

ROADMAP

FOR COOPERATION ON THE UN DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT 2021-2030

BETWEEN IOC/UNESCO AND DG RESEARCH
AND INNOVATION, EUROPEAN COMMISSION

12 APRIL 2024

PREAMBLE

The UN Decade of Ocean Science for Sustainable Development 2021-2030 ('Ocean Decade') offers an exceptional opportunity and a global framework to generate the knowledge, science and solutions needed to halt the increasing degradation of our seas and ocean to preserve their existential role for the future of humanity and our planet. The Ocean Decade will contribute to the 2030 Agenda for Sustainable Development and the achievement of the targets of Sustainable Development Goal 14 'Life Below Water', as well as numerous other SDGs that depend on ocean science and knowledge, whilst delivering substantive contributions to related global policy frameworks, including the Paris Agreement, the High Seas Treaty (BBNJ) and Global Kunming-Montreal Global Biodiversity Framework.

The European Commission is committed to the 2030 Agenda and the EU is implementing an ambitious policy programme to deliver on sustainability of the ocean in the EU and beyond through its European Green Deal. The Sustainable Development Goals (SDGs) lie at the heart of EU policymaking on internal and external action across all sectors and SDG 14 functions as the compass of the EU's Ocean policy.

Reaching the SDG 14 targets and global ocean policy objectives is crucially dependent on ocean science and research. As a global leader in capacity, investments, infrastructure and outputs in marine science, research and innovation, the European Union is directly contributing to delivering the science we need for the ocean we want.

In the European Commission, DG Research and Innovation (DG RTD) is responsible for EU policy on research, science, and innovation. Through its programmes, initiatives and partnerships, DG RTD is addressing the systemic nature of the challenges facing the ocean and driving the necessary transitions towards ocean sustainability.

The purpose of the Intergovernmental Oceanographic Commission of UNESCO (IOC) is to promote international cooperation and to coordinate programmes in research, services and capacity-building, in order to learn more about the nature and resources of the ocean and coastal areas and to apply that knowledge for the improvement of management, sustainable development, the protection of the marine environment, and the decision-making processes of its Member States. As mandated by the UN General Assembly, the IOC is in charge of coordinating the Ocean Decade.

The EU and UN are natural partners in the multilateral system. With this roadmap, DG RTD and the IOC will structure and strengthen their cooperation on the Ocean Decade. The IOC and DG RTD will recognise the importance of their linked activities and mutually support each other's activities, align programmes, and promote a closer partnership.

1. EXISTING ALIGNMENT BETWEEN THE OCEAN DECADE AND EU PRIORITIES

The Ocean Decade is a global action framework that convenes diverse global, regional, and national actors in processes of co-design and co-delivery of initiatives that contribute to the ten Ocean Decade Challenges. Solicited through biannual Calls for Decade Actions, a growing portfolio of approximately 50 Decade programmes and close to 300 projects led by research institutions, NGOs, governments and other partners are generating transformative ocean science and knowledge. The **European Commission has been directly and indirectly contributing to the preparation and implementation of the Ocean Decade** and its related programmes through many ongoing EU programmes, partnerships, events and projects, which are well aligned with the Decade Objectives, Outcomes and Challenges. Likewise, many initiatives and programmes of the EU Member States are contributing either directly or indirectly to the Ocean Decade.

Key EU contributions to the Ocean Decade include (i) **Horizon Europe**, (ii) the **EU Mission Ocean and Waters** including its **European Digital Twin of the Ocean**, (iii) the **European Sustainable Blue Economy partnership (SBEP)** and (iv) the **All-Atlantic Ocean Research and Innovation Alliance (AAORIA)**, all of which have been presented as commitments by the EU at the UN Ocean Conference 2022. They will provide further input to the implementation and future evolution of the Ocean Decade, which is an important element to communicate about from both sides. Furthermore, the goals of the Ocean Decade are systematically considered by DG RTD in its policy-making and actions to strengthen ocean science and research and innovation. Through the EU Mission Ocean and Waters, Horizon Europe Cluster 6 Intervention Area 4 “Seas, Oceans and Inland Waters” and the Sustainable Blue Economy Partnership alone, the **EU is providing funding of more than EUR 900 million in 2021-2024 to ocean research and innovation**, with further investments from other European partnerships and other parts of Horizon Europe.

