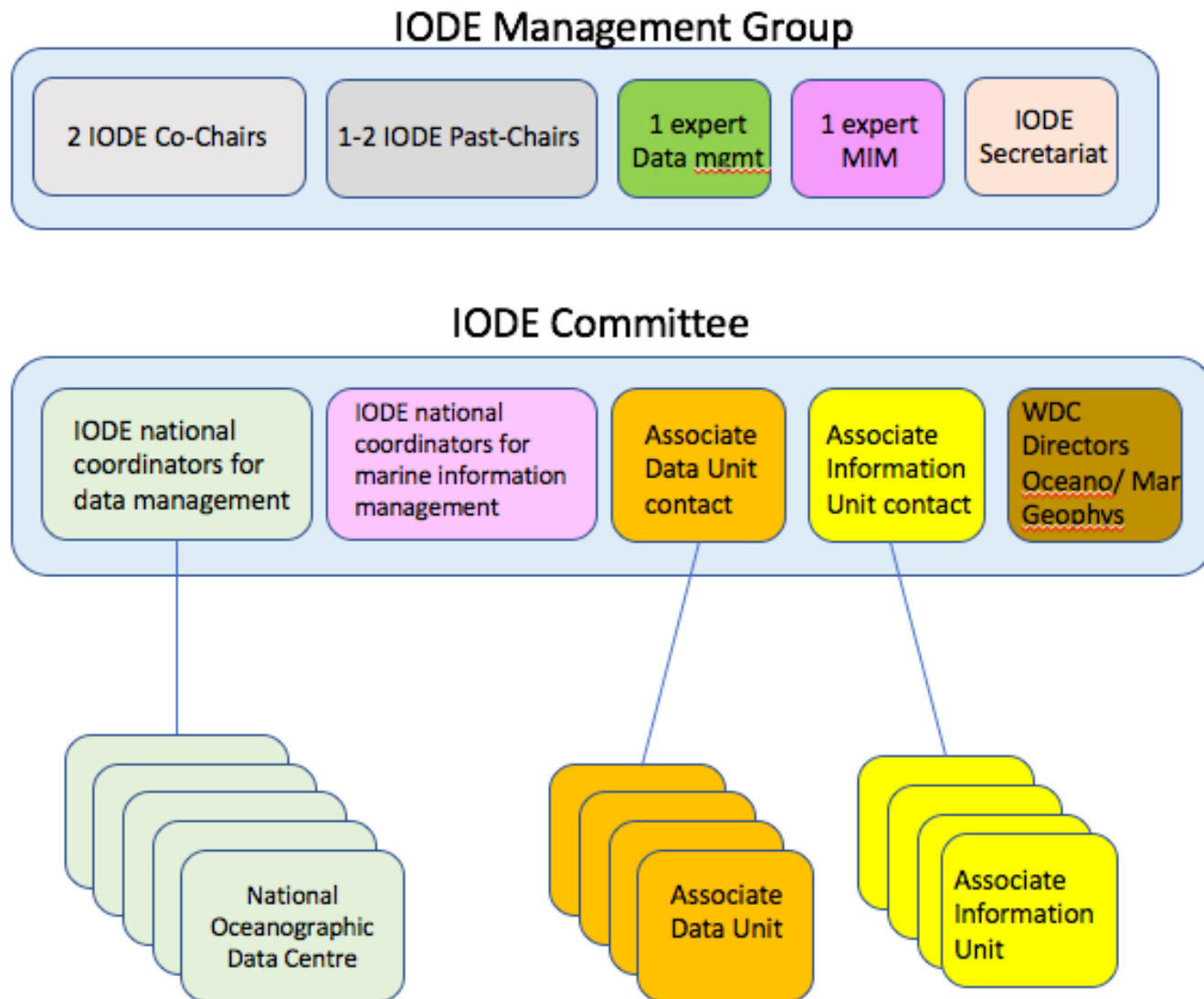
IODE Office in Oostende, Belgium since 2005)



