

# Annual Report 2019

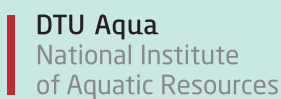
## EUROPEAN MARINE BOARD

The European Marine Board provides a pan-European platform for its member organizations to develop common priorities, to advance marine research, and to bridge the gap between science and policy in order to meet future marine science challenges and opportunities.

The European Marine Board is an independent and self-sustaining science policy interface organisation that currently represents 34 Member Organizations from 18 European countries. It was established in 1995 to facilitate enhanced cooperation between European marine science organizations towards the development of a common vision on the strategic research priorities for marine science in Europe.

The EMB promotes and supports knowledge transfer for improved leadership in marine research in Europe and its membership includes major national marine or oceanographic institutes, research funding agencies and national consortia of universities with a strong marine research focus. Adopting a strategic role, the European Marine Board serves its member organizations by providing a forum within which marine research policy advice to national agencies and to the European Commission is developed and conveyed, with the objective of promoting the need for, and quality of, European Marine Research.

[www.marineboard.eu](http://www.marineboard.eu)



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Kick-off WG Big Data, Ostend



3<sup>rd</sup> EMB WG meeting Research Vessels, Galway



Ocean Decade World Planning Meeting, Copenhagen



SOPHIE Consortium & Expert Workshop, Ostend



AtlantOS Final Conference, Paris



European Maritime Day Workshop, Lisbon

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# Highlights



Launch EMB Future Science Brief 3 "VALMARE", European Parliament



EuroOCEAN 2019 Conference & Launch of NFV, Paris



EMB Brown Bag Lunch on ecosystem based management for MSP, Brussels



EMB Young Ambassadors Training session, Ostend

EMB Autumn Plenary,  
Berlin



EuroGEOSS workshop, Lisbon



International Ocean  
Governance kick-off  
meeting, Brussels



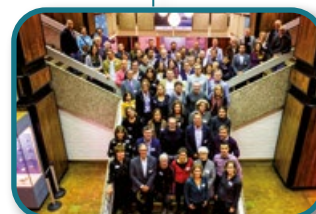
Launch of Policy Brief 6  
on Recommendations  
for the Ocean Decade,  
European Parliament



Article on  
"Navigating the  
Future V" in  
EcoMagazine



ICYMARE Conference,  
Bremen



EuroSea Kick-off,  
Brussels

J A S O N D

2019



EOOS Advisory Committee,  
Brussels



Ecopath Conference, Florida



EMB Brown Bag Lunch on  
Marine Stations, Brussels



# Message from the Chair



It is my pleasure to present my first Annual Report as the European Marine Board Chair. I would like to thank my fellow EMB delegates for the opportunity to take on the role of Chair, and thank my predecessor, Jan Mees, who successfully guided our organisation from adolescence (EMB celebrated its 15th anniversary in 2014) to adulthood as the EMB turned 20 in 2019. I was relieved to hear that the External Review Team that was set up to make a full evaluation of EMB's activities and outcomes in 2019, and to judge our performance based on our mission, had come to a positive conclusion about the role played by the EMB! The review team also made some recommendations for further improvements, which I have taken on as my first task as the new Chair.

The year 2019 was a year of great achievements for the European Marine Board with several important events and publications. Not only did we publish our Flagship publication "Navigating the Future V" (NFV), we also managed to launch it at one of our major conferences: EurOCEAN 2019. The timing for NFV and the EurOCEAN Conference could not have been better, as they arrived in full preparation of the United Nations Decade of Ocean Science for Sustainable Development (2021-2030) and the forthcoming Horizon Europe, the European Union Framework Programme for Research and Innovation (2021-2027). Both initiatives will be a determining factor for the future of International and European marine research and I am proud that the EMB and its members are taking up an influential and leading role in these important developments.

Our members form the core of EMB activities, and I am encouraged by the fact that EMB membership has been growing over the past years, reaching 34 members in 2019. In order to keep our voices united, our members gather twice per year at EMB Plenary meetings to exchange knowledge and information, and set the future actions and priorities for EMB towards advancing marine science in Europe. In 2019, we were welcomed by the French Universities Consortium in Paris in June, and by the German Marine Research Consortium (KDM) in Berlin in November. I thank my colleagues François Lallier and Jan-Stefan Fritz for guiding us through these two European capital cities, and hosting two interesting and fruitful EMB meetings.

One other novelty in 2019 was the establishment of our EMB Young Ambassador Programme. Marine Science is future oriented, so it is important that the views and ideas of young scientists are heard in our work, and that they become ocean advocates for their generation. Thanks to the great pioneering work of Alba González Vega and Liam Lachs, our Board has decided to expand the Ambassador Programme, so I am really looking forward to meeting our 2 new Young Ambassadors in 2020.

Last but not least, I want to thank the members of the EMB Secretariat, who have been a tremendous help in keeping all our activities on the right track, and providing me with the necessary background information in my first steps as the new Chair. I am looking forward to embarking on our next adventures with such a strong group of Secretariat staff members, fellow Delegates and our young Ambassadors.

**Dr. Gilles Lericolais**, EMB Chair

# Executive Director's report



2019 was a busy but satisfying year for the European Marine Board, and specifically for the EMB Secretariat. We started the year one person down, but were able to maintain our work load. The year started with a SOPHIE project (Oceans and Human Health) meeting in January in Ostend, organized by **Dr Paula Kellett**; and with **Joke Coopman** leading on the finalisation of the Future Science Brief N°5 on “Valuing Marine Ecosystems”, which we were able to launch at the European Parliament in April. We were fortuitously joined by **Dr Britt Alexander** in March, as she was able to pick up the editing of Navigating the Future V (NFV), and give **Ángel Muñoz Piniella** time to focus solely on the organisation of our largest conference, EurOCEAN2019, which took place in Paris in June. EurOCEAN2019 was a great success, with our young ambassadors, **Liam Lachs** and **Alba González Vega**, joining us and both speaking and helping to organize the early career scientist poster sessions. Britt was an inspired choice, as her amazing language and editing talents came in very useful with NFV. She was also able to lead on the translation of NFV into our Policy Brief, which links the recommendations of NFV to the UN Decade of Ocean Science of Sustainable Development.

The UN Decade of Ocean Science will be of significant importance for EMB members and for marine scientists across the world for the next decade. The European Marine Board will keep the Decade in our planning, and will highlight all our Ocean Decade supporting documents and events in future Annual Reports. EurOCEAN 2019 and the EMB Policy Brief N°6 “Navigating the Future V: Recommendations for the Ocean Decade” was the first of our Ocean Decade contributions and the Policy Brief was launched at the European Parliament in November. However, NFV and EurOCEAN was not the only thing that kept the Secretariat busy last year. **Paula Kellett** was also working hard on EMB Position Paper N°25: “Next Generation European Research Vessels” highlighting the changes in Europe’s research vessel capability since EMB Position Paper N°10 in 2007. This document was launched at our Plenary meeting in November where we had a combined meeting with the EurOcean Foundation.