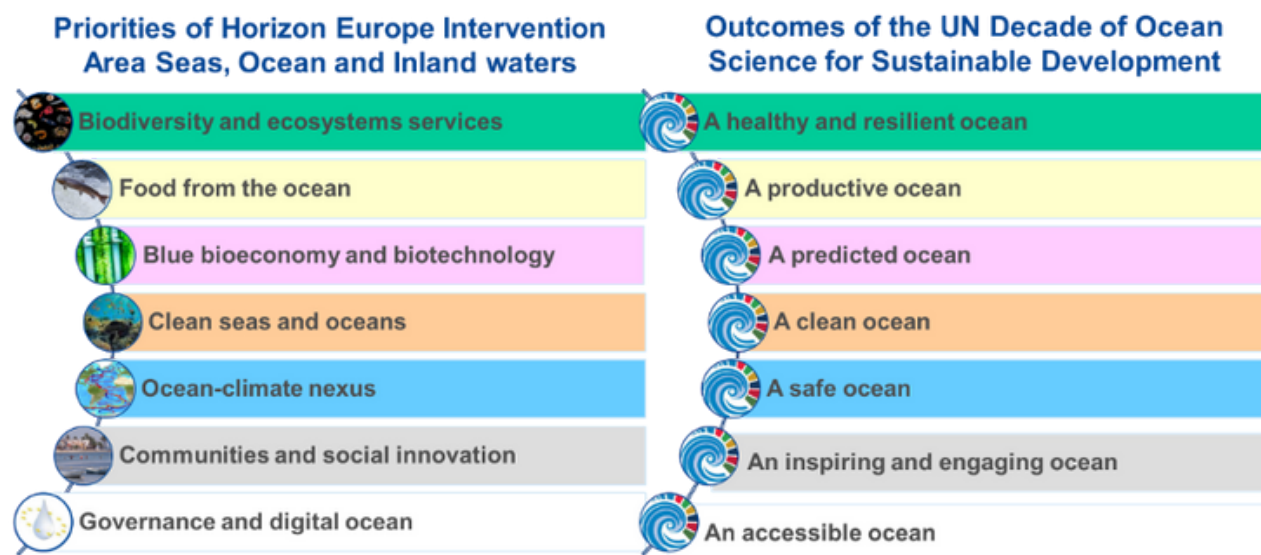
1.1 EU PROGRAMMES AND INITIATIVES SUPPORTING THE OCEAN DECADE

1.1.1 HORIZON EUROPE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

Horizon Europe is the largest and most ambitious programme for research and innovation in the history of the EU with a budget of EUR 95.5 billion for 2021-2027, of which 35% will be dedicated to climate action. Almost EUR 9 billion are allocated to Cluster 6 “Food, bioeconomy, natural resources, agriculture and environment”, including to its Intervention Area “Seas, Oceans and Inland waters”.

The main goal of the Intervention Area is to generate knowledge and solutions to better balance the effective protection and restoration of ocean and seas and their sustainable use. This overarching goal is broken into seven priority areas which are very well aligned with the seven Decade Outcomes.

Figure 1: Alignment between Horizon Europe priorities and the Ocean Decade Outcomes



Horizon Europe includes specific provisions in its legal base and Work Programmes to explicitly encourage and enable projects to contribute directly to the Ocean Decade. This has led to at least 27 EU-funded projects directly connecting and contributing to Decade programmes, actions and collaborative centres. For instance:

- ▶ [The partners of EU-funded projects](#) (AANCHOR, EcoScope, FishEUTrust, FutureMARES, GE4SEAS, ILIAD, MarinePlan, MPAEurope, OBAMA-NEXT, REST-COAST, SUMMER) [are the proponents, coordinators or working group leaders of a number of Decade Actions, including Decade Projects](#) (e.g. Global Ocean Oxygen Database and ATlas (GO2DAT), Ocean Cities Network (OC-NET), Coastal observatory for climate, CO2 and acidification for the global South society (COCAS), Mangroves as Nature-based Solutions to Coastal Hazards in Eastern Ghana (MANCOGA), research program for Climate Action Planning (CLAP)); [Decade Programmes](#) (e.g. CoastPredict, Digital Twins of the Ocean (DITTO), Challenger 150 - A Decade to Study Deep-Sea Life, Joint Exploration of the Twilight Zone Ocean Network (JETZON), The Science We Need for the Mediterranean Sea We Want (SciNMeet), Marine Life 2030), and [Decade Collaborative Centres](#) (e.g. Decade Collaborative Centre for Ocean Prediction (DCC-OP)).
- ▶ [EU-funded projects are developing ocean best practices and communities of practice](#) under the Decade. For instance, ILIAD and GES4SEAS are active in the Ocean Best Practices System.