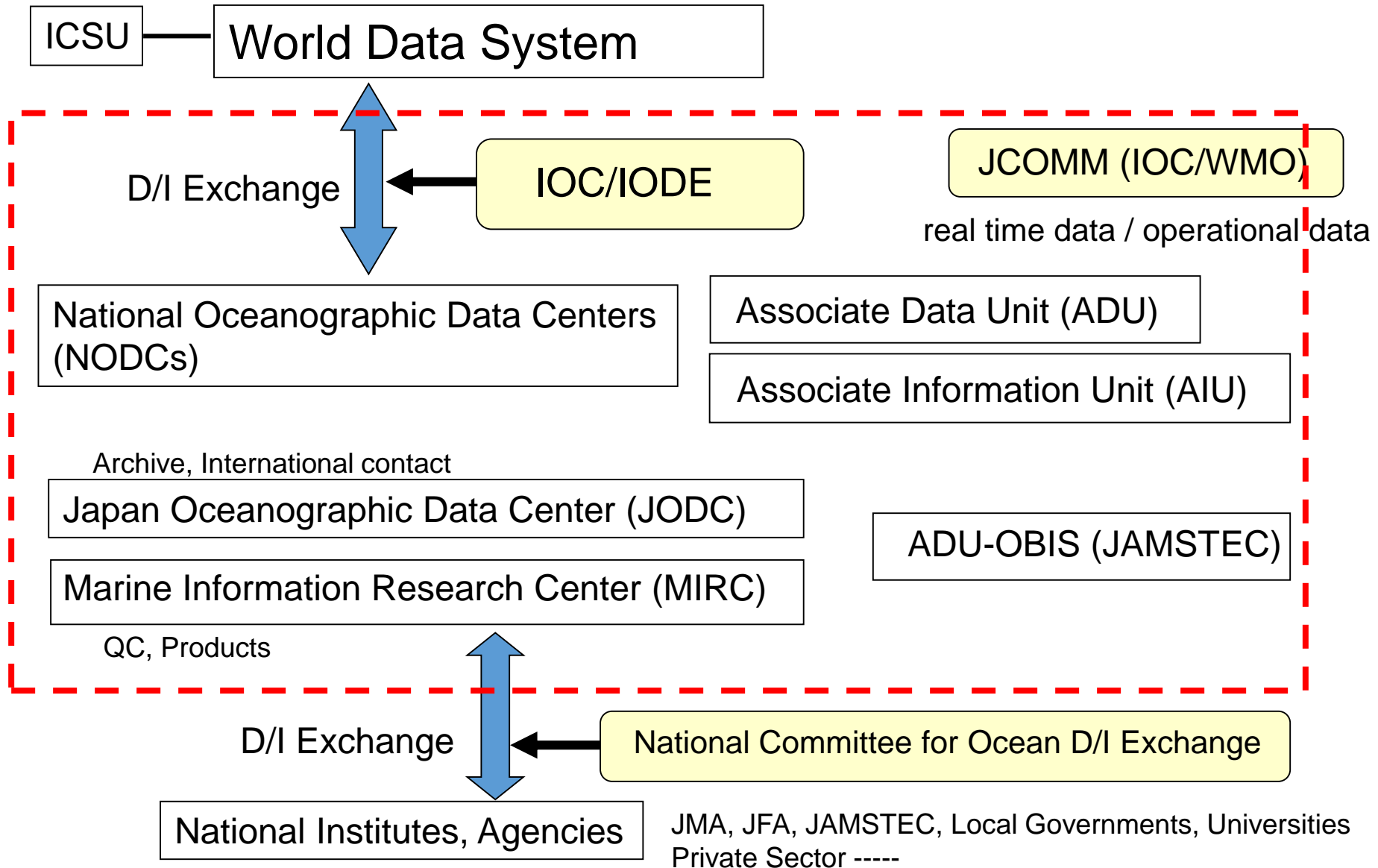
As the outgoing Co-Chair (Ms Sissy Iona and Mr Ariel Troisi) had completed two terms in Office, the IODE Committee elected two new Co-Chairs: Ms Cynthia Chandler (USA) and Prof Yutaka Michida (Japan). More info See [here](#)

Present Co-Chairs elected at 23rd Session of IODE in 2015; C. Chandler (WHOI, USA) and Y.Michida (AORI, Japan)

IODE management structure



IODE Network



IODE Associated Data Units (ADUs)

Recommendation IODE-XXII.16 *IODE ASSOCIATE DATA UNIT (ADU)*

Noting further the growth of ocean research and observation programmes and projects, and the ability of these projects to establish data systems, Stressing the need to share, provide access to and to preserve all ocean research and observation data,

Noting the importance of standardization and interoperability of data and information systems across the ocean research and observation communities,

Recommends the establishment of IODE Associate Data Units (ADUs) as structural elements of IODE with the following Terms of Reference:

Invites any project, programme, institution or organization that is willing to comply with the above-mentioned Terms of Reference to apply to join IODE as an IODE Associate Data Unit (ADU)



IODE Associated Data Units (ADUs)

The IODE Associate Data Unit is intended to bring in the wider ocean research and observation communities as key stakeholders of the IODE network, taking into account the growth of ocean research and observation programmes and projects, and the ability of these projects to establish data systems. It is important for these communities to share, provide access to and preserve all ocean research and observation data.

