

JPI
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Annual Activities 2021

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ANNUAL ACTIVITIES

2021

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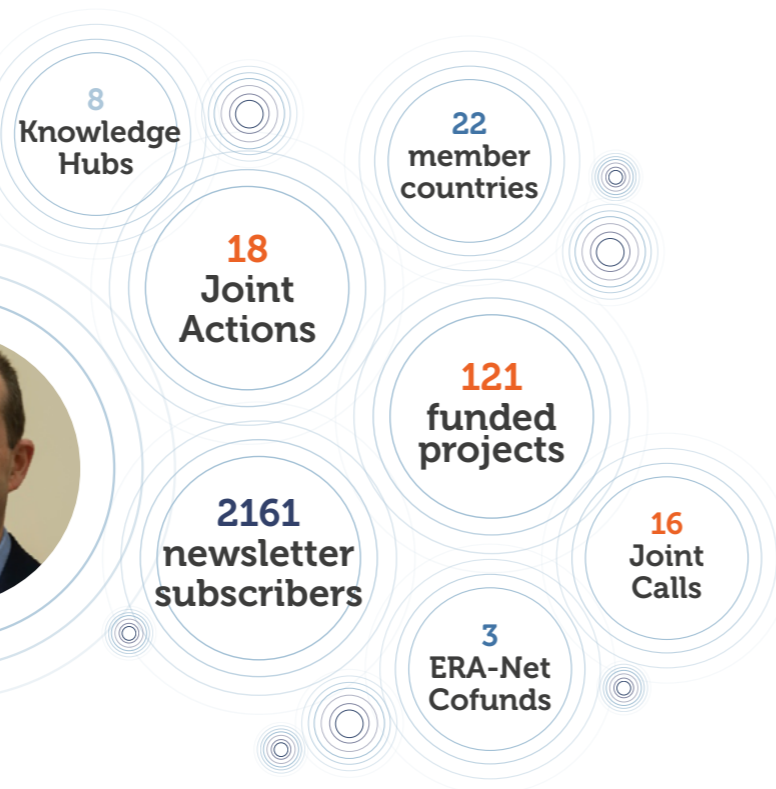


10 YEARS OF JPI OCEANS 2011-2021

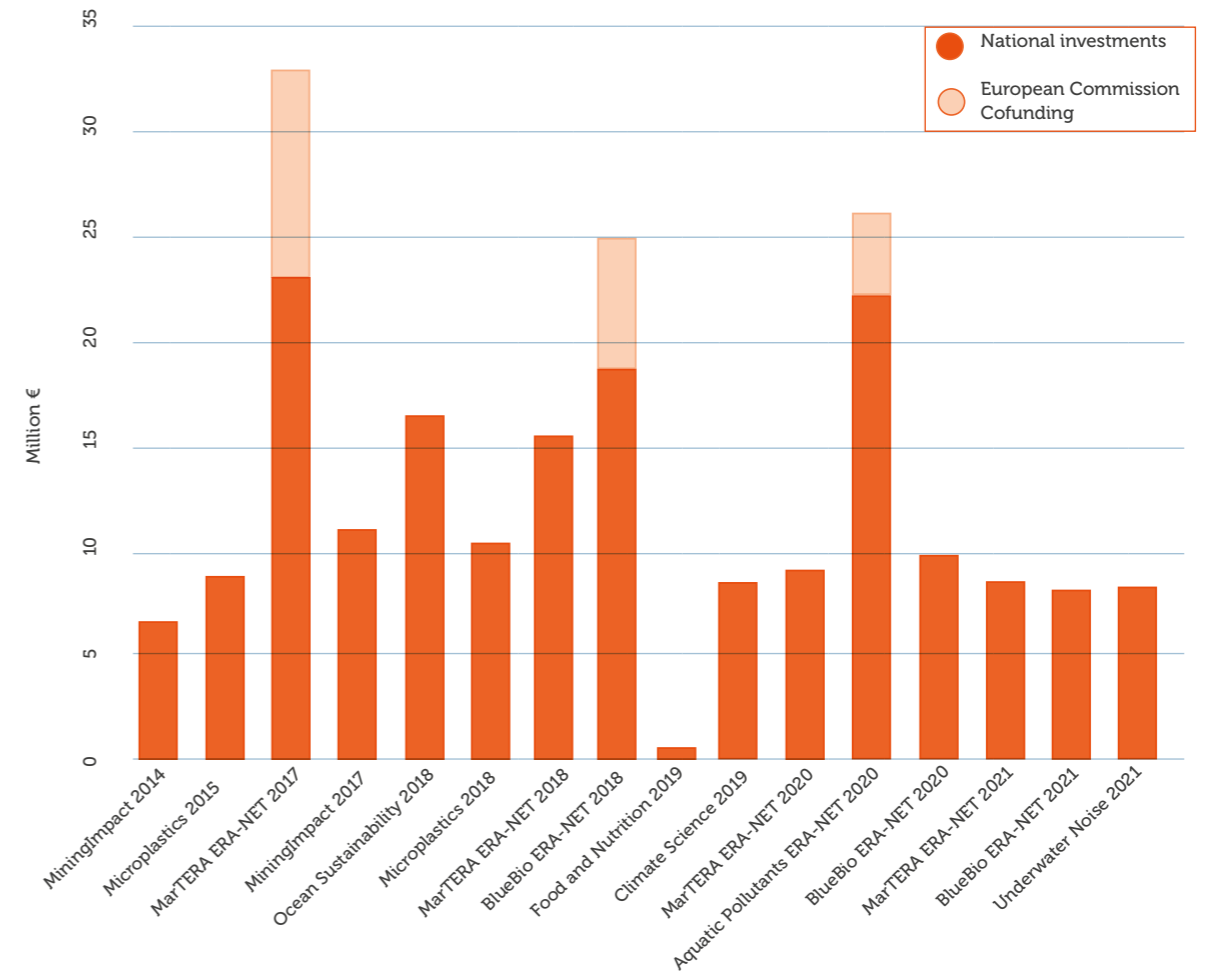
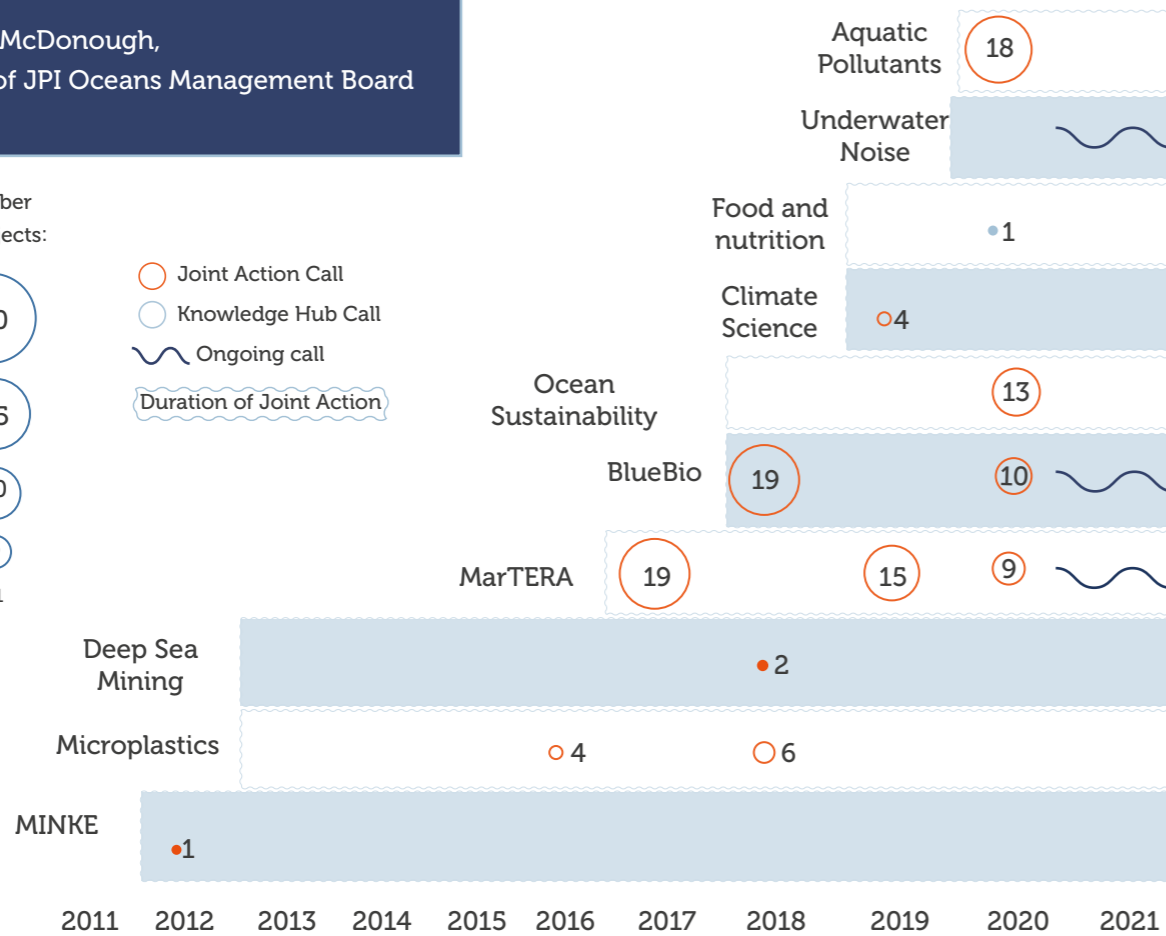
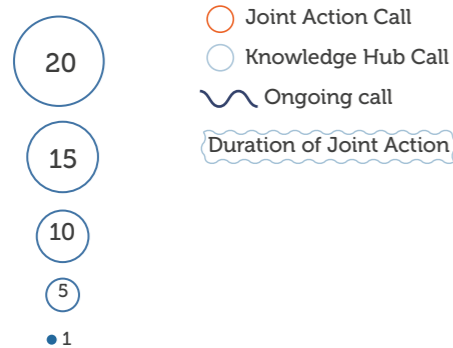
JPI Oceans has become a key platform for cooperation in marine and maritime research in Europe. National ministries and funders value the efficient and agile mechanisms it provides to identify and implement the research needed to address shared challenges in the safe and sustainable use of ocean space and resources.



