



2021 United Nations Decade
2030 of Ocean Science
for Sustainable Development



Decade
Coordination
Office
**Ocean
Data Sharing**

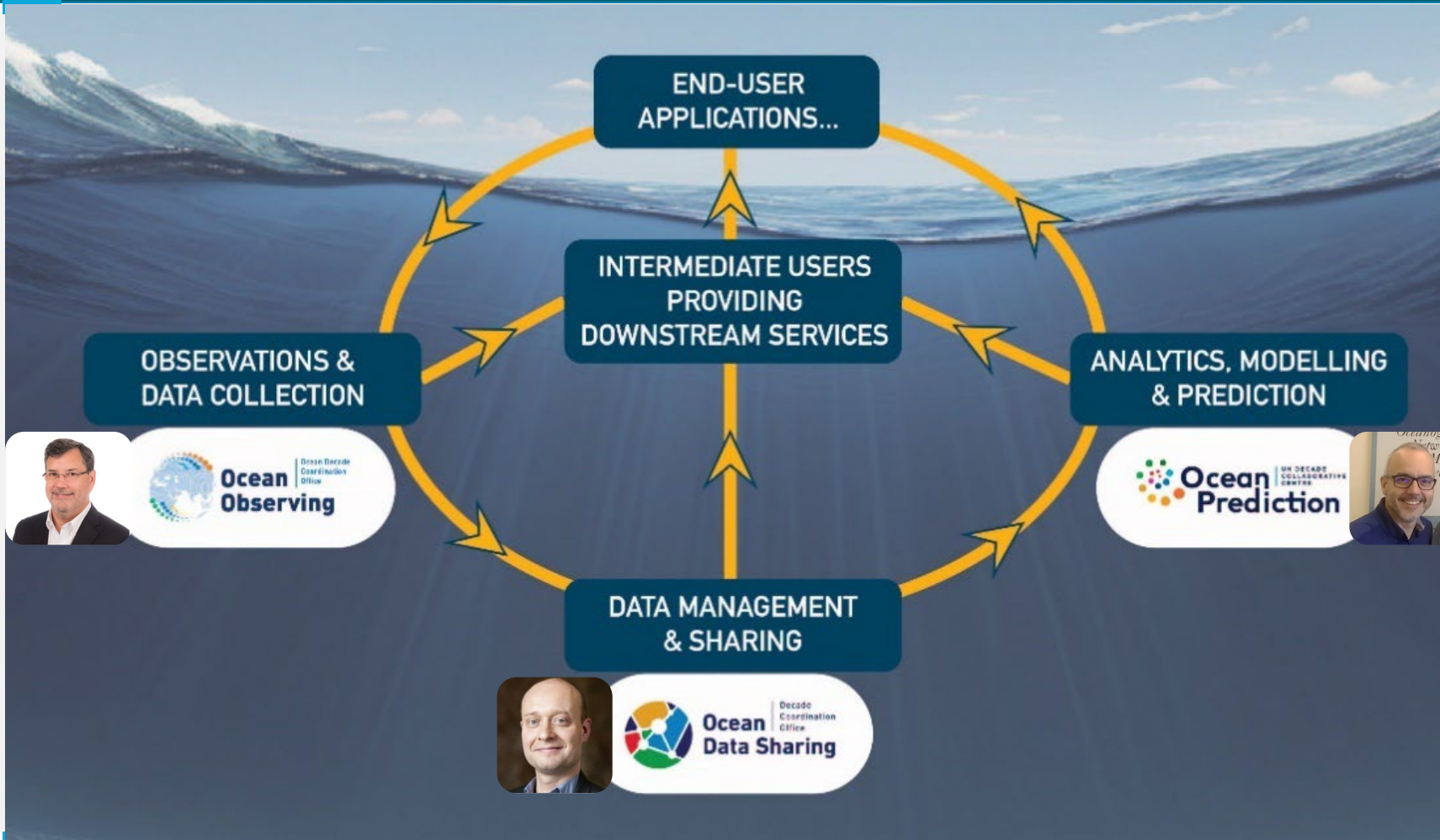


DECADE COORDINATION OFFICE FOR OCEAN DATA SHARING OCEAN INFOHUB, ODIS AND OCEAN DATA 2030

2024 05 16 OIH FINAL MEETING

JAN-BART CALEWAERT

Key Components of a globally distributed, trusted, inclusive, and interconnected ocean data and information ecosystem



- The main aim of the Decade Coordination Office (DCO) for Ocean Data Sharing is to **establish, promote and coordinate** the data management and sharing component of the digital ecosystem needed for the Ocean Decade to be successful.