► **EU-funded projects** (e.g. iAtlantic, ASTRAL, Ge4SEAS) and their partners have contributed to the organisation of **Decade Conferences** (Ocean Decade Forum at the 2022 UN Ocean Conference / 2024 Ocean Decade Conference) and related Decade events (Ocean Literacy Dialogues, Do*Mar Summer School on Observational Oceanography).

► **IOC/UNESCO and its programmes** are participating as beneficiaries in **EU-funded projects** (e.g. ALBATROSS, BioEcoOcean, C-BLUES, DTO-BioFlow, eDNAqua-plan, Impetus4Change, MacoBios, MARCO-BOLO, MPA Europe, PALEOSIM, PlasticsUnderground, Polar2MidLat).

1.1.2 EU MISSION RESTORE OUR OCEAN AND WATERS 2030

The Commission (across DGs) is implementing the **EU Mission Restore our Ocean and Waters** with the objective to restore the health of our ocean and waters by 2030, which constitutes a major EU contribution to the Ocean Decade. The three Mission objectives and its two enablers – a digital ocean and waters knowledge system and broad public mobilisation – are well aligned with numerous of the Decade Challenges and the targets of SDG 14.

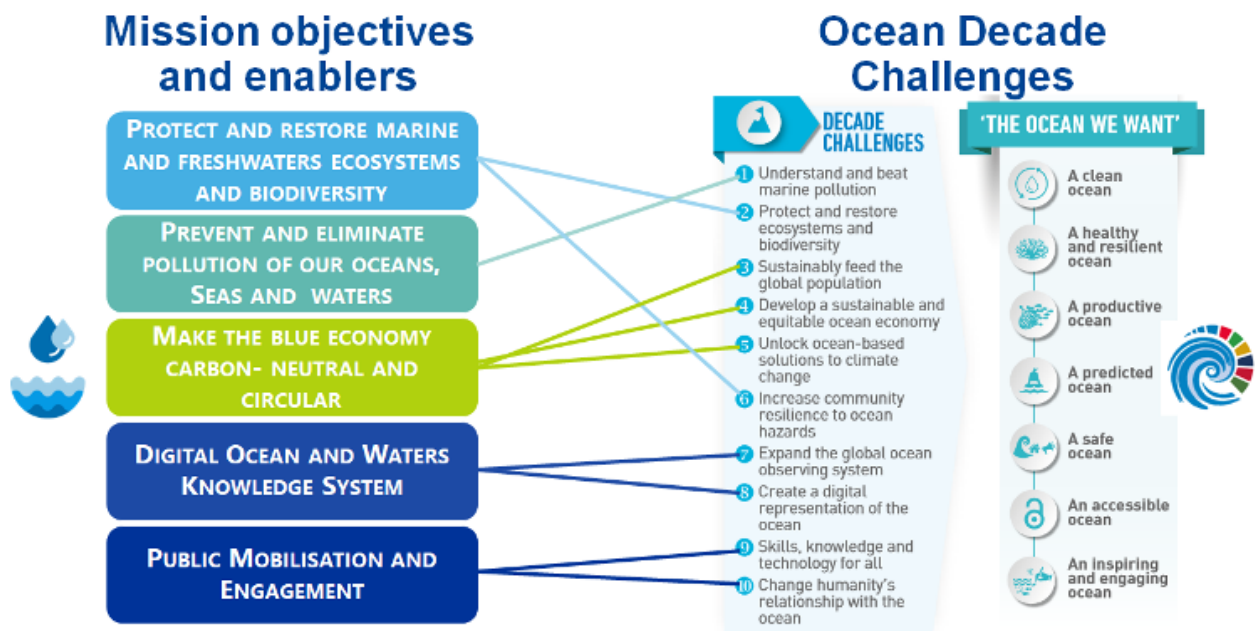
In order to achieve climate neutrality and restore nature, the European Commission is implementing a 'whole-of-government' approach under the EU Mission Restore our Ocean and Waters, treating the ocean and waters as one interconnected system. By "putting the blue into the green," the Mission will help to fulfil the objectives of the European Green Deal and of the 2030 Agenda for Sustainable Development. Through large-scale development, demonstration and deployment of innovative solutions, the Mission will specifically accelerate achieving three of the EU's 2030 objectives by:

- i. protecting 30% of the EU's sea area as well as restoring marine ecosystems and biodiversity and 25.000 km of free-flowing rivers (in line with SDG 14 targets 14.2, 14.5);
- ii. preventing and eliminating pollution at sea by reducing plastic litter by 50%, the release of microplastics into the environment by 30%, nutrient losses and use of chemical pesticides by 50% (in line with SDG 14 target 14.1); and
- iii. making the blue economy climate-neutral and circular with net-zero maritime and aquaculture emissions (in line with SDG 14 targets 14.3, 14.4).