- Niall McDonough,
Chair of JPI Oceans Management Board



Number of projects:



TIME FLIES! The year 2021 already marks a full decade of existence of JPI Oceans. Created in 2011 by request of the Council of the European Union, JPI Oceans has since established itself as an independent and agile platform for cooperation among its members countries. Looking back at 10 years of actions and achievements, the graphics and chart shown here illustrate that the narrative underlying joint programming has worked out well. Just by means of facilitating cooperation, JPI Oceans members added precious value to national investments by our European member countries into marine research and innovation. The 16 Joint Calls and 8 Knowledge Hubs developed knowledge and innovation power beyond what a piecemeal fashion by individual countries could ever have achieved. While sometimes difficult to display in numbers, 10 years of JPI Oceans has also resulted in infrastructures being shared, resources being combined, agendas being driven, outputs being generated, expertise being exchanged, and policy decisions being backed up. Good reasons to look forward to another decade with JPI Oceans.

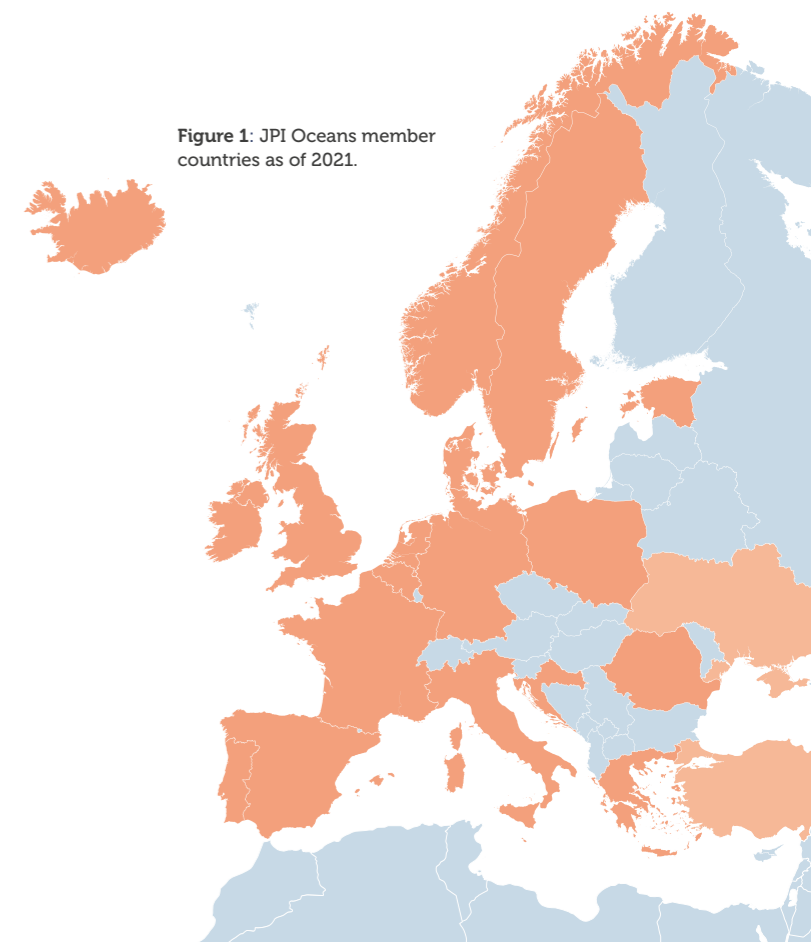


Figure 1: JPI Oceans member countries as of 2021.

2.1 OUR FRAMEWORK FOR PAN-EUROPEAN COLLABORATION

In a festive online event in March 2021, JPI Oceans officially launched its Strategy Framework 2021-25 and discussed its contributions to HORIZON Europe, the UN Ocean Decade and other initiatives.

Developed by JPI Oceans members and co-created with stakeholders, the new Strategy Framework provides a coherent setting for the coming years for efficient and impactful pan-European research and innovation, in support of healthy and productive seas and oceans.

The Framework is arranged around three interconnected priority areas: 1) Ocean Health, 2) Ocean Productivity and 3) Ocean Stewardship and Governance, under which there are 12 areas aligned with the latest priorities and framing in the maritime and marine Research & Innovation (R&I).

With this setup, we have reduced distinctiveness and allowed for openness towards systemic approaches to ocean challenges, while also allowing flexibility to harness converging national interests that contribute to the goals of JPI Oceans.