What will the Coordinating Offices do?

- **Coordination, facilitation and engagement of stakeholder communities**
 - Support links with other value chain components & maintain information flow // Avoid duplication of effort
 - Foster cross-disciplinary co-design
- **Coordination and support of Decade Actions**
 - Provide strategic advice re new and existing calls (fill gaps) / actions (align/connect) + link needs with expertise/capacities
 - Encourage development of technical & scientific capacities
 - Assist in addressing data gaps and infrastructure needs
- **Communications, public awareness & mobilisation of resources**
 - Raise awareness of data collection, sharing & data literacy
 - Develop partnerships // Communicate successes

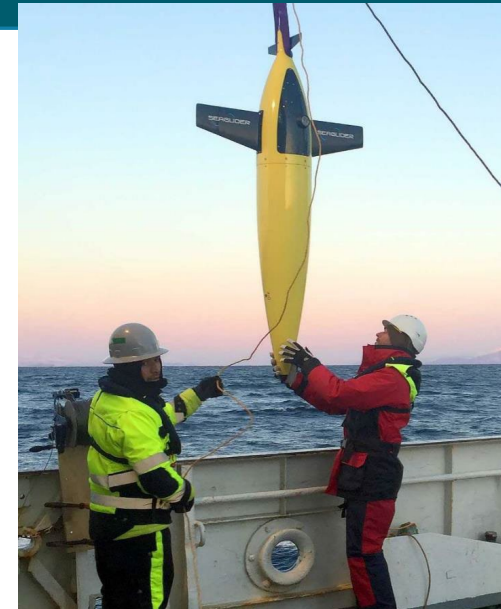


