



Annual Activities 2019



Table of Contents

Annual Activities

1	Joint Action Highlights	5
	Aquatic Pollutants ERA-NET Cofund	6
	ERA-NET Cofund on the Blue Bioeconomy (BlueBio)	7
	Climate Science in Europe for Oceans	8
	Ecological Impacts of Microplastics	9
	Food & Nutrition	10
	MarTERA ERA-NET Cofund	10
	Ecological Impacts of Deep-sea Mining	11
2	Strategic Role	12
	Preparation of UN Decade of Ocean Science for Sustainable Development	13
	Commitments to Our Ocean Conference 2019	14
3	Governance	15
	Thorsten Kiefer joins JPI Oceans secretariat as Executive Director	16
	Corinne Muscat Terribile from Malta elected as second Vice Chair of JPI Oceans	16
4	Annexes	17
	Annex I: Joint Actions	17
	Annex II: Management Board	18
	Annex III: Secretariat	20
	Annex IV: Website - Social Media Statistics	21
	Annex V: Finances	22

List of Acronyms

AISBL • International non-profit association under Belgian law (*Association Internationale Sans But Lucratif*)

CEC • Contaminants of emerging concern

CSA • Coordination and Support Action

ERA • European Research Area

ERA-NET • European Research Area Net

FACCE-JPI • Joint Programming Initiative on Agriculture, Food Security and Climate Change

IAC • Internal Advisory Committee of JPI Oceans

JPI • Joint Programming Initiative

JPIAMR • Joint Programming Initiative on Antimicrobial Resistance

JPI HDHL • Joint Programming Initiative A Healthy Diet for a Healthy Life

JPI Oceans • Joint Programming Initiative for Healthy and Productive Seas and Oceans

R&I • Research & Innovation

Water JPI • Joint Programming Initiative Water challenges for a changing world



CHAPTER 1

Joint Action Highlights

AquaticPollutants ERA-NET Cofund

A new ERA-NET Cofund was launched by JPI Oceans and two sister JPIs, Water JPI and JPIAMR. The Aquatic Pollutants Cofund aims to strengthen the European Research Area in the field of clean and healthy aquatic ecosystems and to leverage untapped potential in the collaboration between the freshwater, marine and health research areas.



In early 2019, JPI Oceans partnered with two sister JPIs, Water JPI and JPIAMR, to jointly develop and submit a proposal for an ERA-NET Cofund on aquatic pollutants to the European Commission. The aim was to support and connect research communities in addressing, through a holistic catchment approach, the challenges posed by pathogens and emerging pollutants present or introduced in water resources to the environment, water quality and human health and well-being.

The proposal for a Cofund was accepted by the European Commission in July 2019, and the consortium of 32 institutions from 26 member countries across the three JPIs was invited to sign a Grant Agreement. The AquaticPollutants Cofund was set to kick-off in January 2020, launching a first call for proposals in February 2020 and running for a timeframe of five years, developing a common strategy between the three JPIs. The outcomes of AquaticPollutants are expected to contribute towards:

- Effective transnational, pan-European research networking, exchange of good practices, synergy, coordination and coherence among national/regional and EU research programs in the areas addressed.
- Improved evidence-based policy through the interdisciplinary and transdisciplinary science-policy interface and links with international efforts and fora on the areas addressed.

- Strengthened international leadership of European research in this area making the relevant JPIs, in collaboration with the European Commission, a privileged and attractive partner for global cooperation in research and innovation.
- The implementation of the objectives of the JPIs on Water, AMR and Oceans.
- Reduced risks posed by emerging pollutants to waterbodies and related ecosystems and food chains, and reduced risks to human health via these ecosystems.
- An increased protection of human health through the provision of safe water.
- The alleviation of water challenges within and beyond Europe, particularly in urban areas.

Maintaining momentum, on 28 August 2019, the three JPIs joined forces at World Water Week in Stockholm to discuss water contaminants during a showcase with international participants. The keynote speakers, Dr Foon Yin Lai (Swedish University of Agriculture Sciences) and Associate Professor Carl-Fredrik Flach (Gothenburg University), presented two different perspectives of contaminants of emerging concern (CEC) with a common message: we are able to manage contaminants that are known in our

waters, but certain CECs have been detected at "effect-triggering" concentrations in surface and ground water bodies, and they are causing negative effects for example on antibiotic resistance. A discussion panel with Dr Avelino Conzalez Gonzalez (European Commission), Dr Alexander Keucken (Vatten & Miljö i Väst AB), and Dr Kia Salin (Swedish Medical Products Agency) highlighted policy regulations, strategic approaches for research, and the implementation of new technologies in wastewater treatment as necessary actions.

In November 2019, JPI Oceans hosted a Get-Together featuring a short presentation by the Knowledge Hub on Integrated assessment of the effects of new and existing pollutants. The goal of JPI Oceans Get-Togethers is to bring together the marine and maritime R&I community in Brussels and meet in an informal atmosphere to exchange ideas and information about ocean related matters.

