

## **MISSION ROUNDUP: RESTORE OUR OCEAN AND WATERS**

*Continuing our roundup series on features of Horizon Europe, in this edition of EURAXESS Worldwide Newsletter we introduce the EU Mission '[Restore Our Ocean and Waters by 2030](#)'. We start with a brief introduction to the five EU Missions, followed by a short account of the challenges facing the world's oceans, seas and vital water systems. We outline Mission Ocean's main objectives and some initiatives implemented since it kicked off in 2021. For researchers outside the EU, we include some information about accessing Horizon Europe programmes, projects and funding, wrapping up with some of the latest developments, calls, and next steps.*

### **How Europe is safeguarding the future of our oceans ... a vast endeavour**

Horizon Europe, the European Union's most ambitious research and innovation programme yet, launched five key Missions in 2021 to tackle some of the most pressing global challenges. These Missions span diverse fields: adaptation to climate change, cancer, climate-neutral and smart cities, soil health and food, and the restoration of oceans and waterways.

The Missions each set out clear targets with matching timescales and initiatives dealing with often vast and systemic problems. They draw from a network of researchers, policymakers, and stakeholders including citizen groups and young people to deliver innovative, tangible and inclusive solutions.

'Mission Ocean', in particular, stands out as a crucial response to the growing threats to marine ecosystems and our inseparable reliance on healthy water in all its forms, both land and sea-bound.

#### **Planet in crisis**

Almost without exception, the planet's oceans and seas are in crisis. Climate change, pollution, overfishing, and habitat destruction are pushing marine ecosystems to their breaking point.

Rising sea temperatures and acidification caused by increasing carbon dioxide levels threaten biodiversity, disrupt marine food chains, and reduce the oceans' capacity to absorb carbon. Eutrophication (nutrient overloading) from excessive fertiliser use on farms is another major problem.

Meanwhile, marine pollution is accumulating at an alarming rate, with an estimated 8 to 10 million tonnes of plastic waste entering our oceans each year, according to the [UN Ocean Literacy Portal](#). This waste harms marine life and releases toxic substances into the water.

Tiny fragments (micro-plastics) enter the food chain and are known to affect human health in different ways, causing endocrine disruption and disorders harming our neurological, immunity and reproductive systems.

The degradation of coral reefs and mangroves, essential for protecting coastlines and supporting marine biodiversity, only exacerbates the situation. Overfishing has led to the depletion of key fish stocks, undermining food security for millions of people worldwide. Altogether, this paints a bleak picture not only endangering marine life but also human livelihoods, coastal economies, and the health of the planet itself.

## Partnerships for change

Mission Ocean is aimed squarely at these pressing concerns. It focuses on three core themes: regenerating marine and coastal ecosystems, preventing and eliminating pollution, and creating sustainable 'blue economies'.

The Mission's strategic target is the restoration of at least 30% of marine and freshwater ecosystems across Europe by 2030, supported by innovative technologies, policies, and partnerships. This includes large-scale projects such as restoring Mediterranean coral reefs and protecting wetlands and mangroves along Europe's Atlantic coast.

Working in collaboration with cities and industries, Mission Ocean also seeks to eliminate plastic pollution in European waters and in so doing further limit the release of micro-plastics and other contaminants. One innovative project here is the use of drones and satellite technology to monitor plastic debris in real time, providing data for clean-up operations.

Another critical aspect is promoting blue economies; the sustainable use of ocean resources for economic growth. Through partnerships with the fisheries and tourism sectors, the Mission encourages new technologies such as marine-based renewable energy and sustainable aquaculture practices. For instance, the expansion of offshore wind farms along the North Sea is a direct effort to align energy needs with environmental sustainability.

## Charting success...

Since its inception, Mission Ocean has developed various activities to meet its ambitious goals. In its early phases, it focused on building partnerships across sectors, including academia, industry, and local communities. In 2022, the so-called 'Lighthouse Initiative' (see also [PREP4BLUE](#)) was launched as one of the first major actions under the Mission.

Mission lighthouses focus on establishing regional hubs bringing together local actors to implement pilot projects tailored to areas of concern. These hubs, scattered across different marine regions like the Mediterranean, the Baltic Sea, and the Black Sea, serve as testing grounds for innovative restoration projects and pollution mitigation strategies.

The Mission also introduced a novel [Blue Parks](#) programme, which designates protected areas in European waters, prioritising critical ecosystems for carbon sequestration. By safeguarding these regions, the programme not only protects vulnerable species but also enhances natural defences against climate change impacts like storm surges and rising sea levels.

Public engagement and citizen science have been essential components of the Mission from the start. The Clean Ocean Initiative (see [European Investment Bank](#)), for example, identifies projects that tackle plastic waste in rivers, seas, and on land. The goal is to finance €4 billion in public- and private-sector projects by 2025. Other ocean and beach clean-up initiatives have empowered many thousands of Europeans and communities to contribute directly to the Mission's goals, while also raising awareness about the state of our marine environment and water.