Photo: Kongsberg

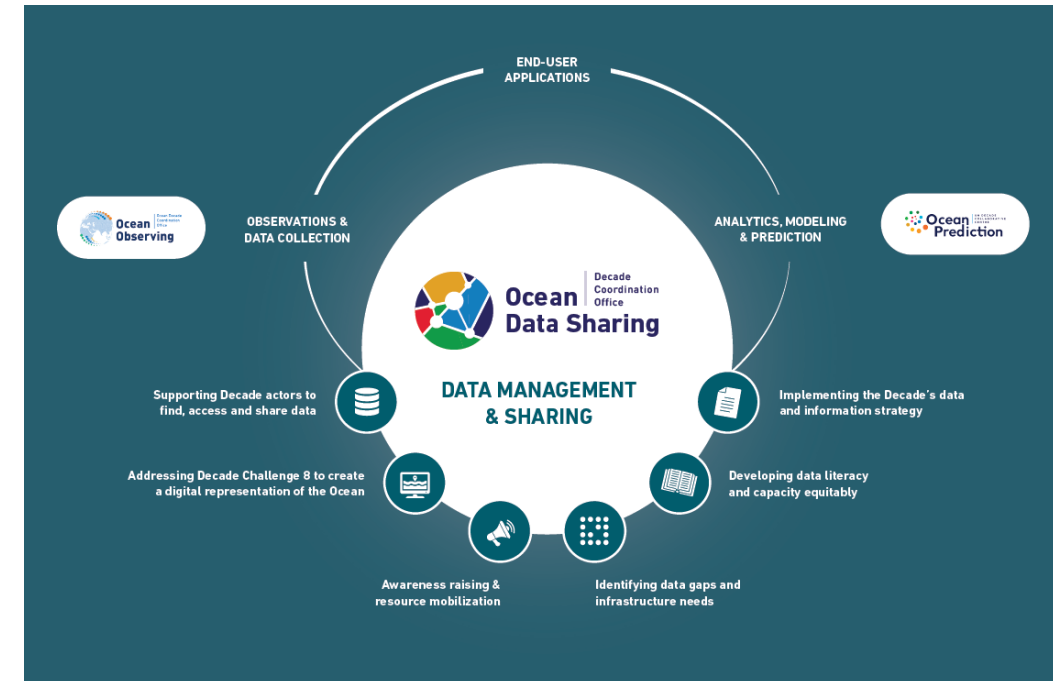


DCO for Ocean Data Sharing

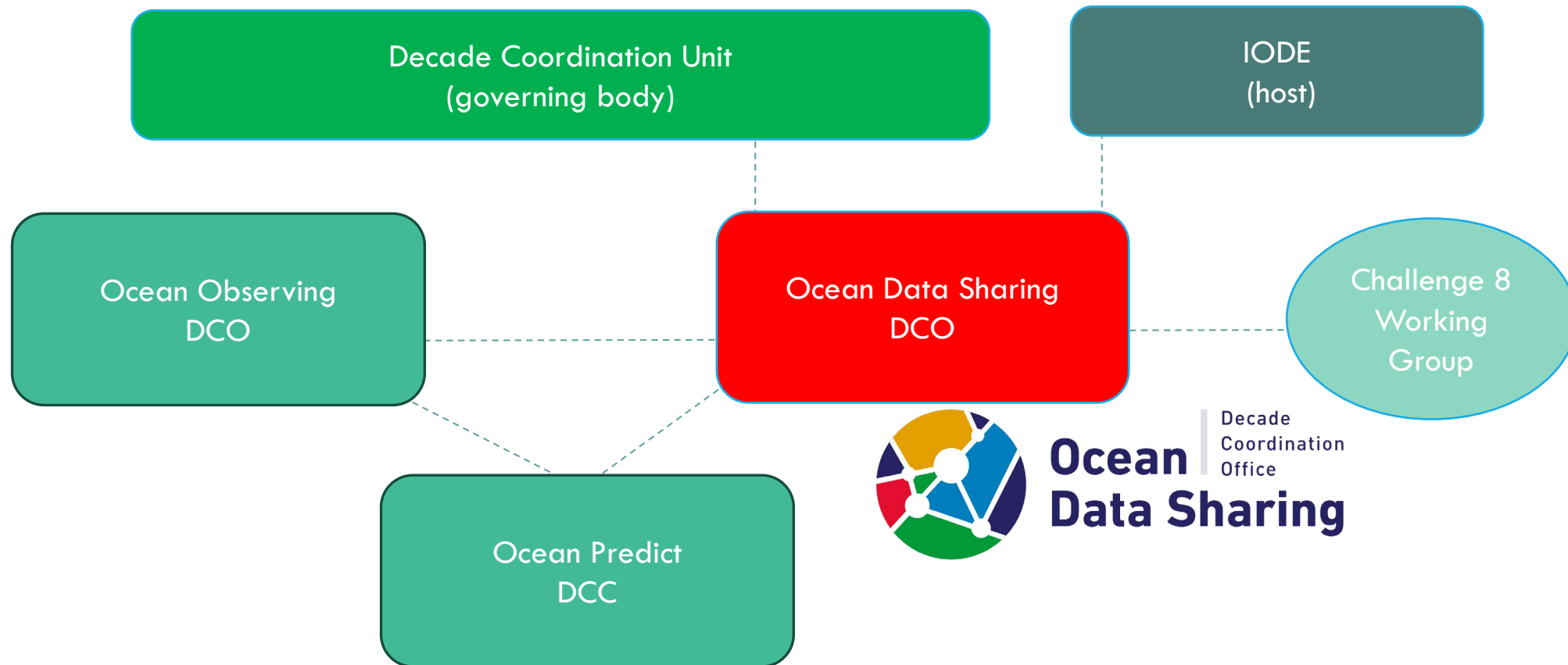
Building understanding and capacity to transform ocean data sharing in the Decade



- **Coordinate & interconnect the data-sharing component of the digital ecosystem** for the Ocean Decade → Help **implement the Decade's Data and Information Strategy**
- **Assist Decade collaborators with data sharing guidance** to achieve the highest possible data quality and adherence to **FAIR and CARE** principles.
- Facilitate and support efforts to **address Challenge 8 – Creating a digital representation of the Ocean**
- **Promote data literacy and capacity equitably**
- Help identify and address **data gaps and infrastructure needs**