ERA-NET Cofund on the Blue Bioeconomy

The ERA-NET Cofund on the Blue Bioeconomy - Unlocking the Potential of Aquatic Bioresources (BlueBio) is designed to support public-public partnerships between Member States and Associated Countries for the implementation and coordination of networking activities. BlueBio launches calls for proposals in accordance with JPI Oceans, and tackles common priorities. Under its first call, BlueBio awarded funding to 19 new projects in November 2019.

The first BlueBio joint call opened for pre-proposals in December 2018 and held a brokerage event on 30 January 2019 in Lysaker, Norway. The call was supported by 27 funding organisation from 16 European countries, as well as the EU. All BlueBio partner countries (Belgium, Croatia, Denmark, Estonia, Finland, Germany, Greece, Iceland, Ireland, Italy, Malta, Norway, Portugal, Romania, Spain and Sweden) contributed to the first call with a maximum total budget of around EUR 30 million, including EUR 6 million co-funding from the European Commission.

The call attracted a total of 83 project pre-proposals. In June 2019, following the recommendation of the evaluation panel and upon decision of the Call Steering Committee, a total of 35 pre-proposals were invited to submit a full proposal. In November 2019, a total of 19 projects received approval for funding under the call and are expected to start in May 2020. Topics include new bioresources such as macroalgae, waste/process side stream, bycatch and underutilized species.

Climate Science in Europe for Oceans

Oceans play a key role in the climate system, while being in turn largely affected by climate change. However, there are still uncertainties in the understanding and quantification of key climate-ocean interactions and the ocean's buffering capacities for absorbing heat and CO₂. In response to the need for progress in these areas on understanding, observation and modelling, JPI Climate and JPI Oceans partners launched a joint call for research proposals exploring ocean-climate interactions in February 2019.

The call aimed to address Article 7.7 of the Paris Agreement, from an ocean-climate perspective: "Parties should strengthen their cooperation on enhancing action on adaptation (...) incl. strengthening scientific knowledge on climate, including research, systematic observation of the climate system and early warning systems, in a manner that informs climate services and supports decision-making".

With support from Belgium, France, Germany, Iceland, Ireland, Italy, Latvia, Norway and Portugal, and an initial budget of EUR 8.6 million, the sister JPIs called for project proposals using observations and Earth system models in order to address the following topics:

- Strengthening our understanding of climate variability and extremes resulting from the interactions with the oceans such as extratropical and tropical cyclones, and how they are affected by climate change on a range of time scales.
- Improving the representation of air-sea interactions, physical and biogeochemical ocean processes in Earth System Models to better represent small-scale non-linear processes as well as water, energy and carbon cycles. Model-data analyses using innovative approaches were also welcome.
- Improving estimates of climate change induced modifications of ocean physics and ocean chemistry, associated with biogeochemical cycles, including ocean acidification and carbon sequestration.

In October 2019, JPI Oceans announced the funding of two projects set to conduct research on interactions between oceans and climate by analysing model simulations and observational data, starting April 2020. The results of the projects will help to inform policies to increase resilience and adaptation measures for vulnerable areas, especially coastal and low island areas.

- **MEDLEY: MixED Layer hEterogeneity** - The project aims to evaluate the spatial heterogeneity of the ocean mixed layer dynamics and improve its representation in climate modelling to improve their accuracy and consistency.
- **ROADMAP: The Role of ocean dynamics and Ocean-Atmosphere interactions in Driving cliMAtE variations and future Projections of impact-relevant extreme events** - The project investigates the influence of North Atlantic and North Pacific Ocean surface variability on the extratropical atmospheric circulation, with a focus on high-impact weather and climate extremes under present-day and future climate conditions.

Following an increase in financial commitment by several national funding agencies, a further two proposals to the joint JPI Climate and JPI Oceans call were awarded funding under the same call in January 2020:

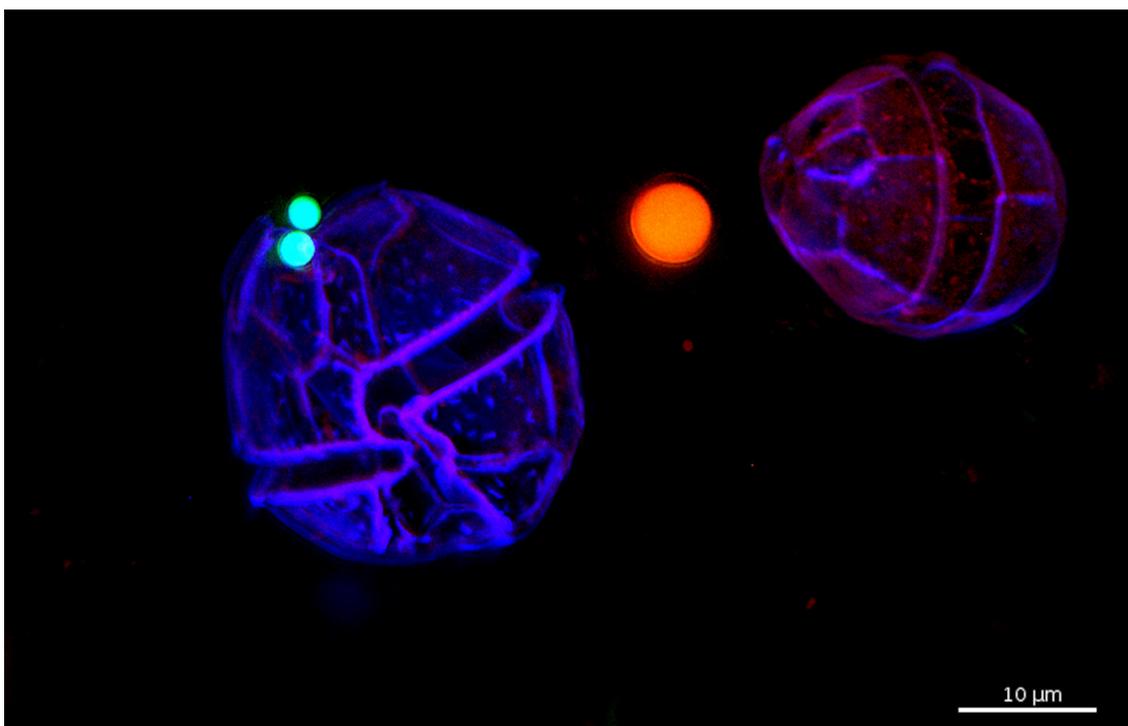
- **EUREC4A-OA: Improving the representation of small-scale nonlinear ocean-atmosphere interactions in Climate Models by innovative joint observing and modelling approaches** - The project is focusing on ocean dynamics and the atmospheric boundary layer at relatively small spatial scales ranging from 20 m to 1000 km, using innovative observations and a hierarchy of model simulations.
- **CE2COAST: Downscaling Climate and Ocean Change to Services: Thresholds and Opportunities** - CE2COAST's primary novelty is an observation-driven synthesis of downscaling methodology. The purpose is to provide process resolution and system representations that are tailored to regional and coastal domains and their specific pressures and services.

Ecological aspects of microplastics

Building on the results from the first transnational call *Ecological aspects of microplastics in the marine environment* and recent scientific findings, a second call was launched by thirteen JPI Oceans member countries, as well as Latvia and Brazil, in November 2018. After evaluation, six new JPI Oceans projects were selected for funding to conduct research on sources of microplastics, methods for identifying smaller micro- and nano-plastics and monitoring their circulation in marine systems and their effects thereon.

The first four JPI Oceans research projects on microplastics 2016-2019 (BASEMAN, EPHEMARE, WEATHER-MIC and PLASTOX) substantially improved the knowledge about the analysis, weathering and ecotoxicological effects of microplastics in the marine environment. Nonetheless, knowledge gaps persist and new research questions have arisen. In order to address them, JPI Oceans launched a second joint call for transnational research projects, leading to the selection of five cutting-edge research projects on microplastics in the ocean in September 2019, and one additional project in January 2020. The funding partners for the call included 17 ministries/funding organisations from Belgium, Denmark, Estonia, France, Germany, Iceland, Ireland, Italy, Malta, Norway, Portugal, Spain, Sweden, Brazil and Latvia. The projects, set to officially start in April 2020 and hold a joint kick off meeting in May 2020, will perform research on sources of microplastics, methods for identifying smaller micro- and nano- plastics, monitoring their circulation in marine systems and their effects on marine organisms.

- **ANDROMEDA** - Analysis techniques for quantifying nano- and microplastic particles and their degradation in the marine environment
- **HOTMIC** - Horizontal and vertical oceanic distribution, transport, and impact of microplastics
- **FACTS** - Fluxes and Fate of Microplastics in Northern European Waters
- **microplastiX** - Integrated approach on the fate of MicroPlastics towards healthy marine ecosystems
- **i-plastic** - Dispersion and impacts of micro- and nano-plastics in the tropical and temperate oceans: from regional land-ocean interface to the open ocean
- **RESPONSE** - Toward a risk-based assessment of microplastic pollution in marine ecosystems



PICTURE CREDIT: VALENTIN FOULON/EPHEMARE PROJECT

Food & Nutrition

The Knowledge Hub on Food and Nutrition Security was jointly launched in January 2019 by JPI Oceans, JPI HDHL and FACCE-JPI. With this new activity, the sister JPIs aim to connect researchers with other existing initiatives and relevant stakeholders in the Food and Nutrition Security research area. The Knowledge Hub is implemented under the umbrella of the JPI HDHL 1st ERA-NET Cofund, ERA-HDHL.