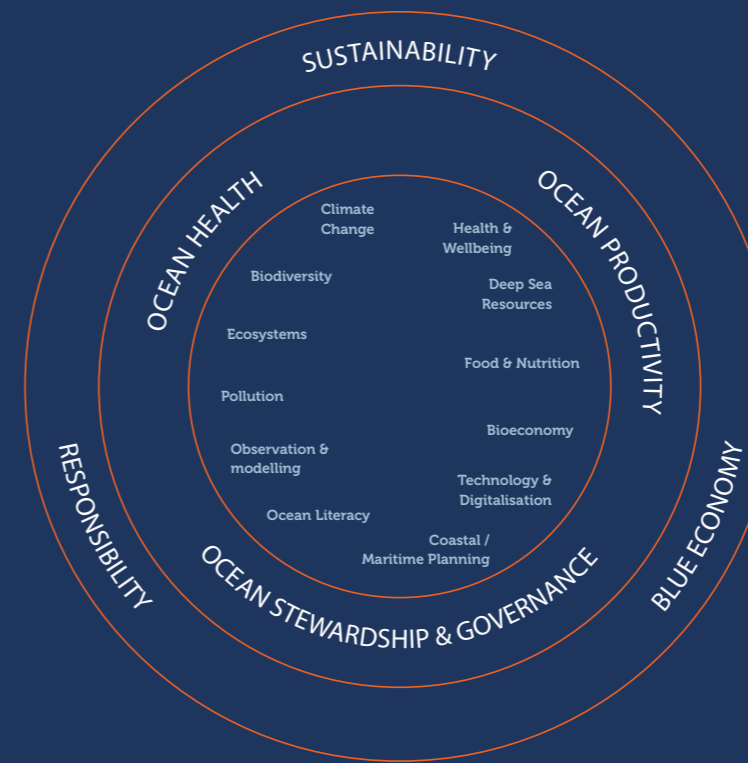


Figure 2: Depiction of the thematic scope of JPI Oceans, with the three development ambitions in the outer ring and the three priority areas for a resilient ocean in the middle ring. The centre details the topics of interest that adhere to the higher-level framing.

Figure 3: Illustration of the narrative underlying the strategic elements of JPI Oceans.



To know more visit: jpi-oceans.eu/how-we-operate

2.0

Strategy Framework

2021-2025



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AquaticPollutants ERA-NET Cofund

3.1 FLEET OF EIGHTEEN PROJECTS KICKS OFF

The 18 projects selected in response to the Aquatic Pollution Joint Call held their official kick-off in September 2021. An [information booklet](#) featuring all the projects was published. The projects, awarded EUR 20 million in funding, focus on three themes: measuring, evaluating and taking actions.

The kick-off meeting served as a basis for establishing collaborations between the funded projects and the AquaticPollutants TransNet. In a separate knowledge transfer call, the AquaticPollutants TransNet Project was awarded funding by Sweden (SRC), Germany (BMBF) and France (ANR) to realize a better and wider dissemination of knowledge. Multiple dissemination and exploitation routes integrating standardization, thematic expert groups, political fora, scientific networks and the public will be developed to support the transfer of research and the uptake of results by the public and administrative sector, policy, industry and business, and support the AquaticPollutants projects.

ABOUT THE JOINT ACTION: The three Joint Programming Initiatives on Oceans, Water and Antimicrobial Resistance, together with the European Commission, aims at addressing the risks posed by contaminants of emerging concern (CECs), pathogens and anti-microbial resistant bacteria, through a holistic approach comprised of the freshwater, marine and health research sectors.

WHY IS IT IMPORTANT? Pathogens and pollutants in water resources are one of the most serious risks in our environment and a major factor in the degradation of water quality. Further, contaminants of emerging concern and anti-microbial resistant bacteria are now found widespread throughout the environment and pose a serious emerging threat for human health and well-being.

3.0

Joint Action highlights

Blue Bioeconomy ERA-NET Cofund

3.2 TEN PROJECTS SELECTED AND 2ND ADDITIONAL CALL LAUNCHED

BlueBio is getting into their stride supporting the blue bioeconomy in Europe, funding projects, launching calls, organising events and facilitating synergies between projects.

Ten proposals were selected for funding with a total of about EUR 10 million through the BlueBio 2020 1st Additional Call. The projects focus on supply systems and cover the activities in logistics and transportation from harvest or catch, as well as pre-processing activities to ensure the quality of bio-resources.

A 2nd Additional Call was launched in June 2021, aiming to facilitate R&I supporting sustainable and circular management and use of natural resources, and address market and socioeconomic aspects of the value chain to foster solutions to these issues. The call was funded with EUR 8 million by 10 partners from Belgium, Croatia, Denmark, Estonia, Iceland, Ireland, Italy, Malta and Norway.

On World Ocean Day 2021, a Facebook Live event featured Senior Scientist Themistoklis Altintzoglou from the BlueCC (Commercial exploitation of marine collagen and chitin from marine sources) project, discussing consumer acceptance of ingredients from side streams.

An online workshop on market pathways for sustainable algae products was jointly organised by the ERA-NET programmes BlueBio and SUSFOOD2, to discuss the future of taking sustainable algae products to the market. It addressed issues such as market regulation, pilot scale infrastructure, techno-economic feasibility and sustainability. This facilitated interaction between industry and research and created synergies between projects of both ERA-Net programmes.

WHY IS IT IMPORTANT?

The use of aquatic bioresources can be more sustainable than terrestrial production methods. Developing a blue bioeconomy in Europe has the potential to create jobs, promote economic growth, and contribute to a healthier and more sustainable socio-economy.

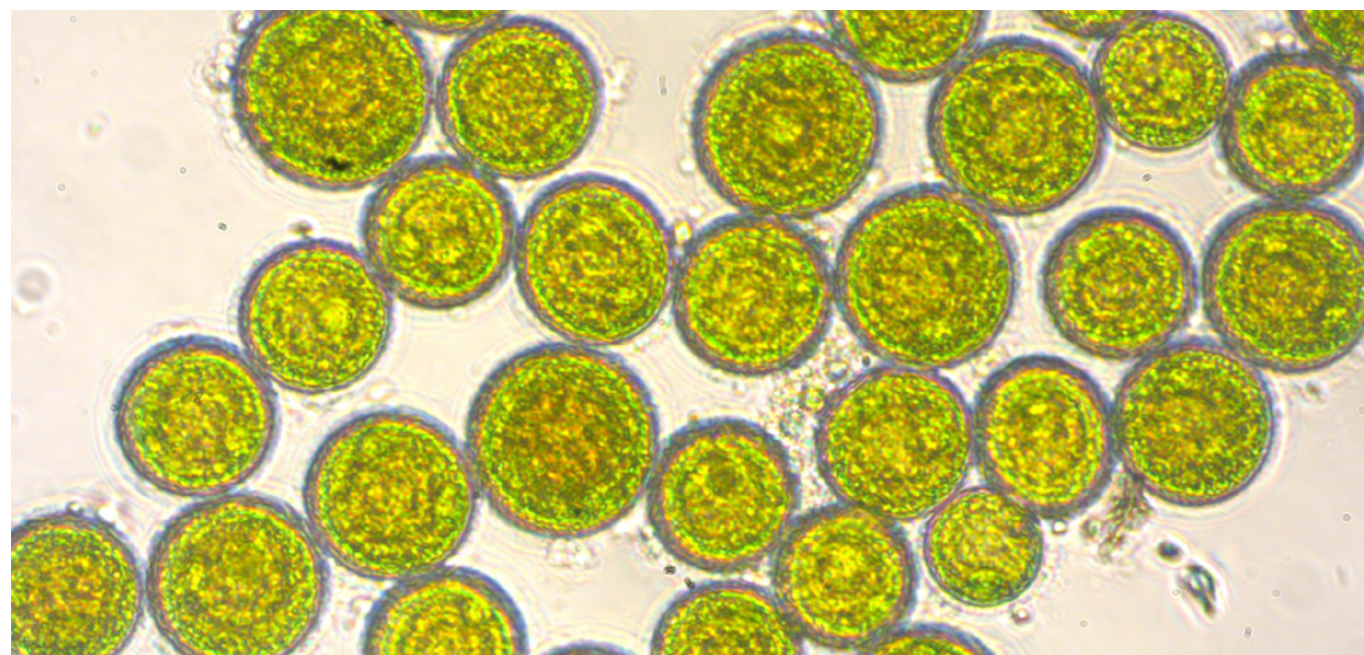


Photo credit:
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Project, BlueBio
ERA-NET Cofund

Climate Science for Oceans

3.3 COMMUNICATION ON THE OCEAN-CLIMATE INTERFACE

In their second year, the four projects from the JPI Oceans-JPI Climate 'Next Generation Climate Science for Oceans' call have been busy implementing their activities and objectives, and communicating about them.