Ocean Data Sharing DCO – Core relationships



Working alongside other Coordinating Offices across disciplines

DCU



DCO-ODS Website now available

<https://oceandatasharing-dco.org/>

Includes information on the essential components that serve as the foundation for shaping and advancing the Decade's Digital Ecosystem, to help drive the Community of Practice on Data Sharing and underpin the support to Decade Actions;

Featuring online resources developed by the DCO-ODS:

- [Data Resource toolkit](#)
- [Online Data Help Desk](#)



DATA SHARING TOOLKIT

DATA HELPDESK

JOIN THE COMMUNITY OF PRACTICE

About ▾ Our Decade Actions Vision 2030 Working Group 8 Events News

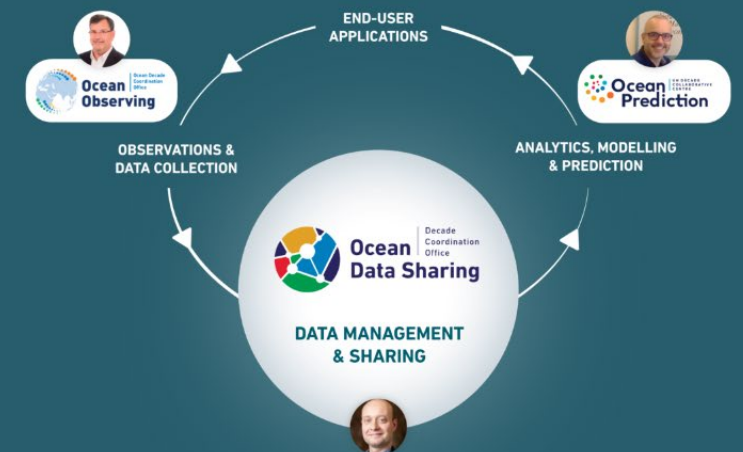
Overview

What is a DCO?

Decade Coordination Offices (DCOs) provide targeted support to the Ocean Decade through a coordination and catalysis role for Decade Actions at the regional or thematic level, in this case on the topic of ocean data sharing.

The DCO for Ocean Data Sharing, is to support Decade Actions with capacity development, awareness raising, tracking of progress and resource mobilisation, as well as catalysing new partnerships and initiatives as part of the Decade.

Currently, the DCO for Ocean Observing is led by Terry McConnell and hosted by GOOS, the DCC for Ocean Prediction by Enrique Alvarez Fanjul and hosted by Mercator Ocean international, and the DCO-Ocean Data Sharing is currently led by Jan-Bart Calewaert and hosted by IODE.



Decade Data Resources and Guidance - toolkit

Ocean Decade Data Resources Toolkit



[Data and Information in the Decade](#)

[Data management guidance](#)

[Policies and Principles](#)

[How \(and where\) to share my data?](#)

[Training & Courses](#)

[Case studies / Examples](#)

[Where to find the data I need](#)

[Contact us / Online Help desk](#)

[FAQ \(?\)](#)



Decade
Coordination
Office



- **Draft version 1 available** via the CoP files section
- Added into the website as one built-in page
- Any suggestions, ideas, comments and/or questions can be provided to the Decade Coordination Office for Ocean Data Sharing (DCO-ODS) using - oceandatasharing@unesco.org.

Box I – Data and information in the Ocean Decade?

Data and Information are key enablers to achieve the Ocean Decade outcomes. The [Decade Implementation Plan](#) recognises that “Digitizing, accessing, managing and, most importantly, using ocean-related data, information and knowledge will be cornerstones of the success of the Ocean Decade.” To facilitate this, a Decade Data and Information Strategy was developed in 2023.

➤ The Ocean Decade’s Data and Information Strategy

To deliver on the Decade’s ambitions, the [Data and Information Strategy](#) was formulated with the vision to build a trusted, inclusive and interconnected ocean data and information ecosystem that is actively used for decision making to support sustainable ocean management. The Strategy aims to catalyse a solution-oriented, global digital transformation for the digital ecosystem we need to overcome the [Decade Challenges](#).

The five strategic objectives are:

- Develop an ocean digital ecosystem that encourages the sharing and equitable access of multidisciplinary data, information and knowledge by all;
- Improve data discovery and usability across the ocean digital ecosystem;
- Build trust in data and information shared across the ocean digital ecosystem;
- Prioritise digital solutions that support decisions for sustainable ocean management;
- Expand, empower, and mobilise global communities to advance and maintain the ocean digital ecosystem.