The goal of the Knowledge Hub is to foster transnational and multidisciplinary collaboration and networking in order to further characterize and manage the impact of climate change on nutritional make-up of food, and to propose adaptive strategies and measures to ensure food and nutrition security. The networking activities should contribute to the current challenges in the area of Food and Nutrition Security research, and ensure that existing research activities in this area are coordinated. To this end, funding agencies from nine countries brought together research groups from different disciplines to form

an international consortium tasked with designing and implementing the Knowledge Hub. By April 2019, 42 eligible expressions of interest were submitted by researchers interested in participating in the Knowledge Hub, from Portugal, Italy, Spain, Norway, France, Latvia and Germany. All selected research groups were invited to a network meeting that took place on the 7th June 2019 in Brussels. During the meeting, Dr Habtamu Alem (NO), Prof. Marco Bindi (IT) and Dr Duarte Torres (PT) took the lead as network coordinators.

MarTERA ERA-NET Cofund

The overall goal of the MarTERA ERA-NET Cofund is to strengthen the European Research Area (ERA) of maritime and marine technologies and Blue Growth. MarTERA resulted from the collaboration between JPI Oceans and former ERA-NET MARTEC. The development focus in MarTERA lies on technologies instead of sectors, due to their potentially large impact to a wide range of application fields. In 2019, MarTERA selected 12 projects under its second joint call, and prepared a third joint call.

The consortium launched its second joint call in December 2018, initiated by ministries/funding organisations from Belarus, Belgium, France, Germany, Ireland, Latvia, Malta, Norway, Poland, Romania, Spain and Turkey. The call budget of EUR 15.4 million was intended towards collaborative research and innovation projects in the following Priority Areas:

1. Environmentally friendly maritime technologies
2. Development of novel materials and structures
3. Sensors, automation, monitoring and observations
4. Advanced manufacturing and production
5. Safety and security

A total of 24 full proposals were submitted, requesting EUR 30 million in funding. Finally, twelve projects were funded at total value of EUR 15 million by Belgium-Flanders, France, Germany, Ireland, Norway, Poland, Romania, South Africa and Turkey.

In December 2019, a third call for proposals on transnational research and innovation projects, with a budget of EUR 13 million, was launched by ministries/funding organisations from 11 countries: Belarus, Belgium, France, Germany, Malta, Norway, Poland, Romania, Spain, South Africa and Turkey. Technology developments in the same five priority areas (listed above) are supported. Pre-proposals were due in April 2020.

Ecological aspects of deep-sea mining - MiningImpact

The MiningImpact project, involving 32 partners from 10 countries, aims to set up a comprehensive monitoring programme ensuring an independent scientific investigation of the environmental impacts of an industrial nodule collector system trial by Belgian contractor Global Sea Mineral Resources (DEME-GSR). While the project started in August 2018, the German research vessel RV SONNE conducted a 14-week long research cruise to the Clarion-Clipperton fracture Zone (CCZ) in the Northeast Pacific from February to May 2019.

The first collector trial of DEME-GSR planned in parallel with this cruise had to be delayed due to technical issues, therefore the project resorted to its contingency plan over the second leg of the research cruise. Researchers focused on the spatial heterogeneity in the deep sea, species connectivity, sediment resuspension in the context of deep-sea eddies and other topics that directly link to open questions that were identified in the first project phase. The initial results were presented at the annual meeting of the project, which took place at the University of Aveiro from 21 to 23 October 2019. Since then, partners have been further processing and interpreting the data from last year's cruise.

In May 2019, project partners published a study based on a research cruise of the first MiningImpact project in Scientific Reports*, showing the ecological impacts of seabed mining on deep-sea ecosystems. Scientists revisited a site in the deep Pacific Ocean off the coast of Peru at around 4000 metres water depth nearly 30 years after it had been

exposed to simulated deep-sea mining activity. In order to assess seabed and ecosystem recovery, the scientists mapped and photographed the area with unprecedented detail, for a total of 11 hectares of seabed, the largest photo-mosaic of the abyssal ocean ever obtained. Tracks on the seafloor caused by the simulated mining were still clearly visible, and the impacts on marine life initially observed in 1989 persist. The study pinpointed individual animals over a wide area and relate their abundance and distribution to the seafloor perturbation. While mobile species, such as sea cucumbers and sea stars, were able to recolonise impacted areas, sessile animals such as sponges and sea anemones that live attached to the seafloor are restricted to undisturbed areas but remain virtually absent from directly disturbed seabed. Given the important role of these animals in abyssal ecosystems, the results of the study suggest that impacts of large-scale commercial mining could lead to an irreversible loss of key ecosystem functions, especially in the directly disturbed mining tracks.



PICTURE CREDIT: ROV TEAM/GEOMAR

* Simon-Lledó, E., Bett, B.J., Huvenne, V.A.I. et al. Biological effects 26 years after simulated deep-sea mining. *Sci Rep* 9, 8040 (2019).