Reinforcing their communication and outreach, [EUREC4A-OA](#) (Improving the representation of small-scale nonlinear ocean-atmosphere interactions in Climate Models by innovative joint observing and modelling approaches) set up a website, held a first annual meeting in April 2021 and its partners published 15 peer-reviewed papers.

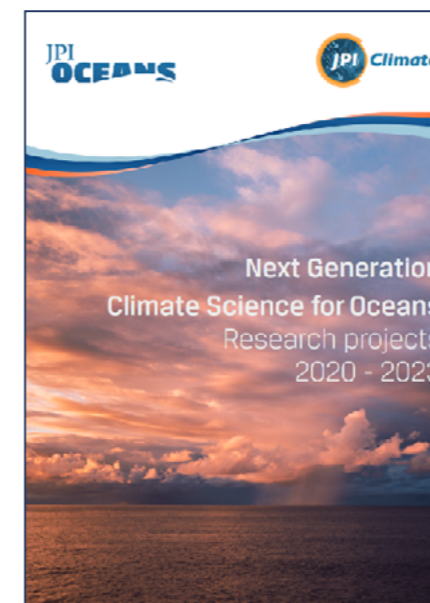
[CE2COAST](#) (Downscaling climate and ocean change to services: thresholds and opportunities) published several papers, organised 9 regional and topic-specific workshops and participated in conferences and online events.

[MEDLEY](#) (Mixed layer heterogeneity) launched a project website and published two peer-reviewed papers. The project held four coordination meetings and contributed

to training of 3 master students on issues of mixed layer heterogeneity, as well as hiring 4 post-doc researchers to support their efforts.

[ROADMAP](#) (The role of ocean dynamics and ocean-atmosphere interactions in driving climate variations and future projections of impact-relevant extreme events) has launched its website and published several peer-reviewed papers. In September 2021, they co-organised an expert workshop with Blue-Action, focusing on multi-annual to decadal climate predictability in the North Atlantic-Arctic sector.

The projects have also been working on reinforcing synergies: a [first joint newsletter](#) of the projects ROADMAP and CE2COAST was published in October 2021.



Read the projects booklet [here](#).

ABOUT THE JOINT ACTION: The Joint Action was launched as a joint venture with JPI Climate in February 2019. It aims to fund research on ocean-climate interactions, to improve climate models and inform climate change adaptation policies in Europe.

WHY IS IT IMPORTANT? Europe already makes substantial contributions at a national level to the IPCC and the World Climate Research Programme. However, addressing the grand challenges of climate science requires stronger and immediate transnational action to strengthen climate knowledge and enable informed societal transformation to mitigate and adapt to climate change.

Cumulative Effects of Human Activities

3.4 EXPERT GROUP OUT OF THE STARTING BLOCKS

In November, the Knowledge Hub had its kick-off meeting in Oslo, followed by a workshop to constitute the group, and for the expert group to agree on a structure of working and timeline.

This was the first step to reach the main objective to develop guidelines and common principles on how to assess cumulative effects of human activities.

The Knowledge Hub on the Cumulative Effects of Human Activities, established in 2020, focuses on increasing knowledge to identify environmental sensitivities to cumulative effects of human pressures over longer periods, and to improve tools for their assessment. The Joint Action will develop guidelines and common principles on how to assess cumulative effects of human activities. Publication is intended for the end of 2023.

Cumulative effects assessments are holistic evaluations of the combined effects of human activities and natural processes on the environment in a defined area. The understanding of synergistic, antagonistic and additive cumulative effects and how to manage the causal human activities and pressures, is still underdeveloped.

- Øystein Leiknes, Knowledge Hub coordinator

WHY IS IT IMPORTANT?

Cumulative effects assessment (CEA) is a systematic procedure to identify and evaluate the effect of multiple natural and non-natural pressures on single or multiple receptors. The development of a research-based handbook on how to implement CEA is needed, as it will aid users in carrying out a CEA and thus inform management options.



Ecological Aspects of Microplastics

3.5 HARMONISING SAMPLING AND ANALYSIS OF MICROPLASTICS

Harmonization of sampling and analytical activity is key for understanding ecological aspects of microplastics.

In August, two of the projects from the 2nd Microplastics Joint Call, RESPONSE (Towards a risk-based assessment of microplastic pollution in marine ecosystems) and FACTS (Fluxes and Fate of Microplastics in Northern European Waters), conducted a joint sampling activity to identify the abundance and composition of microplastics above 10 µm, and their associated pollutants in coastal Northern European waters.

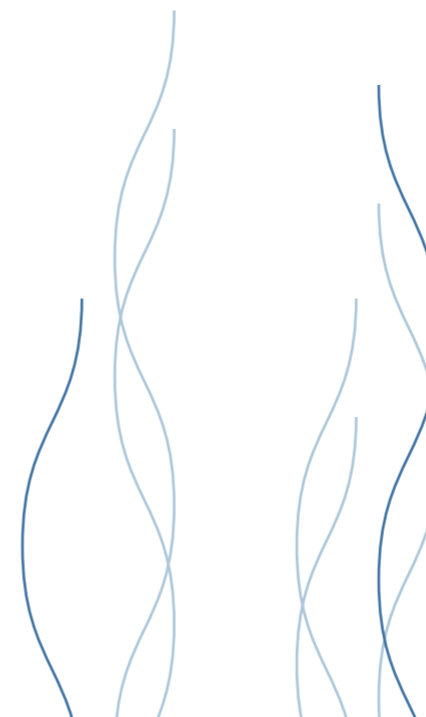
Harmonization of sampling and analytical techniques is a key factor for obtaining comparable data in microplastics pollution research. As of October, more than 60 samples from coastal waters of five different EU countries were successfully collected, with the analysis of microplastics and associated pollutants planned for the following months.

We are pleased that JPI Oceans' core idea of value addition though collaboration is also realised between projects from our joint calls.

- Thorsten Kiefer, Executive Director JPI Oceans Secretariat

ABOUT THE JOINT ACTION: In 2018, thirteen JPI Oceans member countries plus Latvia and Brazil launched the second JPI Oceans transnational call on the "Ecological aspects of microplastics in the marine environment". Six projects were selected to receive funding, focusing on sources of microplastics, methods for identifying smaller micro- and (nano-) plastics, and monitoring of their circulation in marine systems and their effects thereon.

WHY IS IT IMPORTANT? Microplastics are persistent, ubiquitous and can potentially cause physical and toxicological harm. However, knowledge of the toxicological and ecological effects on marine organisms and ultimately human health is still unsatisfactorily limited.





Ecological Aspects of Deep-Sea Mining

3.6 2ND SCIENTIFIC EXPEDITION TO CENTRAL PACIFIC

In Spring, scientists of the JPI Oceans project "MiningImpact", in collaboration with the German Federal Institute for Geosciences and Natural Resources (BGR), embarked on a six-week expedition to the Clarion-Clipperton Fracture Zone (CCZ) in the central Pacific.

They aimed to independently monitor the first industrial prototype test by the Belgian company Global Sea Mineral Resources (DEME-GSR).

In this area of the Pacific, polymetallic nodules are abundant. They contain metals of economic interest such as copper, cobalt and nickel. During the mining process, the collector machine removes not only the nodules but also the top 10-15 cm of the seafloor.

The researchers study the resulting biodiversity loss, biogeochemical fluxes, microbial turnover rates, ecosystem functioning, in-situ ecotoxicology and more.

ABOUT THE JOINT ACTION: The JPI Oceans Joint Action Ecological Aspects of Deep-Sea Mining project MiningImpact 2 involves 30 partners from 9 European countries, and the International Seabed Authority. The project is dedicated to contributing to the assessment of the impacts of deep-sea mining and proposing solutions to prevent serious harm to the abyssal ecosystem.