Benefits of ADUs

- Receive information on standards and best practices
- Join CD activities
- Receive assistance from IODE community related to DIM
- Be invited, as observers, to IODE Sessions
- Participate in IODE workshops and projects
- Share expertise of DIM with other ADUs and NODCs

Intergovernmental Oceanographic Commission (IOC)



INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
COMMISSION OCÉANOGRAPHIQUE INTERGOUVERNEMENTALE
COMISIÓN OCEANOGRÁFICA INTERGUBERNAMENTAL
МЕЖПРАВИТЕЛЬСТВЕННАЯ ОКЕАНОГРАФИЧЕСКАЯ КОМИССИЯ
اللجنة الدولية الحكومية لعلوم المحيطات
政府间海洋学委员会



- **Established in 1960 in UNESCO with Functional Autonomy**
- **UN body for ocean science, observation, and services**

Purpose: to promote international cooperation and
to coordinate programmes

Function:

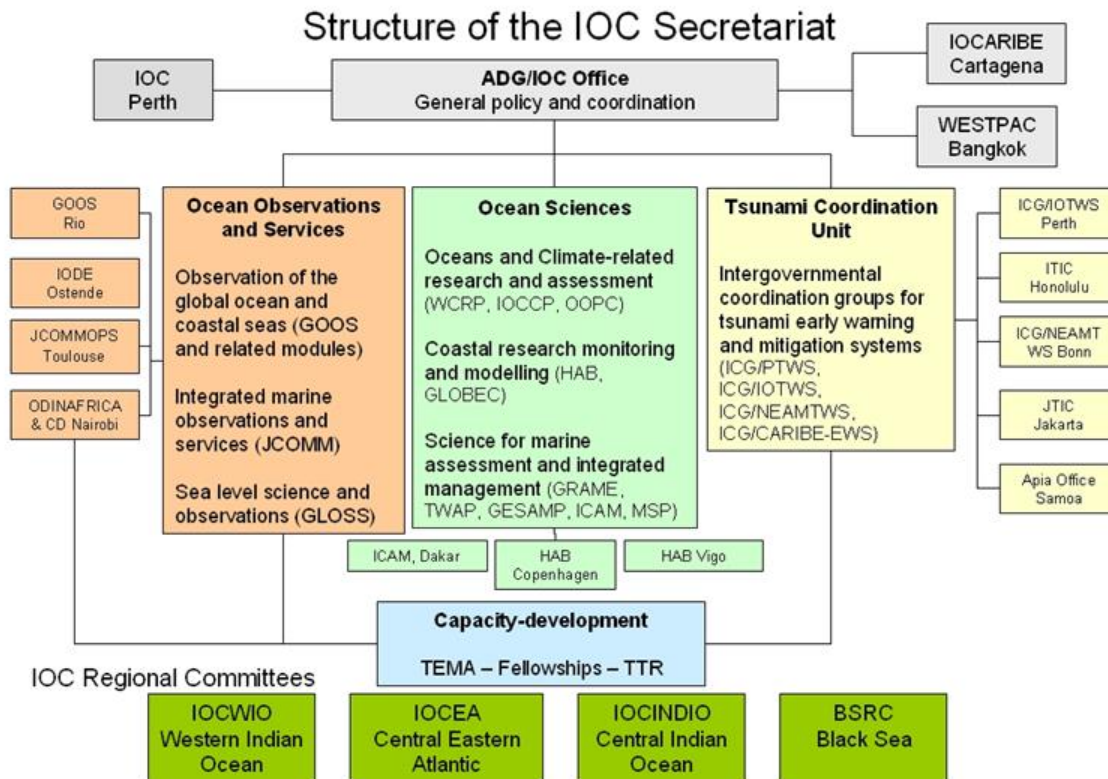
- (1) international programmes and the dissemination and use of their results;
- (2) standards, reference materials, guidelines and nomenclature;
- (3) competent international organization;
- (4) education, training and the transfer of related technology.