CHAPTER 2

Strategic Role

Preparation of UN Decade of Oceans Science for Sustainable Development

In May 2019, JPI Oceans attended the first Global Planning Meeting for the UN Decade of Oceans Science for Sustainable Development. The meeting, held in Copenhagen, Denmark, catalysed international commitments and set in motion a full year of preparatory activities across regions.

The first Global Planning Meeting, held over three days, included lively discussions with over 200 participants from science, academia, policy, communication and private sector organizations. Participants brainstormed on how to achieve the six key Decade outcomes by 2030: a clean ocean, a healthy and resilient ocean, a safe ocean, a sustainable and productive ocean, a predicted ocean and a transparent and accessible ocean.

Representing JPI Oceans at the meeting were Swedish Management Board representative Anna Jöborn, also a member of the Decade's Executive Planning Group, Executive Director Thorsten Kiefer, and Strategic Director Kathrine Angell-Hansen.

Questions of human and societal relevance were at the core of debates: What kind of science and infrastructures are needed to understand and inform decision making for a changing ocean? How can we align on-going research investments in order to produce major breakthroughs, such as a global map of the seafloor or a deep-sea observing system? How can science define pathways for ocean sustainability, providing solutions to feed a growing world population without harming marine biodiversity? How to involve in partnerships globally? How to involve citizens?

"The Decade takes on a critical role in critical times, as we are facing challenges our species has never faced before. As we know so little, we need this Decade to fill the gaps in scientific knowledge to enhance ocean health. But it must do so within a precautionary approach applied with vigour" said Peter Thomson, UN Secretary-General's Special Envoy for the Ocean, opening the meeting at the Assembly Hall of Denmark's National Museum.

Peter Haugan, Chair of IOC-UNESCO emphasized on the Decade being a once in a lifetime opportunity, needing to centre around the people, leaving no one behind, and enabling individuals to make a difference. He highlighted the need for an ambitious top-down and bottom-up movement to meet the Sustainable Development Goals.

For JPI Oceans, Thorsten Kiefer concluded: "In the light of the anticipated climatic, environmental, economic and societal dynamics, a decadal outlook offers the opportunity to design an agenda for knowledge and capacity that will become increasingly crucial for seas, oceans and people. JPI Oceans, with its pioneering spirit and record of advancing emerging topics will play a strong role in shaping and pursuing the Decade's ambitions. Accordingly, the decade is very present in our thinking and high on the agendas of our meetings".

Participants concluded that in order to succeed, the Decade must promote ocean literacy across the world to anchor mind-sets around the fundamental relationship humanity has with the ocean. The Decade must be inclusive, participative, and interdisciplinary. The importance of inclusiveness, with particular attention towards less developed countries was also repeatedly highlighted by Anna Jöborn during discussion panel interventions.

Capacity development and technology transfer are required to smaller economies in need of ocean science, such as the Small Island Developing States. The importance of traditional knowledge should be emphasized as our way of life is destructive. Ultimately, the Decade needs to start a global movement and should change the current 'domination' narrative over the ocean and turn it into something positive.

The Decade Meeting echoed the G7 Environment Ministers communiqué (Metz, France, 5-6 May 2019) that called for the improvement and sharing of the latest state-of-the-art knowledge of the ecological state of the oceans, boost ocean awareness and literacy, and ensure that existing and any new human-induced pressures are reduced and do not threaten the health of the oceans.

Commitments to Our Ocean Conference 2019

On the occasion of the high-level 'Our Ocean' conference hosted by Norway, JPI Oceans announced four commitments for 2019-2020.

The Our Ocean Conference held in October 2019 in Oslo, Norway, highlighted the importance of knowledge as the basis of actions and policies to ensure protection of our ocean, responsible management of marine resources and sustainable future economic growth. The conference brought together leaders from governments, businesses, civil society and research institutions to share their experience, identify solutions and commit to action for a clean, healthy and productive ocean.

At the conference, an unprecedented total of 374 new commitments to implementing concrete actions were made for a total value of at least USD 63 billion, relating to tackling climate change, marine pollution, achieving sustainable fisheries, marine protected areas and a sustainable ocean economy. Among these, JPI Oceans announced four new commitments to tackle challenges related to aquatic pollutants, munitions in the sea, climate science for oceans, and developing sustainable maritime technologies:

AQUATIC POLLUTANTS: RISKS POSED TO HUMAN HEALTH AND THE ENVIRONMENT BY POLLUTANTS AND PATHOGENS IN WATER RESOURCES

Under the framework of the AquaticPollutants ERA-NET Cofund, the JPIs on Water, Oceans and Antimicrobial Resistance committed the equivalent of EUR 24.2 million including EUR 5.1 million co-funding from the European Commission. The investment will strengthen the ERA in the field of clean and healthy aquatic ecosystems and to leverage untapped potential in the collaboration between the freshwater, marine and health research areas.