WHY IS IT IMPORTANT? The last decade has seen an increase in interest in deep-sea mining, to secure mankind's future demands in raw materials. Several European countries have registered claims with the International Seabed Authority (ISA) to explore mineral resources in the abyss. With deep-sea mining inevitably causing disturbances to abyssal ecosystems, it is important that international legislation, such as the "Mining Code" that ISA is currently developing, is based on sound scientific knowledge.



European Marine Sensor Calibration Network

3.7 NETWORK CONCLUDES AND MORPHES INTO EU PROJECT

MINKE concludes after 5 years, organising a series of events and publishing a series of fact sheets on measurements on a variety of parameters.



The Joint Action concluded in May with a white paper entitled "[Marine Metrology in Europe](#)", published as part of the proceedings from the MetroSea Conference held in October 2020. The Network organised a series of meetings which resulted in a series of fact sheets on measurement of various parameters, such as pH, salinity, and fluorescence, all included the white paper.

ABOUT THE JOINT ACTION: The European Marine Sensor Calibration Network was initiated as a Joint Action in 2016, aiming to establish a permanent working group for calibration activities and to propose a future strategic plan for a pan-European calibration grid to support marine observatories. The network and activity of the Joint Action is continued in the EU-funded Metrology for Integrated marine maNagement and Knowledge-transfer nEtwOrk (MINKE) project.



Food and Nutrition Security

3.8 TRANSFORMING FOOD SYSTEMS AND BRIDGING AQUA-AGRI GAP

The project SYSTEMIC has been working towards its mid-term reporting scheduled for January 2022.

SYSTEMIC was funded through a joint call in 2019 and started its activities in 2020, to connect researchers with other existing initiatives and relevant stakeholders of Food and Nutrition Security research. The project aims to involve consumers, primary producers, industry and other key actors in the food system and to understand the impact of climate change on the nutritional make-up of food, and to propose adaptive strategies and measures to ensure food and nutrition security.

ABOUT THE KNOWLEDGE HUB:

The Knowledge Hub was established in a collaboration between the Joint Programming Initiatives on Agriculture, Food Security and Climate Change (FACCE-JPI), Healthy Diet for a Healthy Life (JPI HDHL) and Healthy and Productive Seas and Oceans (JPI Oceans).

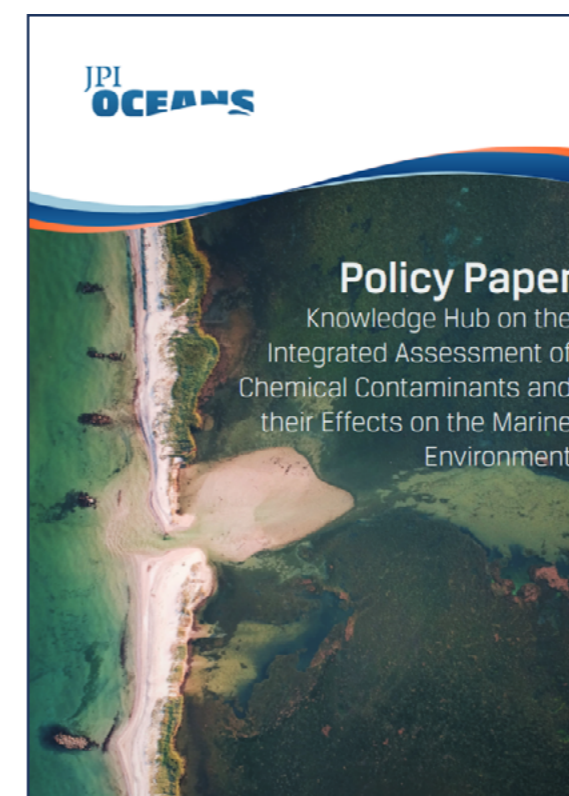
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Integrated Assessment of New Pollutants

3.9 EXPERTS RELEASE POLICY RECOMMENDATIONS

The Knowledge Hub on the Integrated Assessment of New Pollutants concluded in May 2021, with the release of a [policy brief](#) with a set of expert recommendations for the improvement and implementation the Integrated Approaches to Testing and Assessment (IATA).



The seven recommendations focus on standardization and harmonization of new methods, threshold values and assessment frameworks between member countries, and transparency regarding monitoring data. Finally, the policy proposed that the IATA become mandatory in marine monitoring programmes. This integrated approach will aid Member States to evaluate whether Good Environmental Status is attained in the marine environment. The policy brief was launched at an online webinar in June, also featuring the background of the intensive work of the Knowledge Hub since its launch in 2018.

In February, JPI Oceans also hosted a [Facebook Live](#) focusing on the “invisible” threat of chemical contaminants for the future health of the ocean and the environment at large. The coordinator of the Knowledge Hub, Dr Adam Lillicrap from the Norwegian Institute of Water Research (NIVA) presented the effects of chemical contaminants on the marine environment and how the Knowledge Hub attempts to counteract the risks.

ABOUT THE KNOWLEDGE HUB: JPI Oceans established the Knowledge Hub in 2018, tasking it to develop and implement an integrated approach for assessing chemicals of emerging concern and their effects on the marine environment.

WHY IS IT IMPORTANT? Approximately 80% of the world’s effluents are discharged into the aquatic environment without treatment. “Chemicals of emerging concern” (CECs) is a term that is increasingly used to designate chemicals that might be a threat to the environment but have only recently been identified as a cause for concern. Marine monitoring that combines chemistry and biological effects can provide early warnings.

MarTERA ERA-NET Cofund

3.10 NINE NEW PROJECTS FUNDED AND 4TH CALL LAUNCHED

Nine project consortia that had responded to the 3rd MarTERA Joint Call were granted funding. The projects started in late summer 2021. They are featured on the MarTERA 2020 Call [project page](#). In addition, a 4th (and final) Joint Call was launched in early 2021.

Nine countries participated in the 4th call, including Belarus, Belgium, Germany, Malta, Norway, Poland, Romania, South Africa and Turkey, with a total funding budget of EUR 8.5 million. The call covers 5 priority areas:

1. Environmentally friendly maritime technologies;
2. Innovative concepts for ships and offshore structures;
3. Automation, sensors, monitoring and observations;
4. Advanced manufacturing and production;
5. Safety and security.

ABOUT THE JOINT ACTION:

MarTERA is an ERA-NET Cofund of the Horizon 2020 scheme of the European Commission. It aims at strengthening the European Research Area (ERA) in maritime and marine technologies as well as Blue Growth.



Munition in the Sea

3.11 KNOWLEDGE HUB MEETS IN KIEL FOR MUNITION CLEARANCE WEEK

Picture a ludicrously long cargo train that stretches all the way from Paris to Moscow, fully loaded with munition. Speakers at the recent Kiel Munition Clearance Week used this illustration to bring to life the sheer scale of how much munition rests on the seafloor of German waters alone.

Members of the Knowledge Hub attended the Kiel Munition Clearance Week in September, that addressed topics such as the state of research, environmental and societal impacts, detection and identification technologies, and the roles and responsibilities of stakeholders. A JPI Oceans' Knowledge Hub workshop was organised alongside to share expert knowledge and progress, to enable participating countries an efficient handling of problematic underwater munitions.



A [Facebook Live session](#) in November had Claus Böttcher, coordinator of the JPI Oceans Knowledge Hub on Munition in the Sea as the expert for a presentation and online Q&A. He focused on the issue of legacy munition dumped at sea in Europe during and after recent wars.

ABOUT THE KNOWLEDGE HUB: The Knowledge Hub is a multi-national expert group set up to harness knowledge and experience for the Munitions in the Sea Joint Action. It was launched in September 2020.

WHY IS IT IMPORTANT? Many coastal areas in Europe face the presence of munitions in the sea, posing growing environmental harm and risks from a combination of hazardous corrosion and intensified blue economic activities. Technologies for the remediation of the munitions exist but are cost-intensive, time-consuming and require the use and further development of state-of-the-art sensors.