The Decade’s Data and Information Strategy starts from the understanding that despite the multiplication of data from diverse sources, **it is still very difficult for users to find, retrieve and use the data and information they need**, and we still have major data gaps to fill. Equally, many Decade actors who are generating data face **challenges in sharing this data in a way that is findable, accessible and interoperable** for the community of users.

There are some key steps that can ensure that data collected by decade actors is made visible and usable, and to help all actors find and use the data they need. These include:

- Having or following a good data policy (see box III)
- Developing a sound data management plan (see box II)
- Creating good and complete metadata associated with all datasets (see box II)
- Using/developing and agreeing on common standards (see box II)
- Reporting data effectively (see Box II)
- Storing data in a suitable repository making the data Findable, Accessible, Interoperable and Reusable (FAIR) (see box IV)

In the following sections you can find some useful resources, tools and templates that will help to guide you in each of these steps.

Read full report:

Ocean Decade data & Information Strategy: The United Nations Decade of Ocean Science for Sustainable Development (2021-2030) <https://unesdoc.unesco.org/ark:/48223/pf0000385542>

BOX II - Data management guidance

Data Management Plans

Developing a good data management plan is a crucial first step in robust data stewardship. A good data management plan outlines how data will be managed during the life cycle of any project. It will cover everything from data collection processes, quality assurance/ quality control, creation of metadata, data storage and submission to a suitable repository.

The [IODE Guidelines for Data Management Plans](#) - are an extremely useful resource to check if a data management plan (developed or to be developed) is adequate in relation to sharing “information on the management and sharing of data, information and resulting knowledge” of a project or programme. See below, also, under “tools and templates”, some templates for developing DMPs.

- <https://unesdoc.unesco.org/ark:/48223/pf0000256544>

Guidelines and best practices:

Below are some guidelines and best practices where you can find more information on how to publish your data and/or information as well as how to develop relevant plans and adopt FAIR data principles.

- Guidelines for **data publishing** – including *in situ* physical/chemical data, glider data, biological observation data, model/ gridded data, geospatial data – and **Metadata** requirements. <https://ioos.noaa.gov/data/data-standards/data-publishing/>
- Manuals, guidelines, standards and best practices collected in the IOC Ocean Data and Information System (ODIS) ‘Catalogue of Sources’ <https://catalogue.odis.org/search/type=14>
- AquaDocs (<https://aquadocs.org/pages/About>) has recently been proposed/promoted as recommended **repository for storing/sharing publications** coming as outputs from Decade Actions
- **Ocean Best Practices** is a repository of best practices related to ocean science. It contains generic **best practices on data management and data collection**, as well on thematic areas (e.g. sensor types, thematic focus, environment, etc...) <https://www.oceanbestpractices.org/>