SUPPORTING RESEARCH AND INNOVATION RELATING TO THE ENVIRONMENTAL AND SAFETY RISKS OF DUMPED MUNITION

Ammunition dumped at sea during or after wars constitutes an environmental and safety issue in many European countries. Belgium, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Poland, Portugal, Sweden and the United Kingdom are involved in this action, with the aim of coordinating research and innovation to assess risks, define priorities and suggest intervention options with

regard to munition in the marine environment. The added-value of the Action includes introducing and structuring a European scientific interdisciplinary and cross-sectoral cooperation, providing an interface between scientific expertise and operators, and contributing to cost and time efficient solutions. The action will be ongoing as long as the members see an added value in the cooperation over and above what they can achieve nationally.

NEXT GENERATION CLIMATE SCIENCE IN EUROPE FOR OCEANS

In a cooperation between sister initiatives JPI Climate and JPI Oceans, nine member countries (France, Belgium, Germany, Iceland, Ireland, Italy, Latvia, Norway and Portugal) mobilized EUR 8.6 million for a joint call on oceans and climate interactions. The ambition was that of triggering a new wave of innovative Climate Services. The joint call focused on strengthening our understanding of climate variability and extremes resulting from the interactions with the oceans, improving the representation of air-sea interactions, physical and biogeochemical ocean processes in Earth System Models, improving estimates of climate change induced modifications of ocean physics and ocean chemistry, associated with biogeochemical cycles, including ocean acidification and carbon sequestration.

CALLS FOR THE DEVELOPMENT OF SUSTAINABLE MARITIME AND MARINE TECHNOLOGIES

Under the framework of the MarTERA ERA-NET Cofund, supported by the European Commission, EUR 15.7 million for research funding in maritime and marine technology development was committed by Germany, Belarus, Belgium, France, Ireland, Latvia, Malta, Norway, Poland, Romania, Spain, Turkey and South Africa in a second call. This initiative is coordinated by the funding organisation of the German Federal Ministry for Economic Affairs and Energy (BMWi). From 2020, MarTERA will fund the development of environmentally friendly maritime technologies, novel materials and structures, sensors, automation, monitoring and observations, advanced manufacturing and production, safety and security.



CHAPTER 3

Governance

Thorsten Kiefer appointed as new Executive Director

In March 2019, Dr Thorsten Kiefer became the new Executive Director of the JPI Oceans Secretariat in Brussels.

Thorsten Kiefer took over the position from former Executive Director Jacky Wood who, during her time leading the Secretariat, skilfully navigated the new setup of JPI Oceans as an autonomous legal entity (AISBL) for intergovernmental membership, and considerably extended the portfolio of JPI Oceans actions.

Thorsten Kiefer's scientific experience is rooted in marine research, and builds on ample experience in management of international research and innovation programmes. Prior to joining JPI Oceans, he acted as Director of the Global Hub of Future Earth in Paris, working with researchers and innovators on the big societal challenge of transitioning the world to global sustainability. At Future Earth, he

helped establish multi-stakeholder Knowledge-Action Networks on sustainable oceans, risks and extremes. He previously acted as Executive Director of the Past Global Changes (PAGES) programme in its headquarters in Switzerland. He facilitated global research and synthesis on past environmental changes that pre-date systematic measurements and observations by using evidence from archives such as fossil corals, tree rings, ice or sediment cores. In his earlier days as a researcher, Thorsten Kiefer specialised in the field of palaeoceanography. At the University of Kiel, Germany, and Cambridge University, UK, he analysed deep-sea sediments to study the substantial changes that occurred in ocean and climate over the past thousands to ten-thousands of years.

Corinne Muscat Terribile elected as Second Vice Chair

The appointment of Corinne Muscat Terribile was formalized at the 20th Management Board meeting, 4-5 November 2019, in Madrid, hosted by the Spanish State Research Agency (AEI), at the Spanish Ministry of Science, Innovation and Universities (MINECO). She was elected for a term of three years alongside Vice Chair Joachim Harms and Chair Arvid Hallén.

Corinne Muscat Terribile's election as Vice Chair ensured a more diverse representation among JPI Oceans from both a geographical perspective and the advancement of specific needs and priorities of smaller JPI Oceans member countries. Since joining the Malta Council for Science and Technology (MCST), Corinne Muscat Terribile has represented Malta within the JPI Oceans Management Board. She was eager from the very beginning to get Malta more and more involved in the actions and developments brought forward by JPI Oceans. Following her appointment, she emphasized that "Malta has a strong research community in the field of marine science and the JPI

Oceans platform will help to internationalize their expertise and facilitate international research collaborations in this field".

Corinne Muscat Terribile is a pharmacist by training and garnered considerable experience in R&D funding programmes and project management. She also acts as a facilitator in securing international collaborations with Malta, and implementing new research funding opportunities for stakeholders coming from the academic, public and private sector.