Science for Good Environmental Status

3.12 EXPERTS PLAN RESEARCH CRUISE FOR SUMMER 2022

Experts prepare research cruise to explore innovative approaches for assessing the marine environmental status as defined by the 11 descriptors of the Marine Strategy Framework Directive (MSFD).

ABOUT THE JOINT ACTION: The Joint Action S4GES focuses on developing more effective and efficient assessments and to add integrative perspectives to achieve Good Environmental Status in support of the MSFD. The aims and rationale of the Joint Action were recently published in an article in the journal [Sustainability \(2021\) 13, 8664](#).

WHY IS IT IMPORTANT? The overall objective of the MSFD is to maintain and restore a Good Environmental Status of European marine waters and their resources. Initial assessments of the environmental status show the necessity to significantly improve assessment quality and coherence. To that effect, the S4GES JPI Oceans Joint Action will contribute with trans-national coordination of capacities and expertise.

In October 2021, experts of the Joint Action Science for Good Environmental Status (S4GES) discussed the scientific and operational design of a Joint Cruise in 2022 with the Research Vessel Belgica. The expedition aims to explore innovative approaches for assessing the marine environmental status as defined by the 11 descriptors of the Marine Strategy Framework Directive (MSFD) by integrating physical, chemical, and biological information from an area of the North Sea. The approach is meant to complement the various approaches currently used by countries to monitor their compliance with the MSFD.



Photo credit:
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Sea Level Rise

3.13 KNOWLEDGE HUB LINES UP TO UNFOLD ACTION

With its governance structure in place, the 2021-2023 roadmap paves the way for the four task groups on sea level rise.

The year 2021 saw the establishment of a governance architecture of the Knowledge Hub on Sea Level Rise and the peopling of its key elements. The newly established Governing Council consisting of National Contact Points of the nine participating countries approved the governing structure and roadmap for the Hub's first three-year phase until 2023. The first three year's scoping exercise will lead to a pan-European expert conference in October 2022 in Venice identifying priorities and knowledge needs for societal policy makers across major pan-European sea basins. A Management Committee of 8 experts set up four Task Groups on the topics of co-design, policy, science, and outreach to implement the work programme of the Knowledge Hub.

The Governing Council's approval of the Terms of Reference for the four Task Groups kick-started the implementation of the Knowledge Hub. As an immediate first action, the Secretariat of the Knowledge Hub prepared a proposal for endorsement of the Knowledge Hub as an Ocean Decade project related to the [CoastPredict](#) programme, to be submitted in early 2022.

ABOUT THE KNOWLEDGE HUB: The Knowledge Hub on Sea Level Rise is a joint effort by JPI Climate and JPI Oceans, aiming to support the development and implementation of local, national and European policies on regional-to-local sea level changes across Europe.

WHY IS IT IMPORTANT? Sea level rise is expected to be among the most costly and irreversible consequences of climate change. At local to regional scale, uncertainties about changes and associated risks and management options vary even more due to factors such as isostatic adjustments, land subsidence, changes ocean circulation and coastal adaptation measures. Action will contribute with transnational coordination of capacities and expertise.

Underwater Noise in the Marine Environment

3.14 JOINT CALL ON UNDERWATER NOISE

The Joint Call was launched after scoping workshops on priorities, research gaps and needs, gathering 8.2 million EUR in funding.

A Joint Call was launched in December, focusing on two main challenges in the field of underwater noise:

1. Effects of anthropogenic noise pollution on marine ecosystems, and
2. Innovative seismic sources as an option for quieter and effective alternatives to conventional marine geophysical exploration.

The call was supported by Belgium, Germany, Ireland, Italy, Norway, Poland, Romania and Spain in collaboration with BANOS, BlueMed, NOAA and the UN Ocean Decade. A total of EUR 8.2 million of funding was made available. The approved projects are expected to start no later than by the end of the year 2022.

ABOUT THE JOINT ACTION: The Joint Action was adopted in May 2020 after two scoping workshops discussing priorities, research gaps and needs on the state of impacts, technology, sound propagation, and measurements. The purpose is to promote a pan-European, cross-disciplinary partnership, for the integration of different sectors of the scientific research community.

WHY IS IT IMPORTANT? Human-caused noise is a global pollutant with harmful consequences for marine biota. If current maritime practices remain unabated underwater noise will increase substantially with the envisioned expansion of the Blue Economy in Europe. Noise has therefore been included into the descriptors for achieving Good Environmental Status.

Photo credit:
© T. Cohen, Unsplash

Ocean Carbon Capacities

3.15 MANAGEMENT BOARD GREENLIGHTS NEW JOINT ACTION

The Joint Action will reduce uncertainties of climate ocean interactions and the ocean's buffering capacity for CO₂.

A virtual scoping workshop in October gathered ongoing leading representatives of European and international initiatives and activities. The JPI Oceans Expert Group on Ocean Carbon Capacities presented their ideas for activities going forward, and science-policy representatives from the participating countries provided feedback to this Action Plan.

WHY IS IT IMPORTANT? About a quarter of the CO₂ that humans release into the atmosphere is absorbed by the oceans. Still, there are major uncertainties regarding the buffering and carbon storage capacities, future efficiency and the spatial details of the ocean as a carbon sink. An observing system that can inform in near-real time how the ocean carbon sink is evolving, is necessary to design and adjust climate mitigation efforts.

ABOUT THE JOINT ACTION:

The Ocean Carbon Capacity Joint Action was approved in November and aims at addressing and reducing uncertainties in understanding the ocean's buffering and carbon storage capacities. Under the leadership of Norway and 12 JPI Oceans member countries, 27 scientific experts developed an Action Plan with focus on four geographical regions and three topical scopes including infrastructure sharing, negative emission technologies and model synthesis.

All-Atlantic Ocean Research Alliance

4.1 ALL-ATLANTIC YOUTH AT MINISTERIAL EVENT

The second cohort of All-Atlantic Ocean Youth Ambassadors (AAOYA) was recruited and started their activities in early 2021, with their first two-day virtual Introduction Training, co-organised and hosted by JPI Oceans in February 2021. The training was aimed at equipping the 25 AAOYA with the information and skills necessary to engage in public speaking activities, communication and outreach, and collaborate in the Joint Pilot Actions established under the All Atlantic Cooperation for Ocean Research and innovation CSA (AANChOR).



The AAOYA participated actively in the Ministerial AllAtlantic21 conference held in June in the Azores, Portugal. During the conference, the Ambassadors organised their own side event, "Opening Door for Early-Career Ocean Professionals", where barriers facing youth in ocean professions and possible opportunities were identified and discussed. Additionally, the Ambassadors were invited to speak at international, regional and national conferences and events such as EU4Ocean Ocean Literacy festival in May, EURACTIV conference on Blue Economy in April, the UN Ocean Decade kick-off conference in June, the International Council for the Exploration of the Sea (ICES) Annual Science Conference in September and the EU Arctic Forum in November, among others.

ABOUT: JPI Oceans is partner to the AANChOR-CSA, an initiative implementing the All-Atlantic Ocean Research Alliance, and responsible for co-leading the All-Atlantic Ocean Youth Ambassadors (AAOYA) programme, in cooperation with the German Marine Research Consortium (KDM).

4.1 Strategic engagements

Horizon Europe Sustainable Blue Economy Partnership

4.2 JPI OCEANS LEADS DRAFTING OF PARTNERSHIP AGENDA

In February, the final draft of a Strategic Research and Innovation Agenda (SRIA) was delivered and validated by the European Commission, Member States and Associated Countries.

The [draft](#) is based on input and feedback from representatives of participating countries, associated experts and the European Commission's Directorate-General for Research and Innovation. A respective Partnership Call was then launched in October by the European Commission, for an expected partnership launch in late 2022. Implementation will occur through three grant agreements over the course of the Horizon Europe term. JPI Oceans is proposed to lead the partnership's communication work package.