After a well-deserved summer rest **Ángel Muñoz Piniella** was ready to pick up our newest working group on Geohazards, while also keeping track of EOOS and our newest H2020 project EuroSea. **Paula Kellett** also worked on Terms of Reference for Underwater Noise and **Joke Coopman** for Coastal conservation, restoration & adaptation – all new working groups coming soon. **Britt Alexander** is now leading on the Working Group on Big Data and the tender for the International Ocean Governance Forum. Without this amazing team, I would not be able to give the EMB the visibility through my participation in various meeting as I have done (see Annex 6). Finally, in 2019 we welcomed **Dr Gilles Lericolais** as our new Chair, taking over from Jan Mees, who is next to the EMB offices and regularly walked in to say hello. Luckily, Gilles is often in Brussels and that has helped us to meet to discuss EMB business regularly in face-to-face meetings. I think 2019 was a huge success for the EMB Secretariat, and I believe that we will continue to support the EMB members in 2020 under the new leadership of our new Chair: Dr Gilles Lericolais.

**Prof. Sheila J. J. Heymans**, EMB Executive Director

# EMB mission, structure and governance

## MISSION

The European Marine Board (EMB) provides an independent platform for its member organizations to promote common positions on research priorities and strategies in Europe, and to bridge the gap between science and policy in order to meet future marine science challenges and opportunities.

Topics of strategic interest identified by the EMB form the basis for new publications and events, targeted at European and national research programme managers, strategy developers, policymakers and the marine research community to drive future European and national marine research agendas, and supporting strategies and policies.

**EMB acts as an independent science-policy interface, transferring and translating scientific knowledge to policy makers, and channelling policy needs back to the research community.**

## STRUCTURE AND GOVERNANCE

The European Marine Board is an independent and self-sustaining science policy interface organization that currently represents 34 Member Organizations from 18 European countries. It was established in 1995 to facilitate enhanced cooperation between European

marine science organizations towards the development of a common vision on the strategic research priorities for marine science in Europe. The EMB promotes and supports knowledge transfer for improved leadership in marine research in Europe and its membership includes major national marine or oceanographic institutes, research funding agencies and national consortia of universities with a strong marine research focus.





## EMB DELEGATES

The representatives (EMB Delegates) from EMB member organisations all together form “the Board”, which is the highest decision making organ of the European Marine Board. EMB delegates meet twice a year at plenary meetings to share knowledge, to define common priorities, and to agree on activities and outputs. Observers and guests are invited to attend EMB plenary meetings on an ad hoc basis. These include the European Commission (EC), the Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO), and other international and European marine science networks.



EMB Delegates at the Autumn Plenary Meeting in Berlin, November 2019

**The EMB’s mixed membership of research performing organisations (RPOs), research funding organisations (RFOs) and national university consortia, ensures its unique capacity to deliver science policy advice on issues of identified strategic importance and to influence European marine research agendas.**

## EXECUTIVE COMMITTEE

EMB operations are overseen by the Executive Committee (ExCom). The ExCom meets three times per year to follow up on the implementation of the actions agreed by the Board at plenary meetings, make operational and financial decisions and give strategic guidance to the Board and Secretariat.



From left to right: Jeremy Gault, Mark James, Sheila Heymans (ex-officio member), Yves-Marie Paulet, Gilles Lericolais, Ferdinando Boero, Carlos García Soto, Jan-Stefan Fritz

### ExCom mandates in 2019

<b>Gilles Lericolais</b>	Chair	French Research Institute for the Exploration of the Sea (Ifremer), France	June 2019 – June 2022
<b>Jan Mees</b>	Chair	Flanders Marine Institute / Research Foundation Flanders, Belgium	May 2014 – June 2019
<b>Mark James</b>	Vice-Chair	Marine Alliance for Science and Technology Scotland (MASTS), UK	May 2015 – May 2020
<b>Jan-Stefan Fritz</b>	Vice-Chair	German Marine Research Consortium (KDM), Germany	May 2015 – May 2020
<b>Carlos García Soto</b>	Vice-Chair	Spanish Oceanographic Institute (IEO), Spain	April 2017 – May 2020
<b>Ferdinando Boero</b>	Vice-Chair	National Inter-University Consortium for Marine Sciences (CoNISMa), Italy	April 2017 – May 2020
<b>Yves-Marie Paulet</b>	Vice-Chair	Universities Marine (UM), France	April 2018 – May 2021
<b>Jeremy Gault</b>	Vice-Chair	Irish Marine Universities Consortium (IMUC), Ireland	Oct 2018 – Oct 2021

## SECRETARIAT

EMB activities and the operation of its Secretariat are funded through annual member contributions and EMB external contracts. The EMB Secretariat implements the strategic and operational decisions and activities proposed by the Board and ExCom. The Secretariat is based in Ostend, Belgium.



The EMB Secretariat at the EurOCEAN 2019 Conference in Paris, June 2019. From left to right: Britt Alexander (Science Officer), Joke Coopman (Executive and Finance Officer), Paula Kellett (Science Officer), Sheila Heymans (Executive Director) and Ángel Muñiz Piniella (Science Officer).

## EMB YOUNG AMBASSADORS

In March 2019, the European Marine Board launched its Young Ambassador Programme in order to strengthen collaboration with and engagement from a vast group of early career researchers. The EMB ambassadors will play an important role in advocating for and promoting the role and relevance of marine science and the ocean in general to their peers and wider networks. They will be EMB's soundboard to a vast group of early career researchers and make sure that the voices and ideas of young researchers are reflected within the European Marine Board's work.

Resulting from the open call for EMB Young Ambassadors in March 2019, Alba González Vega, a PhD student from University of Las Palmas de Gran Canaria and EMB member IEO, and Liam Lachs, a PhD student from Newcastle University, whose work is funded by EMB member NERC, were selected to become EMB's first Young Ambassadors. Alba and Liam cooperate with EMB on diverse activities for a 2-year period (from April 2019 until Spring 2021).

The EMB Young Ambassador Programme will be continued and expanded in 2020, adding 2 new Ambassadors to help Liam and Alba in their outreach to the young marine scientist community.

Find out more on <http://www.marineboard.eu/our-current-ambassadors-0>



The EMB Young Ambassadors Liam Lachs and Alba González Vega joined the EMB Spring plenary meeting to discuss their plans for the EMB Ambassador Programme with the members.

# Plenary meetings 2019

European Marine Board plenary meetings, held twice a year in spring and autumn, gather EMB member organizations to share knowledge, to define common priorities and to agree on activities and outputs, which will drive and/or impact upon European and national marine research and policy agendas. During these meetings hosted by one of EMB's member organisations, EMB delegates interact with invited speakers, guests, and observers to EMB Plenary meetings: the European Commission and the UNESCO's Intergovernmental Oceanographic Commission.



## SPRING PLENARY MEETING - 13 JUNE, PARIS (FRANCE)

On 13 June 2019, EMB delegates and invited guests gathered to attend the European Marine Board 2019 Spring Plenary Meeting, hosted by the French Marine Universities Consortium at the Sorbonne University in Paris. The meeting was held back-to-back with the EurOCEAN 2019 conference, which took place at the UNESCO headquarters in Paris on 11-12 June 2019.