IOC Structure

- (1) The Assembly: general policy, main lines of work, Biennial Draft Programme and Budget
- (2) The Executive Council: 40 Member States
- (3) Secretariat : Executive Secretary + staff
- (4) Subsidiary bodies



IOC Chairperson
Prof. P. Haugan (Norway)



IOC Assembly at UNESCO HQ

4 High Level Objectives of IOC:

1. Healthy ocean ecosystems
2. Early warning for ocean hazards
3. Resiliency to climate change and variability
4. Enhanced knowledge of emerging issues

Emerging needs in ocean issues:

SDG-14

IPCC report on ocean and cryosphere

BBNJ

MSP

UN Decade of Ocean Science for SD (2021-30)



IODE-XXIV held in Kuala Lumpur, Mar. 28-31, 2017



IODE-XXIV held in Kuala Lumpur, Mar. 28-31, 2017

- 80 participants from IOC Member States and partner organizations (8 MS from WESTPAC region)
- 4 decisions and 6 recommendations adopted
- Final report available from 'iode.org'
- Re-elected current co-chairs, Cyndy Chandler and Yutaka Michida

Decision IODE0XXIV.1 'Revision of TOR of the IODE Quality Management Framework'

Decision IODE-XXIV.2 'THE IODE MANAGEMENT STRUCTURE'

Decision IODE-XXIV.3 'IODE PROJECT AND ACTIVITY PERFORMANCE EVALUATION'

Decision IODE-XXIV.4 'Ocean Data and Information System (ODIS)'

Decision IODE-XXIV.2 IODE Management Structure

The IODE Committee,

Decides to replace the IODE Officers with the **IODE Management Group** (IODE-MG) with the terms of reference described in Annex A.

Annex A. ToR of IODE-MG

[Objectives]

- To review the progress of workplan and budget approved
- To oversee the assessment of IODE projects and activities
- To evaluate for efficacy the existence of any existing IODE groups

[Membership]

- Co-chairs
- An expert for DM and one expert for IM
- One or both past co-chairs
- Head of IODE Secretariat (non-voting member)

Decision at IOC Assembly on Draft Concept for an ODIS

The IOC Assembly,

Recalling Recommendation 15 of the IOC External Audit that called for a universal information system and ocean data portal, and Decision IODE-XXIV.4 that established an inter-sessional working group to finalize the concept paper of the IOC Ocean Data and Information System and draft a “cost-benefit analysis” document which expresses the advantages/benefits of such a global system, Having considered the draft concept paper submitted by IODE at its 24th session and contained in document IOC-XXIX/2 Annex 3 Add. II, Requests Member States to provide comments and suggestions to the IODE Secretariat, not later than December 2017; Instructs the IODE inter-sessional working group to further develop the concept paper for the IOC Ocean Data and Information System, taking into account, *inter alia*, the results and functioning of the IODE Ocean Data Portal as well as comments and suggestions received from Member States, and submit the final document to the Assembly at its 30th session in 2019 together with a draft implementation plan, supported by a cost-benefit analysis as feasible.

IOC Oceanographic Data Exchange Policy

Preamble

The **timely, free 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.

Recognising the vital importance of these purposes to all humankind and the role of IOC and its programmes in this regard, the Member States of the Intergovernmental Oceanographic Commission **agree** that the following clauses shall frame the IOC policy for the international exchange of oceanographic data and its associated metadata.

IOC Oceanographic Data Exchange Policy

Clause 1 (Data under the auspices of IOC)

Member States shall provide timely, free and unrestricted access to all data, associated metadata and products generated under the auspices of IOC programmes.

Clause 2 (Data from non-IOC programme)

Member States are encouraged to provide timely, free and unrestricted access to relevant data and associated metadata from non-IOC programmes that are essential for application to the preservation of life, beneficial public use and protection of the ocean environment, the forecasting of weather, the operational forecasting of the marine environment, the monitoring and modelling of climate and sustainable development in the marine environment.

Clause 3 (Non-commercial use)

Member States are encouraged to provide timely, free and unrestricted access to oceanographic data and associated metadata, as referred to in Clauses 1 and 2 above, for non-commercial use by the research and education communities, provided that any products or results of such use shall be published in the open literature without delay or restriction.

IOC Oceanographic Data Exchange Policy

Clause 4 (Rights of MS)

With the objective of encouraging the participation of governmental and non-governmental marine data gathering bodies in international oceanographic data exchange and maximizing the contribution of oceanographic data from all sources, this Policy acknowledges the right of Member States and data originators to determine the terms of such exchange, in a manner consistent with international conventions, where applicable.