The tried and tested innovative solutions of the Mission will be replicable in Europe and in the world. The Mission has set up four '**lighthouses**' in major European sea and river basins (Atlantic-Arctic, Baltic and North Sea, Mediterranean, Danube and Black Sea) as frameworks for cooperation. The Mission lighthouses are structuring cooperation at basin level and mobilising and collecting commitments for action from a broad set of partners under the **Mission Charter**, thus already supporting the implementation of the Decade at sea basin level. This approach aligns with the Ocean Decade focus on regional coordination and these lighthouses have the potential to further catalyse and coordinate Decade Actions at regional level.

The Mission supports the development of the **European Digital Twin Ocean**, conceived as a public good and service. The EU Digital Twin Ocean (the “EDITO projects”), as well as the EU funded ILIAD project, are contributing to the DITTO Decade Programme (Digital Twins of the Ocean), in line with the agreement of G7 Future of the Seas and Ocean Initiative (FSOI) working group to channel digital twin efforts into the DITTO programme.

Figure 2: Alignment between EU Mission Ocean and Waters objectives and Ocean Decade Challenges



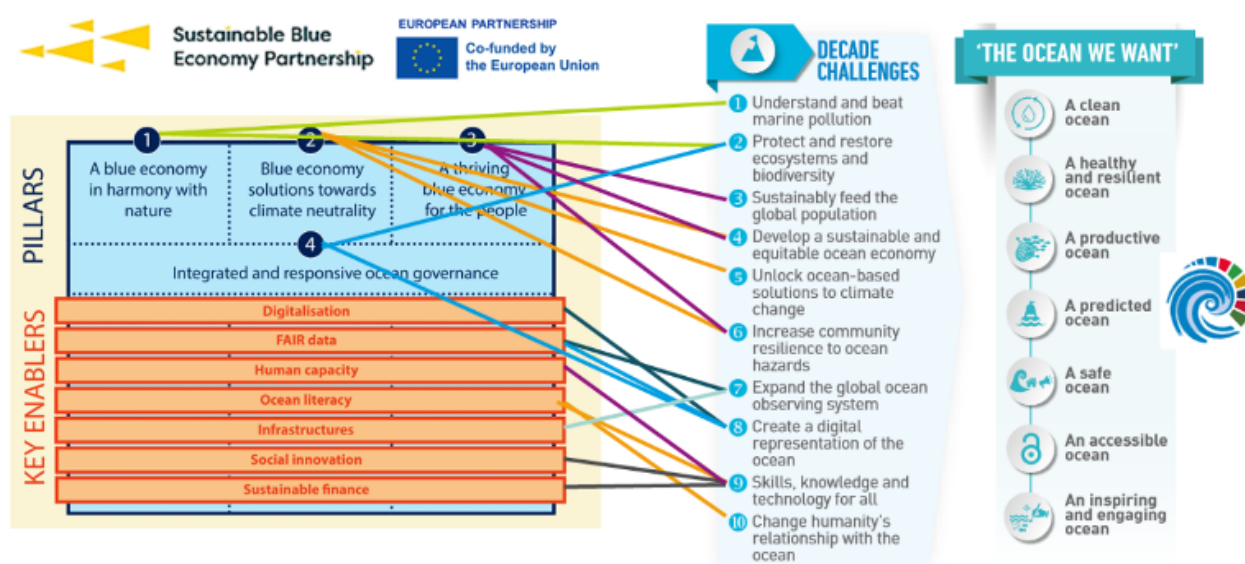
The European Marine Observation and Data network (EMODnet) aims at making marine in situ data and observation openly available, under FAIR standards and through transparent and collective governance processes. As a regional data aggregator and broker, EMODnet unlocks European observations and data resources that extend well beyond European waters, making these resources findable and retrievable to global users, among others, by connecting to global data services such as IOC-IODE’s Ocean Data and Information Service (ODIS) which is a distributed infrastructure further expanded under the Decade Programme Ocean Data 2030.