The Blue Economy Partnership is a co-funded partnership under the Horizon Europe R&I framework programme 2021-2027. It aims at uniting research and innovation efforts to aid the transition to a sustainable blue economy. As such it can be considered Horizon Europe's "blue arm of the Green Deal".

Read more: <https://www.jpi-oceans.eu/en/sustainable-blue-economy-partnership>



European Ocean Observing System

4.3 JPI OCEANS CONVENES 1ST RESOURCE FORUM MEETING



The EOOS Resource Forum, aiming to support the long-term sustainability of ocean observing in Europe, held its first meeting on 15 November 2021, bringing together national funding agencies and ministries as well as General Directorates of the European Commission. The representatives discussed conclusions and opportunities from other ocean-observation related activities carried out by EuroGOOS, European Marine Board, the OECD and DG Mare.

ABOUT: JPI Oceans chairs the European Ocean Observing System (EOOS). EOOS is a stakeholder driven framework that integrates Europe's ocean observing communities and facilitates coordinating the multiple organisations operating, supporting and maintaining ocean observing and monitoring infrastructures.

www.eoos-ocean.eu



Metrology for Integrated Marine Management and Knowledge-Transfer Network

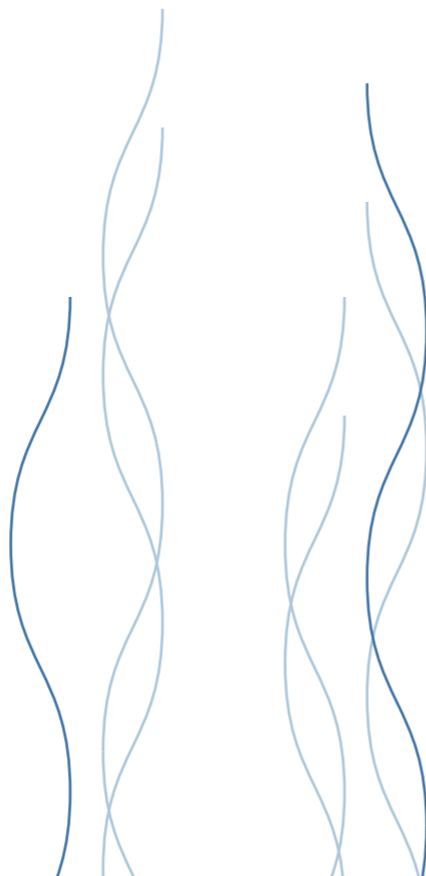
4.4 NEW METROLOGY PROJECT KICKS OFF

MINKE had its kick-off meeting in June during which the partners explained their roles and responsibilities and the main objectives and planned actions.

The project will integrate key European marine metrology research infrastructures to coordinate the use and development, and to propose an innovative framework for the quality of oceanographic data for different European actors in charge of monitoring and managing the marine ecosystems.

As a partner in the project, JPI Oceans is involved in tasks related to community building and networking activities. The contributions will ensure connectivity to other JPI Oceans Joint Actions, particularly Underwater Noise in the Marine Environment.

ABOUT MINKE: Metrology for Integrated Marine Management and Knowledge-Transfer Network (MINKE) is a HORIZON 2020 network project, funded in 2020 from the INFRAIA call. The project builds on JPI Oceans' 'European Marine Sensor Calibration Network' Joint Action. That Joint Action was concluded in 2021, with JPI Oceans engagement continuing as partners in MINKE. The project is coordinated by the Spanish National Research Council (CSIC) with a total budget of EUR 4.9 million to be shared between 22 project partners.



UN Decade of Ocean Science for Sustainable Development

4.5 JPI OCEANS BECOMES IMPLEMENTING PARTNER

JPI Oceans and the European Marine Board (EMB) have been endorsed as European Implementing Partners of the UN Decade of Ocean Science for Sustainable Development, running from 2021-2030, pledging to carry out at true ocean knowledge revolution on the continent.

The pan-European member countries of JPI Oceans were always dedicated to the Decade's ambition. As an Implementing Partner we now welcome the mandate to align our countries' national priorities with the Decade's global agenda.

- Thorsten Kiefer,
Executive Director
JPI Oceans Secretariat

As Implementing Partner, JPI Oceans will facilitate and coordinate national, regional and programmatic contributions to Ocean Decade Actions, including mobilisation of members towards scoping for new activities and partnerships, resource mobilisation, communication and outreach. Further, JPI Oceans plans to contribute directly to Decade implementation through its Joint Actions and Strategic Engagements.

As a first concrete contribution to the UN Ocean Decade, JPI Oceans launched a Call for projects on Underwater Noise in the Marine Environment. The call offers opportunities to tackle ocean challenges, support policy and governance, and carry out experimental activities on the issue of marine acoustic pollution.

ABOUT: Proclaimed in 2017 by the United Nations General Assembly, the UN Decade of Ocean Science for Sustainable Development, "The Ocean Decade", seeks to stimulate ocean science and knowledge generation to reverse the decline of the state of the ocean system and catalyse new opportunities for sustainable development of this vast marine ecosystem.



2021
2030 United Nations Decade
of Ocean Science
for Sustainable Development

5.1 JPI OCEANS ELECTS TWO NEW VICE CHAIRS

Dr Angelo Camerlenghi and Dr Benjamin Kürten were elected as Vice Chairs to the JPI Oceans Management Board in December.



Angelo is a senior researcher at the National Institute of Oceanography and Applied Geophysics, funded by Italian Ministry of University and Research. Alongside his research he engages in research management and advisorship. He has been with JPI Oceans since its early days, since 2019 also as a member of the Internal Advisory Committee.

With the important future challenge of closely collaborating with the Sustainable Blue Economy Partnership and the Mission to Restore our Ocean and Waters, I welcome the opportunity to increase the impact of JPI Oceans on European research and policies. I would like us to especially consider the needs of the European marine regions, among them the one with a high priority for my country, the Mediterranean.

- Angelo Camerlenghi, Vice Chair

I love to devote my aspiration to both traditional and innovative research ideas which help us conducting the Science We Need For The Ocean We Want, to quote the UN Ocean Decade. Since physics drive biology, I will promote the generation and use of ocean observations, e.g. through collaboration with the G7 Future of the Seas and Oceans Initiative, in support of international ocean governance and a Sustainable Blue Economy.

- Benjamin Kürten, Vice Chair



Dr Benjamin Kürten is a biological oceanographer with a background in biogeochemistry and ecosystem studies. He left the academic research track in 2019 to focus on the interface between politics and research and education, by joining Project Management Jülich, and becoming a member of the JPI Oceans Management Board on behalf of the German Federal Ministry of Education and Research.

5.0
Our people

A. JOINT ACTIONS

2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024



Joint call

Knowledge hub

Joint public procurement

Infrastructure sharing

Annexes



B. MANAGEMENT BOARD

The Management Board is the decision-making body of JPI Oceans. Members have appointed at least one representative, up to a maximum of four, who are authorised to act and vote on behalf of the member state. The Management Board has established an Internal Advisory Committee (IAC) of eight members; the Chair* and Vice Chairs** of the Management Board, and five additional members***, elected among the Management Board representatives in a personal capacity by the Management Board. The 23rd, 24th and 25th Management Committee meetings occurred in May, September and November 2021. The 24th meeting was dedicated to the scoping of new Joint Actions.