### **Gilles Lericolais (Ifremer, France) becomes the new EMB Chair**

As Jan Mees (Flanders Marine Institute, Belgium) had reached his full 5-year mandate as EMB Chair, the Board elected Gilles Lericolais (Ifremer, France) as the new EMB Chair. While enjoying a glass of wine and a magnificent view over Paris from the 24<sup>th</sup> floor of the Zamansky Tower at the Pierre & Marie Curie University Campus, the members thanked Jan Mees for his 5-year Chairmanship with a gift, representing a cartoon on the productivity of a marine scientist.



Celebrating the incoming and outgoing EMB Chair: Gilles Lericolais takes over EMB Chairmanship from Jan Mees

### **The External Review Team present their initial findings on EMB's structure, impact and operations**

In the first half of 2019, EMB conducted an internal and external review on its organisational structure and governance; its functioning and role in the wider EU marine landscape; its activities, outputs and their impact; and its financial situation. At the EMB Spring Plenary Meeting, the external review team of 5 experts under the leadership of Wendy Watson Wright (Ocean Frontiers Institute, Canada) came to present their conclusions and recommendations to the EMB Members.

Internal and external reviews are organized approximately every 6-7 years in order to keep a critical view on EMB functioning and operations. The purpose of these reviews is to assess how well EMB is performing according to its mission, and to guide the future vision and strategic direction for the work of the Board. The internal review generally includes a self-evaluation based on an anonymous questionnaire gathering member input, and a factual report on outcomes, impacts and realizations. These serve as an input for the external review, which is undertaken by an expert review panel including authoritative experts from a diverse range of European and International marine science, Intergovernmental and policy backgrounds.

The external review team met prior to the EurOCEAN Conference in Paris, and engaged with EMB members and conference participants during the conference to gather additional views on EMB's functioning and impact. Their initial findings were presented during the EMB Spring plenary meeting and the final outcomes of the review team were compiled in a list of findings and recommendations.





Picture on the left: Ned Dwyer, Wendy Watson Wright and Mark Dicky-Collas at the EMB Plenary reception. Picture on the right: Wendy Watson Wright, Jacky Wood and Willie Wilson presenting the findings of the External Review to the Board Members.

In order to follow up on the review recommendations, the Board has provided a response to the review and agreed on an action list to address the recommendations, which will be implemented throughout the year 2020. Both documents can be found on our website.

<http://www.marineboard.eu/emb-operations>

The 2019 External Review Team members were:

- Wendy Watson-Wright (Director of the Oceans Frontiers Institute, Canada and former IOC-UNESCO chair),
- Mark Dickey-Collas (Chair of the Advisory Committee of the International Council for the Exploration of the Sea (ICES)),
- Jacky Wood (Head of Business Partnerships at UKRI Natural Environment and former Executive Director of JPI Oceans),
- Ned Dwyer (Freelance Earth Observation Consultant and Project Manager and former Director of EurOcean), and
- Willie Wilson (Director of the Marine Biological Association of the UK).



EMB Delegates and guests at the EMB Spring Plenary meeting in Paris, June 2019.

## AUTUMN PLENARY MEETING – 5-6 NOVEMBER, BERLIN (GERMANY)

On 5-6 November 2019, EMB delegates and invited guests gathered to attend the European Marine Board 2019 Autumn Plenary Meeting, hosted by the German Marine Research Consortium (KDM) at the WissenschaftsForum in Berlin.

### The Stazione Zoologica di Napoli 'Anton Dorhn' joins as EMB's 34<sup>th</sup> Member



Following the Board's agreement to increase the limit of 3 members per country to 4 members per country at the 2019 Spring Plenary meeting in Paris, the Stazione Zoologica di Napoli 'Anton Dorhn' applied for EMB membership in the Summer 2019. Founded in 1872, the Stazione Zoologica is the oldest research institution in Italy. The Board unanimously approved the application and welcomed the Stazione as EMB's 34<sup>th</sup> member.

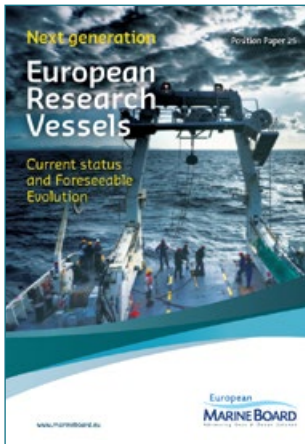
### Board members discuss the contribution from the marine science community to the UN Decade of Ocean Science.

The members received the first copies of EMB Policy Brief N°6 "NFV: Recommendations for the Ocean Decade", which was officially launched at the European Parliament on 19 November 2019 at an event co-organized European Bureau for Conservation and Development. The EMB Delegates shared insight in the actions their national governments and organisations were planning to contribute to the Ocean Decade. During the Open Session participants from the European Marine Board, EurOcean, IOC-UNESCO, POGO and JPI-Oceans gathered in break-out groups to brainstorm on further contributions to the Ocean Decade. EMB will actively keep contributing to the Decade on Ocean Science by raising awareness and promoting concrete actions in the coming years.



Delegates and guests discussing contributions to the UN Decade of Ocean Science at the EMB Autumn Plenary - November 2019, Berlin.

# JOINT PLENARY OPEN SESSION ON EUROPEAN RESEARCH VESSELS



On Wednesday 6 November, the members of the European Marine Board and EurOcean gathered at the KDM offices in Berlin for a joint Open Session to celebrate the launch of EMB's 25<sup>th</sup> Position Paper on European Research Vessels.

**Per Nieuwejaar**, Director research vessel department at IMR, Norway and Chair of the EMB Working Group on Research Vessels, noted that this publication, which is the result of a collaboration with the European Research Vessel Operators (ERVO), presents an overview of the current fleet, its capabilities and equipment, and its management. Looking to the future, it highlights what will be needed to ensure that the European fleet can continue to provide the same high level of support to science, in particular in specialized areas such as the deep-sea and Polar regions. It also goes beyond the fleet itself, to consider the training of fleet personnel, fleet management, and the role of research vessels in the wider context of ocean observations and the European Ocean Observing System (EOOS).



**Giuseppe Magnifico**, gave some further insights in the future of the European Research Fleet, focusing on the work being carried out in the scope of the Eurofleets+ Project.

**Stephen Hall** from the Society of Underwater Technology, highlighted new marine technologies that could enable and support science for the Ocean Decade, and how links between industry and research will continue to grow in importance.

**Kevin Forshaw** from the University of Plymouth presented on the Mayflower AC: the first autonomous ship project to sail the Atlantic Ocean from Plymouth UK to Plymouth USA, to collect research data on acoustics, nutrients, temperature, as well as water and air samples in order to create a picture of ocean conditions and mammal behaviour right across the Atlantic.



Find out more on the paper and the Working Group on the EMB Website:

<http://www.marineboard.eu/european-research-vessels>

<http://www.marineboard.eu/publications/next-generation-european-research-vessels-current-status-and-foreseeable-evolution>

Right: EMB Delegates looking through the first copies of EMB Position Paper 25 on European Research Vessels at the Autumn Plenary meeting in Berlin, November 2019





# EMB science-policy interactions & events

The European Marine Board is an independent organisation funded by its members. We provide an interface between science and policy and engage with a wide range of stakeholders in the marine science-policy field, including the European Commission, European Parliament and Inter-governmental organisations, to advance marine science in Europe and beyond. We strongly believe in a two-way communication, and welcome the input from policymakers to provide the best available scientific advice at the right time. We stimulate this by organising a variety of interactive events ranging from small-scale discussions on a specific topic (e.g. a Brown Bag Lunch) to large-scale overarching events (e.g. EurOCEAN conference or the EMB Open Forum).