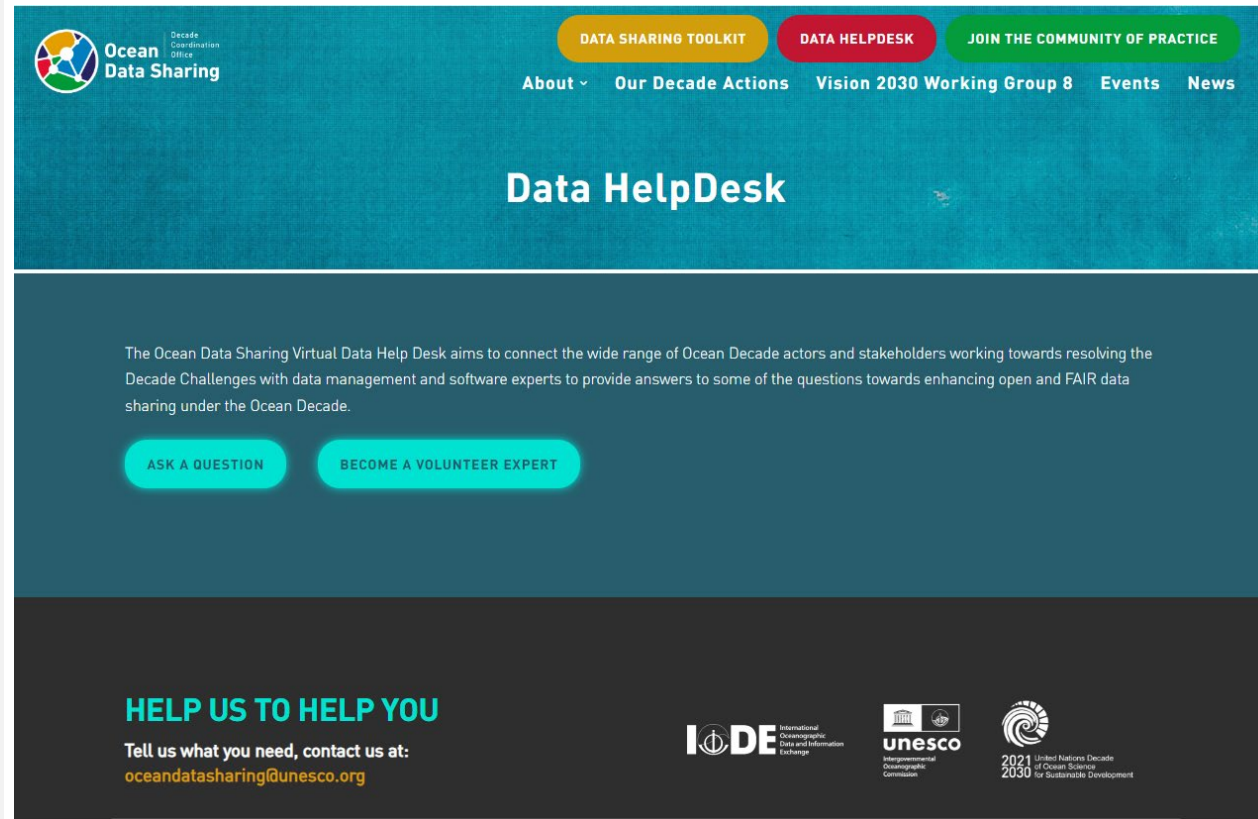
Standards

Using, and/or developing and agreeing on common standards is the first step in making data interoperable. Below are some high-level examples,

- Open Geospatial Consortium (OGC) standards to improve access to geospatial, or location information – the glue to geospatial information interoperability - <https://www.ogc.org/standards/>
- The International Organization for Standardization (ISO) 19115 Geographic Metadata Standard (ISO 19115) www.earthdata.nasa.gov/esdis/esco/standards-and-practices/iso-19115
- The European INSPIRE Directive specifies common data models, code lists, map layers and additional metadata on the interoperability to be used when exchanging spatial datasets. <https://inspire.ec.europa.eu/data-specifications/2892>

Online Data Helpdesk

- **User-friendly platform where end users can seek answers to specific questions** related to their data needs.
- Powered by a **dedicated team of data experts** ready to respond to users' inquiries.
- A **collaborative platform** that reflects DCO-ODS's commitment in promoting accessibility, transparency and proficiency in data sharing in the public domain.
- Questions submitted to the Help Desk will provide valuable information to **understand the most common data concerns** encountered by users, enabling continuous enhancement of the support services helping to address the evolving needs of the ocean data sharing community.



The screenshot shows the Ocean Data Sharing Data HelpDesk website. The header includes the Ocean Data Sharing logo and navigation links: DATA SHARING TOOLKIT, DATA HELPDESK, and JOIN THE COMMUNITY OF PRACTICE. Below the header, the main heading is "Data HelpDesk". The main content area features a paragraph: "The Ocean Data Sharing Virtual Data Help Desk aims to connect the wide range of Ocean Decade actors and stakeholders working towards resolving the Decade Challenges with data management and software experts to provide answers to some of the questions towards enhancing open and FAIR data sharing under the Ocean Decade." Below this text are two buttons: "ASK A QUESTION" and "BECOME A VOLUNTEER EXPERT". At the bottom, there is a section titled "HELP US TO HELP YOU" with the contact information "Tell us what you need, contact us at: oceandatasharing@unesco.org". The footer includes logos for IODE (International Oceanographic Data and Information Exchange), UNESCO (Intergovernmental Oceanographic Commission), and the 2021 United Nations Decade of Ocean Science for Sustainable Development.