Together with the Copernicus Marine Service, EMODnet is a key component of the European Digital Twin Ocean core digital infrastructure and in junction with the EU Ocean Observation initiative will increase the flow of in-situ data towards the DTO. EMODnet is a Decade Implementing Partner (DIP), with a particular focus on supporting the implementation of the Decade Data and Information Strategy, contributing to the Decade’s Data Sharing Community of Practice (CoP), and supporting the efforts of the Decade Coordination Office for Ocean Data Sharing (DCO-ODS) to facilitate the development of a fit-for-use Decade Digital Ecosystem to the benefit of all.

1.1.3 SUSTAINABLE BLUE ECONOMY PARTNERSHIP

This European co-funded **Sustainable Blue Economy Partnership (SBEP)** consists of 60 partner institutions from 25 countries and the European Commission to pool ocean research and innovation investments and align national programmes at pan-European scale. Under the partnership, the EC will together with EU Member States and Associated Countries present a concerted European contribution to the Decade of around EUR 450 million (EU Member States and Associated Countries have preliminarily committed around EUR 300 million in addition to the EU co-funding of 150 million). The partnership's Strategic Research and Innovation Agenda (SRIA) already explicitly refers to its contribution to the Ocean Decade. In January 2024, the partnership's 2nd transnational joint call was co-branded and launched collaboratively by the Partnership and the Ocean Decade and discussions are underway to develop additional co-branded calls in the future.

Figure 3: Alignment between the Sustainable Blue Economy Partnership and the Ocean Decade Challenges



Other European partnerships like Biodiversa+, Clean Energy Transition Partnership and Zero Emission Waterborne Transport Partnership will add to the cross-sectoral R&I efforts of this Sustainable Blue Economy Partnership.

1.1.4 ALL-ATLANTIC OCEAN RESEARCH AND INNOVATION ALLIANCE (AAORIA)

The **All-Atlantic Ocean Research and Innovation Alliance** is the established multilateral science-diplomacy initiative for cooperation in ocean research and innovation in the entire Atlantic and is thus well placed to coordinate and support the regional implementation of the Decade in the basin.

The **AAORIA Declaration** was signed in July 2022 in Washington, with partners from both North and South Atlantic (Argentina, Brazil, Canada, Cape Verde, European Union, Morocco, South Africa, United States), which will further strengthen research cooperation between the EU and partners across the Atlantic with a pole-to-pole dimension, including in the Caribbean and other regions along the Atlantic coastline.

Several AAORIA partners have a strong interest and contribution to the Ocean Decade. The EU has worked with AAORIA partners and the IOC to co-organise two of the UN Ocean Decade preparatory regional conferences for the North and South Atlantic in Canada and Brazil respectively. Over the last Decade, the EU has invested over EUR 350 million in research and innovation projects to promote cooperation between European and international scientists from all around the Atlantic, which is an important international commitment to advance a long-term decadal thinking on several of the Ocean Decade's objectives, including ocean literacy and broadening engagement in ocean sciences and ocean sustainability.

Ensuring linkages with the different EU instruments also paves the way for future activities of the EU Ocean and Waters Mission in the Atlantic-Arctic Sea basin and context. During the AAORIA Forum in Cape Town in November 2023, a **joint statement** delivered a strong message concerning increasing our understanding of the relationship between the ocean and climate and developing outcome-oriented science for mitigating and adapting to the consequences of climate change, particularly for the benefit of increasing resilience of coastal communities while coordinating Atlantic Ocean observing and improving modelling capacities, including in support of marine ecosystems and biodiversity. International and regional entities have also been encouraged to become official 'supporters' of the AAORIA Declaration to nurture a strong relationship with the AAORIA community.

To date, mechanisms and structures for coordination of Ocean Decade activities in the Atlantic Ocean have been relatively weak and possible synergies exist with AAORIA and its members to explore options to enhance regional coordination, for example through the establishment of an All-Atlantic Decade Collaborative Centre (DCC).

2. COOPERATION PRIORITIES

2.1 PRIORITY AREA: MUTUALLY RECOGNISING AND PROMOTING DECADE AND EU R&I ACTIVITIES

With this roadmap, IOC and DG RTD seek to capitalise on the alignment of priorities and processes, in order to better recognise and mutually promote their respective activities.