# Eur 2019 CEAN

## EUROPE'S MARINE SCIENCE CONTRIBUTION TO A SUSTAINABLE FUTURE

### 11-12 June 2019, UNESCO headquarters, Paris

Organized since 2000, EuroOCEAN conferences are major European marine science policy conferences providing a forum for policymakers and strategic planners, both at European and Member State level, to interface with the marine research community and marine and maritime stakeholders.

The EuroOCEAN 2019 Conference took place on 11-12 June 2019, hosted by the Intergovernmental Oceanographic Commission of UNESCO in Paris, with the support of European Commission's DG Research and Innovation. The conference was an official contribution to the preparatory phase of the UN Decade of Ocean Science for Sustainable Development (2021-2030) and provided an important initial step from the European marine science community to prepare for the UN Ocean Decade and to ensure that it aligns with the EU Framework Programmes.

The European Marine Board also prepared a message to the wider society represented by the participants of EuroOCEAN 2019. It described how we should work together during the next decade (2021-2030), in light of the IPCC report on the Ocean and Cryosphere, to achieve the future we want for the ocean and the role we envisage for the European marine science community in contributing to achieving the United Nations Sustainable Development Goals.



## INVOLVEMENT OF YOUNG SCIENTISTS

The organizing committee put high importance on involving early career scientists in the conference, as they will be responsible for dealing with the consequences of our actions by the end of the Ocean Decade in 2030. The two EMB Young Ambassadors, Alba González Vega and Liam Lachs, were invited to present their vision for the future of marine science at the closing session of the conference. They gathered the views of other young marine scientists and the selected poster presenters to contribute to this vision, and guided them throughout the conference. All early career scientists present at the conference actively contributed to the discussions and in the networking sessions, and they were a valuable part of the organising team. The involvement of the youth in the conference was appreciated by the participants. It reminded them of the valuable and exciting information we obtain from ocean science, and of the important science being done by early career scientists.

All information on the speakers, their presentations, the students and the conference report can be found at EurOCEAN 2019 website:

<http://www.euroceanconferences.eu/eurocean-2019>



**185**  
participants



**49%**  
female participants



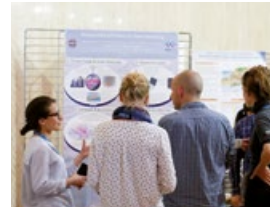
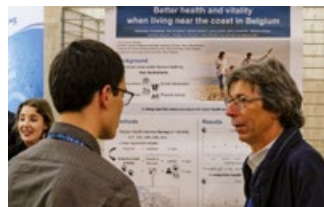
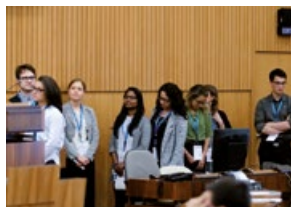
**40%**  
female moderators, speakers, panellists



**533**  
tweets (using #EurOCEAN2019)



**130**  
organizations from 28 countries



## LAUNCH OF EMB POSITION PAPER N° 24 “NAVIGATING THE FUTURE V: MARINE SCIENCE FOR A SUSTAINABLE FUTURE” (NFV)

One of the highlights of the EurOCEAN 2019 Conference was the launch of EMB’s flagship publication: Navigating the Future V. Sheila Heymans presented the main themes and recommendations from Navigating the Future V (NFV), which were selected by a team of 19 experts after an intense two-day workshop in Brussels in November 2017. The overall document is a common effort of expert authors from 13 European countries. The report recommends a solutions-oriented, transdisciplinary marine research agenda, co-designed with all stakeholders and with the governance of sustainability at its core. It addresses key knowledge gaps and actions regarding the four-dimensional ocean; the impact of multiple stressors; climate-related extreme events and geohazards; ocean technologies, modelling, data and artificial intelligence; and sustainability science for the ocean.

**“The NFV report shows European scientist are prepared to contribute to handle the really serious challenges we now confront” – Anna Jöborn**

The future we want requires a healthy ocean and the sustainable use of marine resources. However, the ocean is under threat from multiple interacting stressors. The scientific knowledge base and technology to fully explore, understand, observe and predict the ocean and the effect of human activities is still under development. NFV proposes the science we need for the forthcoming **UN Decade of Ocean Science for Sustainable Development** (2021-2030), the next European Framework Programme, **Horizon Europe**, and its “Mission on Healthy Oceans, Seas, Coastal and Inland Waters”.

Find out more on: <http://www.marineboard.eu/navigating-future-0>



**“We have a twin goal: sustain growth and grow sustainably, but this will require a truly holistic view and approach, as Navigating the Future V promotes.” Sigi Gruber**

## EMB BROWN BAG LUNCH SESSIONS

The European Marine Board organizes Brown Bag Lunch (BBL) sessions to stimulate an informal and informative discussion on a topic of strategic interest between scientists and policy makers. Held over lunch in a venue in Brussels (Belgium), a scientific expert provides a short and provocative view on a specific policy topic, followed by an open discussion with the participants. Everyone with an interest in the topic is welcome to attend the discussion. Participants are mainly policy makers from the European Commission and representatives from different associations and networks.

For more information see: <http://www.marineboard.eu/science-policy-facilitation>

### **2<sup>nd</sup> BBL: Ecosystem Based Management and the role of Marine Spatial Planning (MSP)**

On 6 February 2019, Vanessa Stelzenmüller from the Thünen Institute of Sea Fisheries in Bremerhaven, Germany provided some insight on how the Marine Spatial Plans in the southern North Sea relied on Ecosystem Based Management principles. She noted the different planning approaches, visions and objectives across the member states and a lack of coherent planning across the boundaries. Furthermore, she noted that fisheries were often excluded in MSP processes. Ecosystem-based MSP processes should have operational objectives, which address the reduction of the risk of cumulative effects of human activities on key ecosystem components and functions. They should also consider ecosystem state changes due to e.g. climate change and include trade-off analysis for weighing different management options.

This Brown Bag Lunch session was held alongside the EMB Executive Committee meeting at the BELSPO offices in Brussels.





### 3<sup>rd</sup> BBL: Why marine stations are essential to address societal challenges?

EMB organized its 3<sup>rd</sup> Brown Bag Lunch session on the role of marine stations in the 21<sup>st</sup> century and how they contribute to address the societal challenges. **Dr. Matthew Frost, MBA Deputy Director and President of the European Network of Marine Stations (MARS)** started the conversation on this topic by highlighting the importance of biological observations and the work done in marine stations. He noted that marine stations are rarely mentioned in ocean monitoring overviews, even though they can contribute significantly as they support long-term observational studies, especially for biodiversity monitoring. This could be remediated by a better integration of marine stations into coastal observing systems.

Globally, 784 marine stations are maintained by 98 countries; the majority are located in Asia (23%), followed by Europe (22%), North America (21%), Antarctica (11%), South America (10%), Africa (8%) and Oceania (5%).