DCO-ODS Community of Practice

- **What?** An interactive forum, for Decade Actions to connect, exchange, and share knowledge related to Ocean Data Sharing.
- **Why?** Data and information are cornerstones of the Decade, there is a need to build capacity in data and information sharing.
- **How?** The DCO for Ocean Data Sharing will facilitate but this is a community where you (Actions) can exchange expertise, experiences and help each other.
- As of today, the CoP has 48 members.
- Are you linked to an endorsed Decade Action and interested in connecting to the ocean data sharing community? Join our Community of Practice.
- If you are not – or not yet – an endorsed Decade Action, then feel free to register your interest in the work of this DCO by sending us an email at oceandatasharing@unesco.org

2021 United Nations Decade of Ocean Science for Sustainable Development 2030

Welcome Live feed Take Action! Learn Groups Share Connect Coordination

Ocean Data Sharing (COP)

Live feed Members Events News Media centre Forums

Write a post

Communication

Ocean Data Sharing (COP) created a communication 14 days ago

Announcement: VLIZ Travel Grants Available for UN Ocean Decade Conference 2024

Dear Ocean Data Sharing CoP members and young Ocean enthusiasts,

We are pleased to inform you that the the National Decade Committee for Belgium (NDC-BE), organised by NDC-BE Secretariat – Flanders Marine Institute (VLIZ), will facilitate travel grants to Early Career Ocean Professionals (ECOPs) (<10 years of experience) working in Belgium and from the Global South, to

About

Welcome to the Ocean Data Sharing Community of Practice!

This Ocean Data Sharing Community of Practice will be a space to discuss and exchange questions, knowledge and resources on all things ocean data related.

Primarily aimed at supporting Decade Actions, this interactive space will connect the ocean data and information-sharing community to foster dialogue and build capacity in data sharing and management in the Decade.

Hosted by and working in close collaboration with IODE, the Ocean Data Sharing DCO has been established to support the Decade Actions with their data and information management needs, contributing to the implementation of the Decade's Data and Information Strategy and ensuring a successful outcome for Ocean Decade Challenge 8 "Creating a Digital Representation of the Ocean".

Ocean Data Sharing Decade Coordination Office

DATA SHARING TOOLKIT DATA HELPDESK JOIN THE COMMUNITY OF PRACTICE

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Ocean Data Sharing Community of Practice

Join the Community of Practice

This Ocean Data Sharing Community of Practice will be a space to discuss and exchange questions, knowledge, and resources on all things ocean data related.



Initially limited to endorsed Decade Actions, this interactive space will connect the data and information-sharing community to foster dialogue and build capacity in data sharing and management in the Decade.

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DCO-ODS Associated Decade Actions

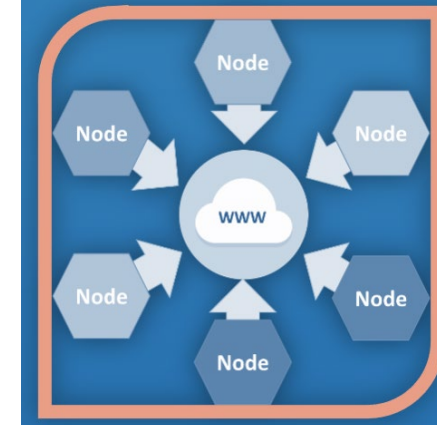
- Connected to **4 Primary Attached** Programmes and Contributions
 - **Ocean Data 2030** (Programme, Lead: IODE)   International Oceanographic Data and Information Exchange
Ocean InfoHub
Development of an open-source data and information system that will link existing ocean information systems around the world, and enable more efficient discovery of data, information and knowledge products.
 - **Digital innovation Hand-in-Hand with fisheries and ecosystems scientific monitoring** (Programme, Lead: FAO)
 - **World Ocean Database Programme (WODP)** (Contribution, Lead: NOAA)
 - **GEOTRACES** (Contribution, Lead: U.S. National Science Foundation on behalf of international GEOTRACES partners)
- Connected to **1 National Decade Committee (Belgium)** and **3 Decade Implementing Partners (EurOcean, EMODnet, Chinese National Marine Data and Information Service NMDIS)**
- In total, **106 endorsed actions** address Challenge 8 — Creating a digital representation of the Ocean, including: **18 programmes, 64 projects** and **24 contributions**.