ANNEXES

Annex I: Joint Actions

Joint Action	Action Period	Lead Country	Participating countries
AQUATIC POLLUTANTS ERA-NET COFUND	2020-2024	GERMANY	Belgium, Brazil, Cyprus, Czech Republic, Denmark, Estonia, France, Germany, Greece, Ireland, Israel, Italy, Latvia, Moldova, Norway, Poland, Portugal, Romania, Scotland (UK), South Africa, Spain, Sweden, Taiwan, Tunisia, Turkey
BLUEBIO ERA-NET COFUND	2018 - 2023	NORWAY	Belgium, Croatia, Denmark, Estonia, Finland, Germany, Greece, Iceland, Ireland, Italy, Malta, Norway, Portugal, Romania, Spain, Sweden
ECOLOGICAL ASPECTS OF DEEP-SEA MINING	2013 - 2022	GERMANY	Belgium, France, Germany, Italy, Netherlands, Norway, Poland, Portugal, Romania, Sweden, United Kingdom
ECOLOGICAL ASPECTS OF MICROPLASTICS	2013 - 2023	GERMANY	Belgium, France, Germany, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden
EUROPEAN MARINE SENSORS CALIBRATION NETWORK	2016 -	GREECE	Finland, France, Germany, Greece, Italy, Norway
FOOD AND NUTRITION SECURITY	2016 -	NORWAY	Italy, Norway, Portugal, Spain, Sweden
INTEGRATED ASSESSMENT OF NEW POLLUTANTS	2019 - 2020	NORWAY SPAIN	Belgium, Germany, Denmark, Estonia, France, Italy, Norway, Spain, United Kingdom
MARTERA ERA-NET COFUND	2016 -	GERMANY	Argentina, Belarus, Belgium, France, Germany, Ireland, Italy, Latvia, Malta, Netherlands, Norway, Poland, Portugal, South Africa, Turkey
MUNITION IN THE SEA	2015 -	ITALY NORWAY GERMANY	Belgium, Germany, Greece, Ireland, Italy, Netherlands, Norway, Poland, Portugal, United Kingdom, Spain, Sweden
NEXT GENERATION CLIMATE SCIENCE IN EUROPE FOR OCEANS	2019 - 2023	FRANCE	Belgium, France, Germany, Ireland, Italy, Latvia, Norway, Portugal
SCIENCE FOR GOOD ENVIRONMENTAL STATUS (S4GES)	2019 -	BELGIUM ITALY MALTA	Belgium, Croatia, Estonia, France, Germany, Greece, Ireland, Italy, Malta, Ukraine

Annex II: Management Board

The Management Board is the decision-making body of JPI Oceans, convening two or three times per year. Members have appointed at least one representative, up to a maximum of four, who are authorized to act and vote on behalf of the member state.

The Management Board has established an Internal Advisory Committee (IAC) that is made up 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 IAC guided and assisted the secretariat in the preparation of the board meetings, and oversaw the work of the secretariat according to Management Board decisions.

The following list of Management Board representatives reflects the membership and representation as of December 2019:

Country	Organisation	Representatives
BELGIUM	Belgian Federal Science Policy Office (BELSPO) Flemish Government, Department Economy Science and Innovation (EWI)	FRANK MONTENY KOEN LEFEVER JOHAN HANSENS GERT VERREET
CROATIA	Institute of Oceanography and Fisheries Ministry of Science and Education Ruđer Bošković Institute	IVICA VILIBIĆ ŽELJKA SKOČILIĆ SANDI ORLIĆ
DENMARK	Innovation Fund Denmark Technical University of Denmark	ANITHA SHARMA DENNIS LISBJERG
ESTONIA	Ministry of Agriculture Ministry of the Environment of the Estonian Republic	EVE KÜLMALLIK HELENA PÄRENSON RENE REISNER KATARINA VIKK TUULI LEVANDI
FRANCE	French National Research Agency (ANR) French Research Institute for Exploitation of the Sea (IFREMER) Ministère de l'Enseignement Supérieur, de la Recherche et de l'Innovation	MAURICE HERAL GILLES LERICOLAIS*** ALAIN LAGRANGE
GERMANY	German Federal Ministry of Education and Research (BMBF) Research Centre Jülich (JÜLICH)	TIM EDER JOACHIM HARMS**
GREECE	Hellenic Centre for Marine Research (HCMR)	GEORGE PETIHAKIS
ICELAND	The Icelandic Marine and Freshwater Research Institute	SIGURÐUR GUÐJÓNSSON SÓLEY MORTHEMS
IRELAND	Marine Institute Ireland (MI)	NIALL McDONOUGH*** VERONICA CUNNINGHAM FIONA GRANT
ITALY	Italian Ministry of Infrastructure and Transport, Directorate of Maritime Transport and Inland Waterways National Institute of Oceanography and Experimental Geophysics (OGS) Italian Consortium for Managing research Activities Venice Lagoon (CORILA) National Research Council of Italy, Marine Technology Research Institute	MAURIZIO COLETTA ANGELO CAMERLENGHI*** PIERPAOLO CAMPOSTRINI EMILIO FORTUNATO CAMPANA