Clause 5 (Use of IODE system)

Member States shall, to the best practicable degree, use data centres linked to IODE's NODC and WDC network as long-term repositories for oceanographic data and associated metadata. IOC programmes will co-operate with data contributors to ensure that data can be accepted into the appropriate systems and can meet quality requirements.

Clause 6 (Capacity development)

Member States shall enhance the capacity in developing countries to obtain and manage oceanographic data and information and assist them to benefit fully from the exchange of oceanographic data, associated metadata and products. This shall be achieved through the non-discriminatory transfer of technology and knowledge using appropriate means, including IOC's Training Education and Mutual Assistance (TEMA) programme and through other relevant IOC programmes.

Collaborations between PICES and IOC/IODE

PICES is one of the key partners of IOC/IODE in oceanographic data management, particularly in the region of North Pacific. As open data and information access is essential for successful ocean research and service, our collaborations in ocean data and information management should be enhanced, for example, by sharing the spirit of IOC Oceanographic Data Exchange Policy, and by ensuring secure archive for all of such data and information.

Possible approaches at regional level cooperation,

- i) to involve data and information management component including NODCs in PICES MS in oceanographic research and services projects from their planning stage;
- ii) to encourage PICES DIM components to be ADUs, and/or AIUs;
- iii) to enhance capacity development activities of oceanographic DIM in collaboration between PICES and IOC/IODE.

UN Decade of Ocean Science for Sustainable Development

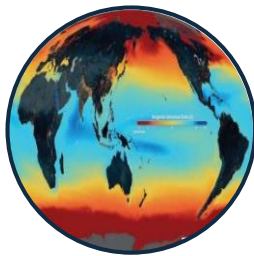
TARGETS – SCIENCE SUPPORT



14.1 Prevent and Reduce marine pollution



14.2 Manage and Protect marine & coastal ecosystems



14.3 Minimize impacts of Ocean Acidification



14.4 Implement science-based management Plans



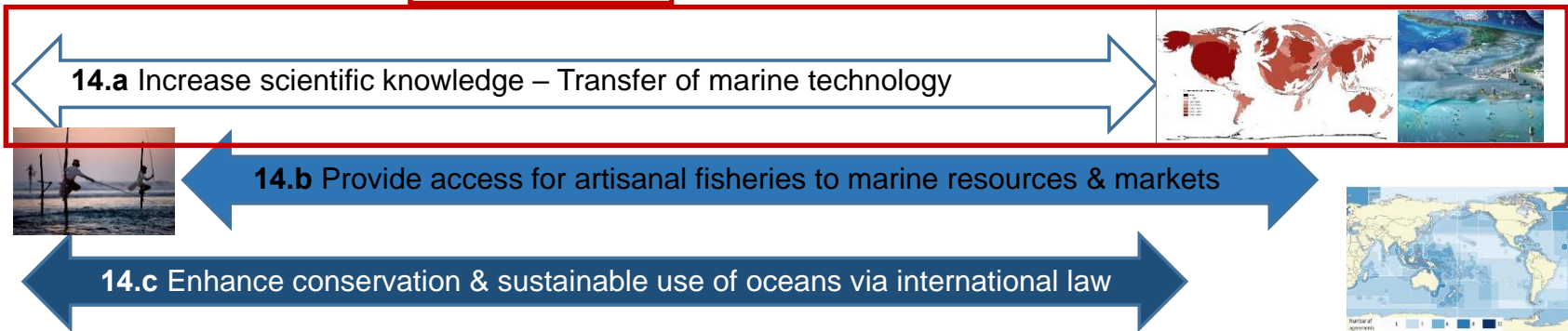
14.5 Conserve coastal and marine areas



14.6 Prohibit certain forms of fisheries subsidies



14.7 Increase socioeconomic benefit of SIDS



UN Decade of Ocean Science for Sustainable Development, 2021-2030

“A United Nations Decade of Ocean Science could help to build a shared information system, based on trustworthy, scientific data, from all parts of the world’s ocean.”