OceanData2030

- The Decade programme ‘An Ocean Data and Information System supporting the UN Decade of Ocean Science for Sustainable development’ (OCEANDATA 2030) is led by IODE of the Intergovernmental Oceanographic Commission (IOC).
- Development of an **open-source data and information system** that will link existing ocean information systems around the world, and enable more efficient discovery of data, information and knowledge products.
- The **Ocean Data and Information System (ODIS)** and **Ocean InfoHub** are central elements of the OceanData2030 Programme.
- Hosting Ocean Decade projects:
 - Marine Regions / From global gazetteer to global community*
 - Portuguese National Oceanographic Data Centre*
 - World Ocean Database Cloud*

Bibliographic infobases (catalogues and repositories)	Code lists and vocabularies	Data catalogues	Data products (model output, forecasting, climatologies...)
Data systems/portals (allowing downloading of datasets)	Education and training materials	Information on platforms (buoys, sensors, floats, gliders, satellites...)	Information on experts and organizations
Information on projects	Information on vessels	Journals (open source and commercial)	Manuals, guidelines, standards and best practices
Maps and atlases (geospatial products)	Multimedia content	Real-time observing systems	Software (ocean related)

Oceans (ODIS)



Summary White Paper 8 – Digital Representation Ocean



Strategic Ambition Setting for Challenge 8 White Paper

WHO ARE OUR USERS

Everyone - diverse in expertise & area, leave no one behind

- professional (hands on)
- professional (not hands on)
- non-professional/public
- **other 9 challenges are proxy users** defining data & info needs (both content & services)

WHAT DO THEY NEED?

- easy access to ocean data & information (multidisciplinary)
- tools/services for accessing and sharing data, information and knowledge

DIGITAL CONTENT NEEDS

All (types) data and information from Decade must be made available / FAIR

Particular focus on (≥ 10) **priority data products & underpinning data**

Data-layers as drivers to pull in data

- Address data-gaps, agree on standards & improve interoperability
- Leverage existing communities
- Must be societally relevant (other challenges)
- Must be co-developed in a transparent process

Global layers must be **complemented with (≥ 10) local case studies** (SIDS & LDCs)

DIGITAL SERVICES NEEDS

1. Federated Global Ocean **Data Discovery and Access Service (DDAS)** with Help Desk & Ingestion Service
2. A global **Technical and Organizational Structure for Ocean Forecasting**
3. Online user-friendly **Digital Atlas of the Ocean**
4. **Marine Knowledge exchange platforms & mechanisms**
5. **Enhanced Capacity Development and Training** facilities & resources

NEXT STEPS

- **Incorporate feedback** on strategic ambition and finalise by May 2024
- **Align with the Data and Information Strategy Implementation Plan** (pending)
- Elaborate and implement process for **selection, validation and co-development** of globally relevant data products and use cases
- **Implement service ideas**, building on what exists / recommended practices
- Implement **synergies with other WPs**
- **Activate relevant Decade Actions, Implementing Partners and Communities of Practice** for implementation – calls for new Actions where needed
- **Activate Expert Group** to drive and monitor progress of Strategic Ambition implementation





Ocean
Data Sharing

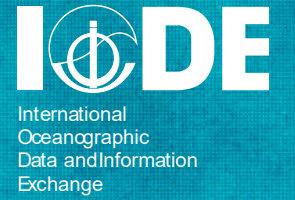
Decade
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Office

Working together towards a lasting Legacy

Implementation of the Decade data and information Strategy to:

- Enable a federated ocean digital ecosystem [working with Ocean Data 2030, DSIG, DCG, DCC-OP, DCO-OO]
- Transform data management & sharing practices/tools
- Promote a cultural change across all disciplines
- Make it easier for everyone (science, citizens, blue economy and public bodies) to find, access and share data, information and knowledge
- Provide the data, services and information to:
 - Fill knowledge gaps
 - Enable decision-makers to make informed choices
 - Promote ocean literacy
 - Support a sustainable blue economy
 - Address the global challenges we face





THANK YOU