Actions:



Formally recognise the European Commission, represented by DG RTD, as an active supporter of the Ocean Decade.



Seek endorsement of EC programmes and initiatives as formal contributions to the Ocean Decade, including Horizon Europe, Mission Restore our Ocean and Waters and its Digital Twin of the Ocean, the Sustainable Blue Economy partnership and AAORIA.



Continued collaboration on co-branded Calls for Decade Actions in collaboration with the European Sustainable Blue Economy Partnership.



Encourage relevant EU-funded projects and initiatives, including those funded by EU Framework Programmes for Research and Innovation, to support Decade Actions and structures and vice-versa, including through endorsement as Decade Actions where appropriate.



Seek recognition of IOC/UNESCO as an official 'supporter' of the AAORIA Declaration and its priorities and explore a collaboration between AAORIA and its members to support the regional coordination and implementation of the Decade in the Atlantic Ocean with a pole-to-pole dimension and to align programmes, projects, and activities.

2.2 PRIORITY AREA: MAKING MARINE DATA, KNOWLEDGE AND R&I SOLUTIONS READILY AVAILABLE

With this roadmap IOC and DG RTD seek to leverage their respective existing ocean data infrastructure and services to strengthen their shared vision to make ocean data accessible and usable for the transition to ocean sustainability.

Actions:



Seek endorsement of the **European Digital Twin of the Ocean** as a Decade project under the endorsed Ocean Decade DITTO Programme.



Continued engagement of DG RTD in the **Decade Data Coordination Group** and the implementation of the **Decade Data & Information Strategy**. Communicate and promote active involvement of European projects and experts in the **Decade Data Sharing Community of Practice**.



Explore options for EU support to the **Decade Coordination Office for Ocean Data Sharing (DCO-ODS)** and the endorsed Decade Programme **Ocean Data 2030** via appropriate mechanisms.

2.3 PRIORITY AREA: MOBILISING AND NETWORKING OF PARTNERS ENGAGED IN EU AND DECADE INITIATIVES

With this roadmap IOC and DG RTD seek to mobilise and connect a broad spectrum of public and private actors including businesses and funders to ensure that innovative science-based solutions are developed, demonstrated and deployed at scale.

Actions:



Promote the **dissemination and replication of European R&I solutions** for the restoration of the ocean, by promoting the **knowledge sharing portal¹** set up under the EU Mission Ocean and Waters with Ocean Decade partners.

¹ <https://projects.research-and-innovation.ec.europa.eu/en/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/restore-our-ocean-and-waters/mission-ocean-and-waters-service-portal>



Connect and mobilise public and private actors at sea basin level under the Mission lighthouses in the Atlantic-Arctic, Baltic and North Sea, Mediterranean Sea, Danube and Black Sea to support the regional implementation of the Ocean Decade.



Connect and bring together the 'ecosystems of partners' of the Ocean Decade and of the EU initiatives and programmes, including through joint Communities of Practice, development of knowledge products and ensuring mutual engagement and participation in working groups or other structures.



Promote EU funding opportunities with existing and future Ocean Decade Actions and partners, and vice versa for Calls for Decade Actions.

2.4 PRIORITY AREA: CONTINUED ALIGNMENT BETWEEN DECADE AND EUROPEAN ACTIVITIES

With this roadmap IOC and DG RTD seek to ensure continued alignment and connection of EU and Decade strategies and processes as well as to promote the Decade in Europe and European contributions at the global level.

Actions:



Provide each other with space at key conferences and events under the respective remits of IOC and DG RTD and deliver joint events in other relevant regional and global meetings.

These include, but are not limited to:

- ▶ 2024 Ocean Decade Conference, Barcelona, April 2024
- ▶ EU Digital Ocean Forum, Brussels, June 2024
- ▶ All-Atlantic Ocean Research and Innovation Alliance Forum, Ottawa, November 2024
- ▶ EU Mission Ocean and Waters Forum, spring 2025
- ▶ 2025 UN Ocean Conference, Nice, June 2025



Work on mutually reinforcing communications on DG RTD and Ocean Decade achievements, results and events including this cooperation.



Set up a mechanism to review and update periodically the joint roadmap including biannual meetings of IOC and DG RTD and one annual meeting at senior management level.

**For further
information visit:
The Ocean Decade**



**European Commission - Research and
innovation - Oceans and seas**



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