The event took place at the Royal Belgian Institute of Natural Sciences (RBINS) in Brussels.





## EVENTS AT THE EUROPEAN PARLIAMENT



### Valuing Marine Ecosystem services - Taking into account the value of ecosystem benefits in the Blue Economy

On 3 April 2019, EMB launched its fifth Future Science Brief on “Valuing Marine Ecosystems” in the European Parliament at an event co-organized with the SEARICA Intergroup. Prof. Melanie Austen, Chair of the Working Group, presented the main conclusions, and experts from within and outside the working group were invited for further insight and a panel discussion on the topic. The launch event was attended by over 50 participants and speakers, and was hosted by MEP’s Gesine Meissner and Ricardo Serrão Santos.

The Future Science Brief makes recommendations on how to incorporate outputs from marine valuation studies into the traditional analyses used in resource and environmental economics and into the European marine policy landscape and related management and decision making choices. It is primarily aimed at stakeholders interested in valuation of marine ecosystem services and natural capital accounting, spanning diverse roles from commissioning, managing, funding and coordinating, to developing, implementing, or advising on, marine ecosystem service and natural capital programmes.



On 13 May 2019, Working Group members Melanie Austen and Stephen Hynes (SEMURU NUI Galway, Ireland) were invited to present the results of this paper to the British Irish Parliamentary Assembly. It was noted that the importance of factoring in all welfare impacts of marine related policy is now more important than ever to obtain a sustainable Blue Economy.



All information on this topic is available on:

<http://www.marineboard.eu/publications/valuing-marine-ecosystem-services-%E2%80%93-taking-account-value-ecosystem-benefits-blue>

### Launch of EMB Policy Brief 6 - NFV: Recommendations for the Ocean Decade

On 19 November 2019, EMB launched its 6<sup>th</sup> Policy Brief at European Parliament during a multi-sectoral event on 'Key environmental challenges and the role of the sustainable development goals' co-organized with the European Bureau for Conservation and Development (EBCD) and hosted by MEP Miapetra Kumpula-Natri. The event focused on the UN sustainable development goals from a multi-sectoral approach, including topics such as water management, sustainable forestry, clean energy, sustainable food systems, the circular economy and bioeconomy, and ocean governance.

Dr. Anne-Marie Tréguier, Research Director at CNRS, France, and one of the authors of Navigating the Future V, presented the Policy Brief, which links the main recommendations from Navigating the Future V to the six societal outcomes for the UN Decade of Ocean Science for Sustainability: a clean ocean, a safe ocean, a healthy and resilience ocean, a sustainably harvested ocean, a predicted ocean and a transparent ocean.



EMB Chair, Gilles Lericolais, moderated the panel discussion with several MEP's and experts, including French MEP Pierre Karleskind and Ben Boteler, Strong High Seas Project Co-Lead at the Institute for Advanced Sustainability Studies. They discussed the need to increase the role of the EU in the international forum of ocean governance, in particular for negotiations for the management of biodiversity beyond national jurisdiction. He highlighted the need to think broadly and make links between marine policies e.g. the common fisheries policy, and climate policies. The connectivity of the ocean does not respect national boundaries, this requires states and governments need to go beyond traditional sectoral approaches and to develop stronger governance mechanisms that include all stakeholders.

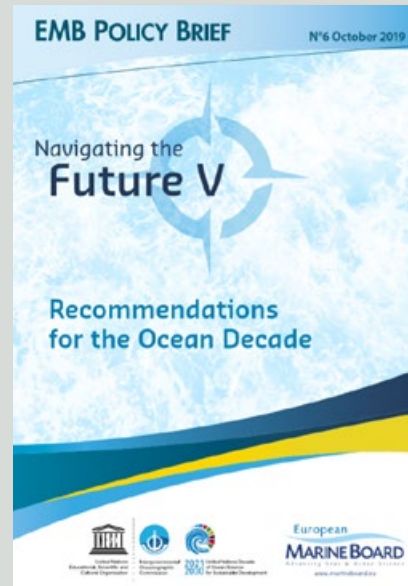
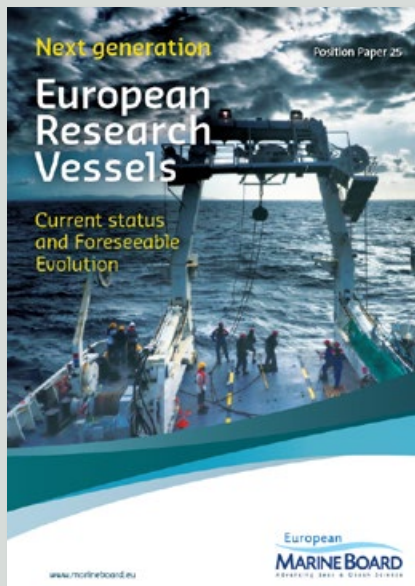
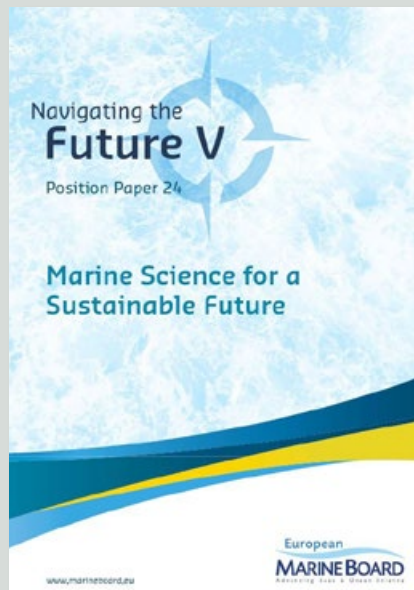
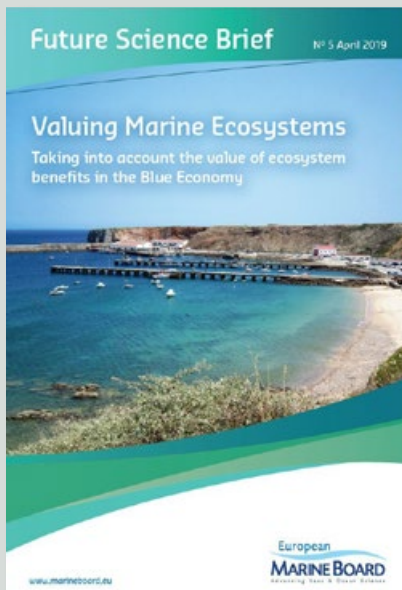


The official event report is available on:

[http://ebcd.org/wp-content/uploads/2019/10/SDG\\_event\\_report.pdf](http://ebcd.org/wp-content/uploads/2019/10/SDG_event_report.pdf)

## EMB PUBLICATIONS IN 2019

**Download at:**  
[www.marineboard.eu](http://www.marineboard.eu)





# Ongoing thematic activities

## BIG DATA IN MARINE SCIENCE

The EMB working group on Big Data in Marine Science kicked-off in May 2019 in Ostend. The working group is comprised of 12 members led by Lionel Guidi from the Sorbonne University, France (Chair) and Antonio Fernandez-Guerra from the Max Planck Institute for Marine Microbiology, Germany as co-chair.