Promoting an 'all-in' approach is a major feature of all Missions. This is why the invitation to sign the [Mission Charter](#) is deliberately inclusive, welcoming "any actions at European, transnational, national, regional/local level", whether based on public or private funds, including crowd funding. Greater emphasis is placed on simply making a positive contribution to Mission Ocean's objectives, the Charter suggests.

## Access to researchers outside the EU

Another very notable aspect of Horizon Europe in general is its openness to international cooperation. While the programme is primarily funded by the European Union, researchers and institutions from outside the EU are encouraged to participate in many of the projects and initiatives, provided they meet the eligibility criteria.

For more information about eligibility, consult [‘Why participate in Horizon Europe’ fact sheet](#). EURAXESS and its Worldwide hubs are also happy to provide information and advice to researchers and teams interested in Horizon Europe and its Missions. [\[insert your contact info\]](#)

Horizon Europe has formal agreements with countries including Norway, Switzerland, and the UK, allowing researchers from these nations full access to the programme. The EU also has agreements with various other non-EU countries, such as Canada and Japan, which can participate in select Horizon Europe projects. Consult the list of [third countries participating in Horizon Europe](#) (July 2024).

International researchers can apply for funding under the various calls that Mission Ocean publishes each year, offering grants for research and innovation projects that align with its objectives. For example, a research group from Canada could contribute to a project on plastic waste reduction or collaborate with a European team studying the effects of ocean acidification.

### Clear call to action

Since its launch, the Mission has issued a number of calls for proposals covering a range of efforts, from community-led restoration projects to large-scale protection initiatives for marine biodiversity and fish habitats.

A clear mandate of the Mission is its emphasis on collaboration through coalitions and lighthouses (regional hubs) that connect local, national, and European stakeholders. Published calls include:

- ✓ European Blue Parks – Offshore marine protected areas (€11 million)
- ✓ Danube river basin lighthouse – Protection and restoration of migratory fish habitats (€7.8 million)
- ✓ Atlantic, Arctic, Mediterranean, Baltic and North Sea lighthouses – Reducing the environmental impacts of fisheries (€8 million)
- ✓ Science for Community – Building the marine Citizen Science data network (€2 million)
- ✓ Our Blue Future – Co-designing a future vision of a restored ocean and water system in the EU by 2030 and 2050 (€3 million)
- ✓ Community-led actions to restore our ocean, seas, and waters (€12.5 million)
- ✓ Coalition of waterfront cities, regions, and islands for Mission Ocean and Waters (€4 million)

### What’s the state of play?

The UN’s [‘State of the Ocean Report 2024’](#) offers an up-to-date overview of progress (or not) in terms of outcomes anticipated under the [Decade of Ocean Science for Sustainable Development](#) (2021-2030). The European Environment Agency also keeps tabs on the state of Europe’s seas and other critical marine-and water-related issues (see the [EEA Report No 2/2015](#) as an example).

The EU recently announced a major expansion of the 'Blue Energy' initiative, which supports the development of ocean-based renewable energy technologies, such as tidal and wave energy. This expansion is expected to create thousands of jobs while reducing Europe's reliance on fossil fuels.

Progress has also been reported on the establishment of the first Blue Parks and introduction of new legislation on plastic reduction. Key advances in research on marine ecosystem restoration, particularly signs of progress in developing new coral breeding techniques for large-scale reef restoration, are also worth noting.

The Mission is now entering a new phase focused on scaling up successful pilot projects, strengthening international partnerships, and capitalising on new digital developments.

### **Latest developments...**

Major news at the [Digital Ocean Forum 2024](#), held in June, was the launch of the [European Digital Twin of the Ocean](#) (DTO), which promises to "unlock the door to knowledge and its translation into actions". DTO is a digital co-creation place for different ocean-related disciplines and communities, citizens, coastal actors, scientists, and policymakers worldwide.

In July, the European Commission confirmed €126.9 in funding for 26 new projects involving research institutions, local authorities, higher education organisations, businesses, and others from 26 EU Member States plus nine Associated Countries.

Project activities over the coming years will include: sustainably managing Danube River sedimentation; combating water and soil pollution around the Mediterranean Sea Basin; protecting/restoring European natural lake ecosystems; co-managing Marine Protected Areas and improving connectivity for 'Blue Corridors'; integrating inland water data into the Digital Twin Ocean; developing communication and citizen engagement campaigns; and other initiatives.

Another key development has been the completion of a new platform ([Mission Ocean and Waters Service Portal](#)) for knowledge-sharing among researchers, policymakers, and industry leaders.

Mission Ocean is clearly much more than a research programme; it is a call to action for everyone who depends on the health of our planet. By restoring marine ecosystems, combating pollution, and fostering sustainable economies, the Mission is working to ensure that oceans, seas and water systems continue to provide food, energy, and protection for future generations.

### **More info**

Visit the [Service Portal](#) for the latest information on [Funding Opportunities](#), [Solutions and Projects](#), [Mission Lighthouse](#), [EU Blue Park Community](#), [Advisory Services](#), and other actions.