COUNTRY	ORGANISATION	REPRESENTATIVES
BELGIUM	Belgian Federal Science Policy Office (BELSPO)	Frank Monteny Koen Lefever
	Flemish Government, Department Economy Science and Innovation (EWI)	Johan Hanssens Gert Verreet
CROATIA	Institute of Oceanography and Fisheries Ministry of Science and Education	Ivica Vilibić Željka Skočilić
	Ruđer Bošković Institute	Sandi Orlić
DENMARK	Innovation Fund Denmark	Martin Kyvsgaard
	Technical University of Denmark	Dennis Ljsbjerg
ESTONIA	Ministry of Agriculture	Eve Külmallik Helena Pärenson Rene Reisner
	Ministry of the Environment of the Estonian Republic	Katarina Viik Tuuli Levandi
FRANCE	French National Research Agency (ANR)	Maurice Héral
	French Research Institute for Exploitation of the Sea (IFREMER)	Gilles Léricolais***
	Ministère de l'Enseignement Supérieur, de la Recherche et de l'Innovation	Alain Lagrange
GERMANY	German Federal Ministry of Education and Research (BMBF)	Tanja Dörre
	German Federal Ministry of Food and Agriculture (BMEL)	Hartmut Stalb
	Research Centre Jülich (JÜLICH)	Joachim Harms** (** until Nov 21) Benjamin Kürten** (** since Dec 21)
GREECE	Hellenic Centre for Marine Research (HCMR)	George Petihakis
ICELAND	The Icelandic Marine and Freshwater Research Institute	Sigurður Guðjónsson Sóley Morthens

ITALY	Italian Ministry of Infrastructure and Transport, Directorate of Maritime Transport and Inland Waterways	Maurizio Coletta
	National Institute of Oceanography and Experimental Geophysics (OGS)	Angelo Camerlenghi** (** since Dec 21)
	Italian Consortium for Managing research Activities Venice Lagoon (CORILA)	Pierpaolo Campostrini
	National Research Council of Italy, Marine Technology Research	Emilio Fortunato Campana
MALTA	Malta Council for Science and Technology (MCST)	Corinne Muscat Terribile ** (** until Nov 21) Maria Azzopardi
NETHERLANDS	Ministry of Agriculture, Nature and Food Quality	Rosanne Metaal
	Netherlands Organisation for Scientific Research (NWO)	Josef F. Stuefer
NORWAY	Norwegian Ministry of Trade, Industries and Fisheries	Eivind Lorentzen
	Research Council of Norway (RCN)	Hanna Lee Behrens Kristin Elisabeth Thorud***
POLAND	Polish Academy of Sciences; Institute of Hydroengineering (IBW PAN)	Grzegorz Różyński
PORTUGAL	Portuguese Institute of Ocean and Atmosphere (IPMA)	Fatima Abrantes***
	Portuguese National Funding Agency for Science, Research and Technology (FCT)	Sofia Cordeiro Teresa Courinha
ROMANIA	National Authority for Scientific Research, Directorate for European Integration and International Cooperation	Viorel Vulturescu
	University of Bucharest, Faculty of Geology and Geophysics	Viorel Gh. Ungureanu
SPAIN	Spanish Ministry of Economy and Competitiveness (MINECO)	Estrella Fernandez Garcia Esther Chacón*** Abraham Trujillo Quintela
SWEDEN	Swedish Agency for Marine and Water Management (HaV)	Anna Jöborn Floor ten Hoopen
	Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (FORMAS)	Petra Wallberg
UNITED KINGDOM	Department for Environment, Food and Rural Affairs (DEFRA)	Sylvia Blake
	National Oceanography Centre (SOTON-NOCS)	Ed Hill
	Natural Environment Research Council (NERC)	Mike Webb
	Centre for Environment, Fisheries and Aquaculture Science (CEFAS)	Rhodri Baines

C. SECRETARIAT

NAME	POSITION
Willem De Moor	Science-Policy Adviser, Full-time
Jon Øygarden Flæten	Science-Policy Adviser, Full-time (since March 2021)
Anamaria Jinaru	Office Manager, Part-time (until March 2021)
Sandra Ketelhake	Science-Policy Adviser, Part-time (until December 2021)
Thorsten Kiefer	Executive Director, Full-time
Ingeborg Korme	Science-Policy Adviser, Full-time
Pier Francesco Moretti	Science Officer, Part-time
Lavinia Giulia Pomarico	Science-Policy Adviser, Full-time
Isabelle Schulz	Science-Policy Adviser, Part-time (until December 2021)
Theresa Steins	Office Manager, Part-time (since May 2021)



Photo credit:
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D. FINANCES

JPI Oceans AISBL was formally established by Royal Decree and has been legally and financially operational since March 2018. As a legal entity under Belgian law, the Management Board is responsible for approving annual accounts and discharge of liability of the Director. At the current level of annual turnover, external auditing is not formally required under Belgian law.

Annual fees from members and associate partners are the main revenue for JPI Oceans. The annual fees are calculated as a share of the overall agreed budget, based on a weighted GDP. In addition, countries are requested to provide additional voluntary contributions. Several of such contributions were received in 2021 to ensure that the legal entity could maintain a positive cash flow. JPI Oceans AISBL is also a partner in the All-Atlantic Ocean Research Alliance project (AANCHOR CSA), with provision for travel and staff time.

In 2021, a total cash amount of EUR 704,196 was received from fees, donations and grants. The total expenditure amounted to EUR 466,764. Expenditure consisted of secretariat employment costs, office fixed costs, running expenses and other costs. The surplus recorded replenished the reserves to further maintain JPI Oceans' financial resilience. The reserves at the end of 2021 amounted to EUR 887,701.

The Research Council of Norway (RCN), the Government of Flanders via the Flanders Marine Institute (VLIZ), the German Federal Ministry of Education and Research (BMBF) via the GEOMAR Helmholtz Centre for Ocean Research Kiel and the German Alfred Wegener Institute (AWI), and the National Research Council of Italy (CNR) kindly provided in-kind contributions through staff secondments. This is not further quantified in the finances of the JPI Oceans AISBL. Ensuring that countries meet their financial obligations remains of major importance to ensure the sustainability and viability of JPI Oceans going forward.

E. STATISTICS

WEBSITE ANALYTICS

YEAR	VISITS	UNIQUE VISITORS	PAGEVIEWS	VISIT DURATION
2013	16,882	9,615	55,914	03:07
2014*	36,139	18,076	155,318	03:01
2015	79,829	48,669	350,926	04:25
2016	88,718	60,009	374,294	05:11
2017	233,145	180,833	611,917	05:05
2018**	42,033	27,754	106,789	02:42
2019**	55,085	36,292	126,096	02:24
2020**	53,431	38,285	113,273	02:05
2021**	47,145	47,142	165,272	02:17

* 2014 figures are partly based on Google Analytics in combination with in-house analytics from September 2014 onwards.

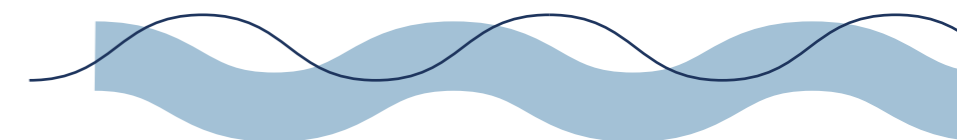
** 2018-2020 figures are based on the Matomo web analytics platform

WEBSITE CONTENT & NEWSLETTERS

YEAR	NEWS ITEMS	NEWSLETTERS	SUBSCRIBERS
2013	32	5	545
2014	37	7	641
2015	25	6	955
2016	26	4	1204
2017	24	9	1430
2018	24	5	1463
2019	27	6	1858
2020	30	14	2011
2021	24	10	2161

SOCIAL MEDIA

YEAR	LINKEDIN GROUP MEMBERS	TWITTER FOLLOWERS	FACEBOOK LIKES	INSTAGRAM FOLLOWERS
2013	356	457	54	
2014	478	707	74	
2015	624	1102	200	
2016	787	1733	408	
2017	908	2392	634	
2018	963	3152	847	
2019	998	3832	1002	
2020	1126	4310	1262	294
2021	1192	4619	1335	456



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