Members of the Working Group Big Data at the kick-off meeting in Ostend, 9-10 May 2019. From left to right: Sheila Heymans (EMB Secretariat), Jerry Tjiputra (NORCE, Norway), Ketil Malde (Univ. of Bergen, Norway), Federica Foglioni (ISMAR, Italy), Lionel Guidi (Sorbonne University, France), Tara Marshall (Univ. of Aberdeen, UK), Carlos Canchaya (Univ. of Vigo, Spain), Rita Ribeiro (Univ. of Porto, Portugal), Britt Alexander (EMB Secretariat)

The Working Group is developing a Future Science Brief assessing the current status, challenges and recommendations for implementing Big Data to support marine science. Cross-cutting issues of data acquisition, data handling and management, service interoperability, data accessibility, computing infrastructure, data sharing, analytical techniques and training networks are explored. Various case-studies will be used to demonstrate these challenges and associated recommendations including:

1. Marine Biological Observations
2. Fisheries and Aquaculture
3. MPA Planning and Monitoring
4. Marine Biogeochemistry and Global Climate

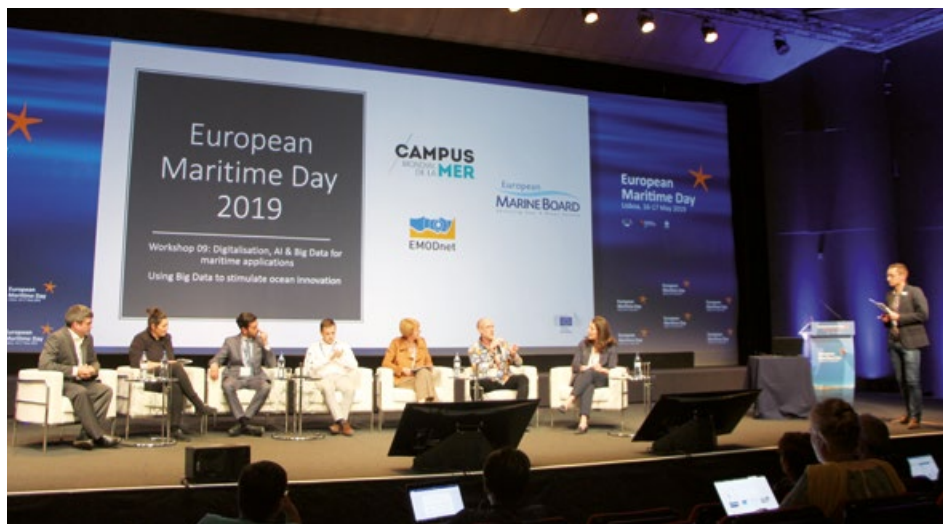
The document will be launched at the 7<sup>th</sup> EMB Forum, that will take place on 29 April 2020 in Brussels. The event aims to encourage discussion between scientists, industry and policy makers to work towards big data solutions in marine science to address societal challenges.



### Workshop on Digitalisation, AI and big data for maritime applications at European Maritime Day, Lisbon

The working group was active in several activities, including a workshop on Digitalisation, AI and Big data at the European Maritime Day 2019 in Lisbon.

Together with Campus Mondial de la Mer and EMODnet, the EMB co-hosted a workshop at the European Maritime Day in Lisbon, 16-17 May 2019. The workshop was on Digitisation, AI and Big Data for maritime applications with a talk on the use of Big Data by the seafood industry by EMB working group member Tara Marshall, and other talks on hackathons, the BigDataOcean project and EMODnet. Executive Committee member Jeremy Gault provided his views on the importance of linking marine science with maritime industry.



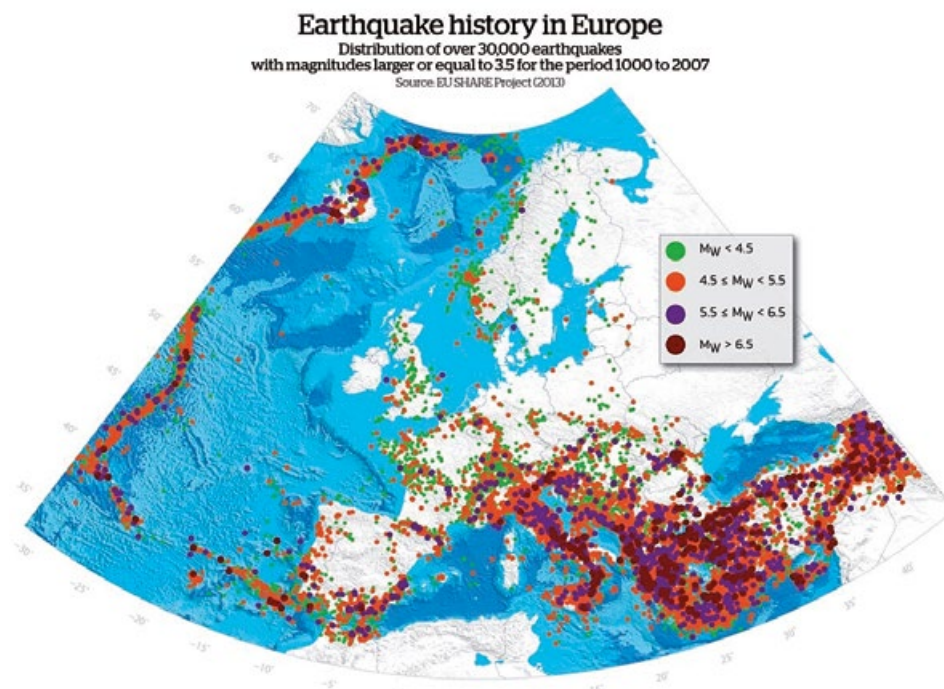
Moderator (J r mie Bazin, Campus Mondial de la Mer, right), speakers and panelists at the EMD 2019 workshop on "Using Big Data to stimulate ocean innovation".



## MARINE GEOHAZARDS

A geohazard (or geological hazard) is a geological condition which represents - or has the potential to develop into - a situation leading to damage or uncontrolled risk.

Marine geohazards have not been on the policy landscape in the past, and in 2019 the EMB selected an expert working group to produce a Future Science Brief (FSB) to make specific recommendations on what can be done to cope with this issue. Hazardous marine geological events may occur at any time and the scientific community, marine industry, and governmental agencies must cooperate to better understand and monitor the processes involved in order to mitigate the resulting unpredictable damages. The European Marine Board will produce a foresight document to provide a state-of-the-art within this broad research field, identifying the key issues, and illustrating some examples of how research in this area can improve the assessment of risks to the Blue Economy.



## OCEAN OBSERVING



European  
Ocean  
Observing  
System

Since 2015, EMB and EuroGOOS are working together to promote and facilitate the establishment of EOOS ([www.eoos-ocean.eu](http://www.eoos-ocean.eu)). Both networks co-chaired the EOOS Steering Committee which oversees the

strategic planning of EOOS. After the launch of the EOOS Strategy and Implementation Plan at the [EOOS conference](#) in November 2018, the EOOS Steering Committee worked to implement actions to foster the development of the EOOS vision. In May 2019, EMB conducted a consultation to national ocean observations representatives to gather their views and raise awareness about the EOOS Conference 2018 Call for Action. The results of this consultation were presented to DG MARE, under the framework of the service contract together with EMODnet to help implement EOOS.