Annexes

Country	Organisation	Representatives
MALTA	Malta Council for Science and Technology (MCST)	CORINNE MUSCAT TERRIBILE**
NETHERLANDS	Ministry of Agriculture, Nature and Food Quality Netherlands Organisation for Scientific Research (NWO)	ROSANNE METAAL JOSEF F. STUEFER
NORWAY	Norwegian Ministry of Trade, Industries and Fisheries Research Council of Norway (RCN)	JARTRUD STEINSLI HANNA LEE BEHRENS ARVID HALLÉN* KRISTIN ELISABETH THORUD***
POLAND	Polish Academy of Sciences; Institute of Hydroengineering (IBW PAN)	GRZEGORZ RÓŻYŃSKI
PORTUGAL	Portuguese Institute of Ocean and Atmosphere (IPMA) Portuguese National Funding Agency for Science, Research and Technology (FCT)	NUNO LOURENÇO SOFIA CORDEIRO TERESA COURINHA
ROMANIA	National Authority for Scientific Research, Directorate for European Integration and International Cooperation University of Bucharest, Faculty of Geology and Geophysics	VIOREL VULTURESCU VIOREL GH. UNGUREANU
SPAIN	Spanish Ministry of Economy and Competiveness (MINECO)	ESTRELLA FERNANDEZ GARCIA ESTHER CHACÓN*** ABRAHAM TRUJILLO QUINTELA
SWEDEN	Swedish Agency for Marine and Water Management (HaV) Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (FORMAS)	ANNA JÖBORN FLOOR TEN HOOPEN PETRA WALLBERG
TURKEY	Tübitak Marmara Research Center	CINAR ONER SERHAT YILDRIM
UNITED KINGDOM	Department for Environment, Food and Rural Affairs (DEFRA) National Oceanography Centre (SOTON-NOCS) Natural Environment Research Council (NERC) Centre for Environment, Fisheries and Aquaculture Science (CEFRAS)	SYLVIA BLAKE TARQUIN DORRINGTON ED HILL MIKE WEBB HOWARD EASTERFIELD RHODRI BAINES

The European Commission holds non-voting member status. The appointed member is Sieglinde Grüber.
If more than four representatives are indicated per country, a representation change occurred throughout the course of the year 2019.

The JPI Oceans Management Board convened 3 times in 2019, for the following meetings:

Meeting	Date	Location
18TH	18 January 2019	BRUSSELS, BELGIUM
19TH	20-21 May 2019	BRUSSELS, BELGIUM
20TH	4-5 November 2019	MADRID, SPAIN

Annex III: Secretariat

Name	Position
KATHRINE ANGELL-HANSEN	Strategic Director, Full-time
ANDERS BRUDEVOLL	Science-Policy Adviser, Full-time
WILLEM DE MOOR	Science-Policy Adviser, Full-time
SANDRA KETELHAKE	Science-Policy Adviser, Part-time (since June 2019)
THORSTEN KIEFER	Executive Director, Full time (since March 2019)
PIER FRANCESCO MORETTI	Science Officer, Part-time
TOM REDD	Science-Policy Adviser, Full-time
ISABELLE SCHULZ	Science-Policy Adviser, Part-time (since March 2019)
GEORGE WESTMEIJER	Science-Policy Adviser, Full-time (until February 2019)
JACKY WOOD	Acting Executive Director, Full-time (until March 2019)

Annex IV: Website - Social Media Statistics

Website analytics

Year	Visits	Unique visitors	Pageviews	Avg. 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

Website Content & Newsletter

Year	News articles published	Newsletters sent	Newsletter 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

Social Media & Newsletter analytics

Year	LinkedIn group members	Twitter followers	Facebook likes
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

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

** 2018 and 2019 figures are based on the Matomo web analytics platform

Annex V: 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 2019 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 (AANCHOR) CSA, with provision for travel and staff time.

In 2019, a total cash amount of EUR 289,520 was received, and the total expenditure amounted to EUR 375,818. Expenditure consisted of office fixed costs (rent/charges/taxes), running expenses and other costs and secretariat employment costs. The deficit recorded was covered by accumulated reserves from 2018 and previous years. The reserves at the end of 2019 amounted to EUR 562,381.

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 is a major emphasis to ensure the sustainability and viability of JPI Oceans going forward.



JPI Oceans AISBL | Company number: 0691.970.779 | Rue du Trône 4
1000 Brussels | Belgium
Tel. +32 (0)2 626 16 60 | info@jpi-oceans.eu

www.jpi-oceans.eu