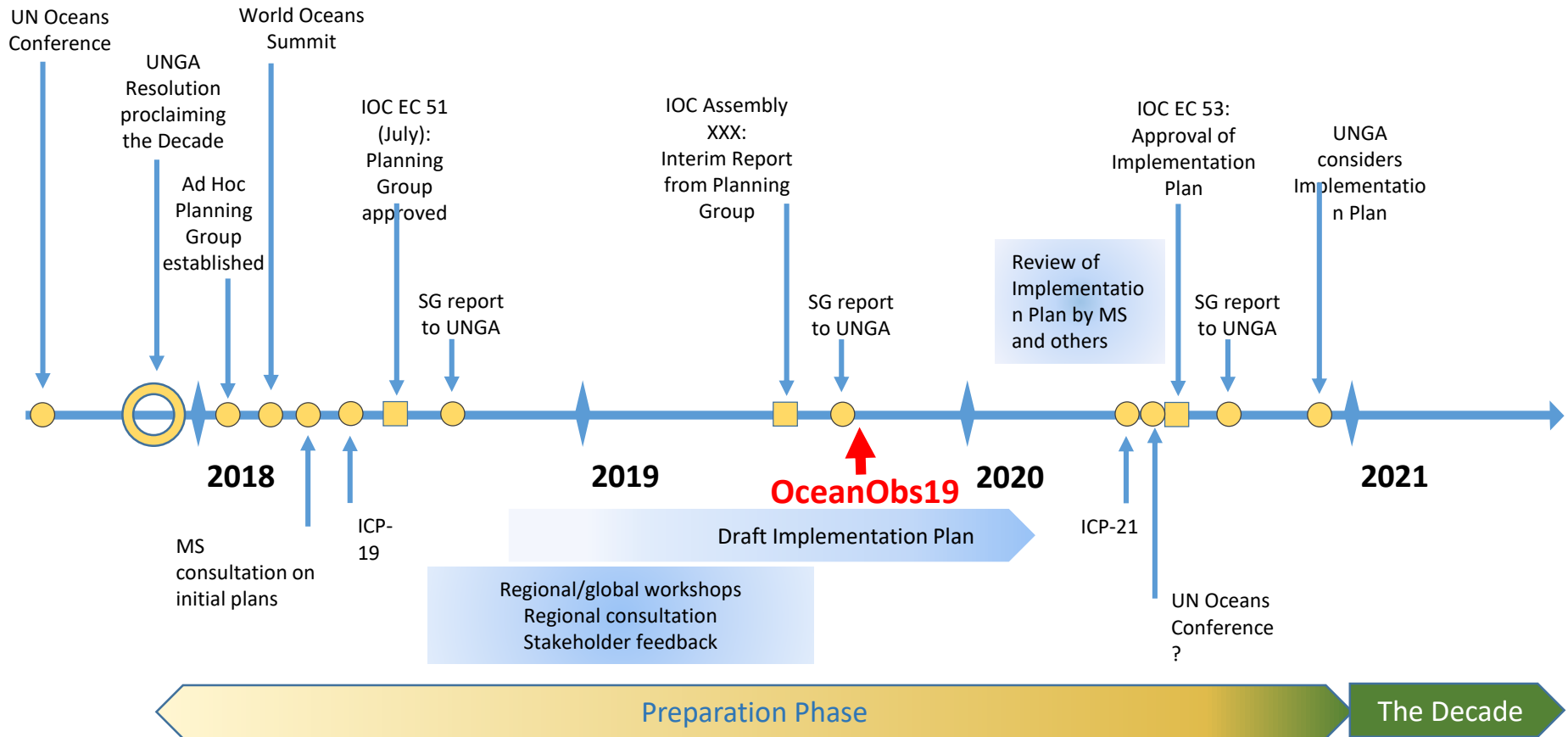
PETER HAUGAN
Chair, IOC



Photo by IISD/ENB | Francis Dejon



Preparing milestones of UN Decade of Ocean Science



Decadal Conference on ocean Observation 'OceanObs19' will be held in Honolulu, Sep. 2019

25th Session of IODE will be held in Tokyo



A Scientific Open Conference will be organized on Feb. 18, prior to IODE-25.

Thank you for your attention



Atmosphere and Ocean
The University of Tokyo



東京大学
大気海洋研究所

Definitions

‘Free and unrestricted’ means non-discriminatory and without charge. “Without charge”, in the context of this resolution means at no more than the cost of reproduction and delivery, without charge for the data and products themselves.

‘Data’ consists of oceanographic observation data, derived data and gridded fields.

‘Metadata’ is 'data about data' describing the content, quality, condition, and other characteristics of data.

‘Non-commercial’ means not conducted for profit, cost-recovery or re-sale.

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

‘Product’ means a value-added enhancement of data applied to a particular application.