In Spring 2019, a new EOOS governance structure, including the creation of the EOOS Advisory Committee, a Resources Forum and an Operations Committee, was approved by the EOOS Steering Group. This new structure should facilitate the transition towards the implementation of EOOS. The first meeting of the EOOS Steering Committee under the new governance took place in October 2019, back to back with the first meeting of EOOS Advisory Committee. The EMB Secretariat will co-chair the EOOS Advisory Committee and the EOOS Steering Committee in collaboration with EuroGOOS.



Members of the EOOS Advisory Committee at their first meeting in the Museum of Natural Sciences in Brussels, on 2 October 2019. From left to right: Thorsten Kiefer (JPI Oceans, chair of EOOS Resources Forum), Glenn Nolan (EuroGOOS, Steering Group Co-Chair), Pierre-Yves Le Traon (Copernicus, Steering Group member), Jan-Bart Calewaert (EMODnet, Steering Group member), Fabrice Not (EuroMarine), Corine Lochet (International Hydrographic Organisation), Ángel Muñoz Piniella (EMB, Advisory Committee support), Sheila Heymans (EMB, Advisory Committee Chair), Isabel Sousa-Pinto (MBON, Steering Group member), Albert Fischer (IOC-GOOS) and Dina Eparkhina (EuroGOOS, EOOS communications officer).

# European projects

The European Marine Board participates in externally funded projects and tenders, when these contribute to our Mission and future strategic objectives.



*AtlantOS (Developing in-situ Atlantic Ocean Observations for a better management and sustainable exploitation of the maritime resources)* is a €20.65m project funded under the EU Horizon 2020 programme. Coordinated by GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany (Prof. Dr. Martin Visbeck), the project involves 62 partners from 18 countries (13 EU & 5 non-EU).

The overarching objective of AtlantOS was to achieve a sustainable, efficient, and fit-for-purpose Integrated Atlantic Ocean Observing System (IAOOS). The four year (2015-2019) project defined requirements and systems design to improve the readiness of observing networks and data systems, and engaged stakeholders around the Atlantic to leave a legacy and strengthened contribution to the Global Ocean Observing System (GOOS), the Global Earth Observation System of Systems (GEOSS), and the European Ocean Observing System (EOOS).

The EMB Secretariat participated in the First International AtlantOS Symposium in March 2019, which marked the transition from the EU Horizon 2020 Project AtlantOS to its development into the international All-Atlantic Ocean Observing System. EMB Executive Director, Sheila Heymans, was on a panel that highlighted the European views of the future All-Atlantic Ocean Observing System, and presented on a session the EOOS town Hall Meeting on 26 March 2019.

The AtlantOS project was foreseen end in June 2019, but a 3-month extension was granted to further promote AtlantOS, especially at the OceanObs'19 meeting in Hawaii in September 2019. The EMB Secretariat contributed to two community white papers (CWP) on stakeholder engagement in ocean observation, and on coastal and biological observations, published in a special issue of *Frontiers in Marine Science* journal (Mackenzie *et al.* 2019, *Frontiers in Marine Science* 6: 137 & She *et al.* 2019, *Frontiers in Marine Science* 6: 314)



Participants at the First International AtlantOS Symposium on 25-28 March 2019 at the UNESCO Headquarters, Paris, France.





## Seas, Oceans & Public Health in Europe

In response to the Horizon 2020 framework call BG-06-2017: *Interaction between people, oceans and seas: a strategic approach towards healthcare and well-being*, the EMB Secretariat, together

with a consortium of 7 other partners from the UK, Ireland, The Netherlands, Spain and Belgium developed a Coordinated Support Action (CSA) proposal entitled “Seas, Oceans and Public Health in Europe (SOPHIE)”. The main aim of the project is to advance significantly the coordination of multidisciplinary research and training in Europe on Oceans and Human Health (OHH) to better manage the risks and opportunities presented by the complex interactions between the marine environment and human health and wellbeing. The project is coordinated by University of Exeter’s European Centre for Environmental and Human Health. The project started in December 2017 with a kick-off meeting in April 2018 in Dublin. The project will run until May 2020.

EMB are the work package leaders for WP6: “Building a Future Policy-Relevant Oceans and Human Health Research Effort in Europe”. The main tasks include building a community of marine and health experts and practitioners, developing a strategic research agenda (SRA) for Oceans and Human Health research in Europe, and organizing a dedicated conference on OHH.

The main outline and themes of the SRA were informed by an international and multidisciplinary Expert Group. Following a first Expert Group workshop in Dublin in April 2018, a second workshop was held in January 2019. The expert group gathered for a 2-day workshop in Ostend, Belgium, with the workshop supported by professional facilitator Lizzie Crudgington from Bright Green Learning. The outcome of the workshop was a list of three key themes for the research agenda: Sustainable seafood and healthy people; Blue spaces, tourism and well-being; and Marine biodiversity, biotechnology and medicine. Following the workshop and throughout 2019, EMB led the drafting of the SRA, taking input from the other projects activities.

The SRA will be published and presented at the final SOPHIE Conference on 30 March 2020, in Brussels, Belgium. EMB has provided input to the organization of this conference.

As the SOPHIE project is also aiming to establish a community of practitioners in the field of OHH, EMB also set up a community platform via an open group on the LinkedIn platform. The group was promoted throughout 2019, with content being added regularly, and membership now stands at over 200 people from across the world.



Participants at the SOPHIE Expert Group workshop in Ostend, Belgium in January 2019.



The EuroSea project “Improving and Integrating European Ocean Observing and Forecasting Systems for Sustainable use of the Oceans” is a €12.6m project funded under the EU Horizon 2020 programme. Coordinated by GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany, the project involves 55 partners from 16 countries, including partners in Brazil and Canada. The project started on 1 November 2019 with the official kick-off meeting on 27-29 November 2019 in Brussels. The project will run until 31 December 2023 .

The project aims to provide a truly interdisciplinary ocean observing system that delivers the essential ocean information needed for the wellbeing, blue growth and sustainable management of the ocean. EuroSea will strengthen the European and Global Ocean Observing System (EOOS and GOOS) and support its partners. EuroSea will increase the technology readiness levels (TRL) of critical components of ocean observations systems and tools, and in particular the TRL of the integrated ocean observing system.

EMB will be leading the task on Foresight on Ocean Observation in Work Package 1, in collaboration with EuroGOOS, IOC-UNESCO and GEOMAR. Building on previous and ongoing work in Europe and worldwide, this task will assess the current capability for conducting foresight related to ocean observation and the crucial role that foresight plays as part of a regular, iterative cycle of a coordinated and societally-relevant ocean observing system.



© Michael Chia

Participants at the EuroSea Kick-off meeting in Brussels, November 2019

## EMFF TENDERS

### EMODnet tender in support of EOOS

Since September 2017, EMB has worked as a partner in the EMODnet Phase 3 contract, led by Seascope Consultants, Belgium. This tender is directly linked to EMB's work on EOOS as it involved contributing to the design, content planning and follow-up of EOOS activities (such as the EOOS Forum and Conference in 2018), and led to the set-up of the EOOS Advisory Committee. The initial period of the tender ran until September 2019, and was extended for an additional 2-year term in October 2019. EMB will continue to support EOOS and its Call to Action, and provide support for the EMODnet Jamboree, foreseen in September 2020.

### International Ocean Governance

EMB is participating in the EASME/EMFF tender to establish an "International Ocean Governance Stakeholder Forum" to support the follow-up and further development of the International Ocean Governance Agenda for the Future of our Oceans. The consortium is led by Fresh Thoughts along with partners Acteon, IASS Potsdam and TMG.

This 2-year project (Sep 2019 – May 2021) aims to continue the advancement of the EU and its Member States in acting more strongly together as a leading global actor in International Ocean Governance (IOG) thereby contributing to a healthy and productive ocean. The consortium will work to establish a targeted stakeholder forum and towards the development of an EU roadmap to advance the IOG agenda. The forum will bring together representatives, practitioners and experts from relevant global, regional and national stakeholder groups. It will create a space for regular cross-sectoral and cross-boundary dialogue to discuss challenges, opportunities and potential action by the EU, its Member States and key stakeholders to improve IOG.



On 6 September 2019, Sheila Heymans and Britt Alexander attended the kick-off meeting in Brussels.

### Ocean Literacy

Since December 2019, EMB participates in a 2-year EMFF tender contract (Dec 2019 – Dec 2021) on Ocean Literacy, facilitating thematic Working Groups within the new EU4Ocean coalition, an European Commission initiative to federate European efforts in Ocean Literacy. With the EU4Ocean members joining the Working Groups, EMB will help developing joint partnerships, concrete actions and co-design new ocean literacy actions.

# EMB panels

## UNIVERSITY CONSORTIUM PANEL

Due to the growing membership within EMB of Higher Education Institution (HEIs) consortia, the University Consortium Panel was created to explore areas of mutual interest with regards to both research and education in the broadest sense. Key objectives of the Panel include: establishing a forum for HEI consortia; identifying and sharing best practice with respect to the governance and operation of these consortia and opportunities for HEI consortia to collaborate across the EU or internationally; actively seeking to secure resources and funding to support graduate and PhD student training; promoting the consortia both nationally and internationally, and adding value to existing and future EMB activities.

## EUROPEAN MARINE BOARD COMMUNICATION PANEL

The European Marine Board Communications Panel (EMBCP) provides a pan-European platform for marine science communicators to promote European Marine Board activities, to synergize outreach activities and to advocate Ocean Literacy. In 2019, 19 members from 14 countries were part of EMBCP.

In 2019, the main activities of the EMBCP focussed on the preparation for the CommoOCEAN 2020 conference (December 2020 in Sopot, Poland); and developing the communication strategy for the EMB flagship publication *Navigating the Future V* (NFV).

The EMBCP met on 2 occasions in 2019. The meeting in April (hosted by CNRS in Paris, France) focussed how marine science communication officers could contribute to the communication strategy of the UN Decade of Ocean Science to help achieve the objectives of the Ocean Decade. To this end Vinicius Lindoso, Communications Officer of IOC/UNESCO, was invited to chair a workshop with the panel members to discuss this. The second meeting took place in November 2019 in Berlin (Germany), hosted by KDM, where the members decided to write a policy document on Marine Science Communication in Europe, led by Jan Seys (VLIZ, Belgium), with the support of the European Marine Board (EMB). This document will sketch and analyse the state of the art in the field of marine science communication, aiming to highlight marine science communication as a growing and needed field of activity, and providing recommendations towards its future and developing best practices.



Participants of the Autumn 2019 EMBCP meeting in Berlin. Top row, left to right: Kjartan Mæstad (IMR), Jan Seys (VLIZ). Middle row, left to right: Tymon Zielinski (IOPAN); Maria Carmen García Martínez (IEO), Andreas Villwock (GEOMAR), Geraldine Guillevic (IFREMER). Bottom row, left to right: Martha Papathanassiou (HCMR), Lucy Cox (NOC), Kelle Moreau (RBINS), Mette Mila (RCN), Ángel Muñoz Piniella (EMB Secretariat).



# Communication and Outreach

The European Marine Board uses a variety of channels to reach its stakeholders, including disseminating publications at conferences, media campaigns for EMB events, and online outlets including a twitter feed, a Facebook page, a LinkedIn account, an online newsletter and the EMB website. The most popular

## Twitter

In 2019, the European Marine Board twitter account gained 1,604 new followers, leading to a total number of 6,000 followers in January 2020. The twitter feed is used to announce and promote EMB activities, as well as highlight updates from the marine science community.

The twitter feed was also successfully used to communicate with other networks and individual stakeholders. The feed allowed EMB to instantly update member organizations and stakeholders on the events the Secretariat were attending.

Twitter in 2019: 6,000 followers

## EMB website

The EMB website is regularly updated with information on the expert working groups, the strategic areas, and the EU projects that EMB is involved in. All of EMB's publications are also available to download from the website free of charge.

The website was visited 25,223 times, with visitors from 139 countries. Over 6,900 documents were downloaded from the EMB website in 2019, of which the top three were: "Navigating the Future V", EMB Future Science Brief 5 "Valuing Marine Ecosystem Services" and the Publications on Marine Citizen Science.

## EMB Newsletter

At the end of 2019, 1,358 persons were subscribed to receive updates on EMB events and publications. You can subscribe to the EMB newsletter via the EMB website: <https://www.marineboard.eu/emb-newsletter>

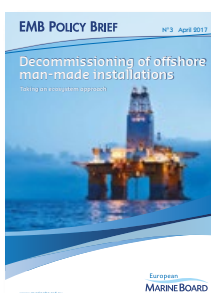


## IMPACT FROM EMB PUBLICATIONS



The EMB Science Commentary No. 2 *'The ticking time bomb of climate change and sea-level rise: Why human actions in the next 10 years can profoundly influence the next 10,000'* (February 2017) commented on Clark (et al.) 2016 paper of the consequences of policy for climate change.

The Science Commentary was discussed at the UNFCCC COP22 in Marrakesh in November 2016, and its message was picked up by the Dutch press NRC Handelsblad.



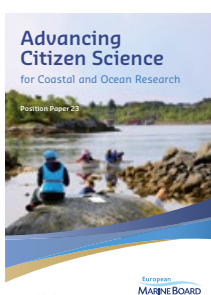
EMB Policy Brief 3 on *'Decommissioning of man-made installations: Taking an ecosystem approach'* (April 2017) provided direct support to the INSITE programme and helped achieve Phase 2 funding for the programme. NERC (UK) released the £4.2m funding call on "Influence of man-made structures in the ecosystem" in June 2019 and cited the policy brief in their documentation.

The publication has also been taken up as University teaching material in several countries including the Netherlands and the UK.



EMB and ERA-MBT jointly produced EMB Policy Brief 4 on *'Marine Biotechnology: Advancing innovation in Europe's bioeconomy'*, which was presented at the General Assembly of the European Marine Biological Research Infrastructure Cluster (EMBRIC) in September 2017.

This publication helped to communicate the main messages of the roadmap to policy makers, highlighting key issues for future developments of marine biotechnology. Blue biotechnology is one of the priority sectors of the Blue Growth Strategy of the European Union.



EMB's publications on *'Advancing Citizen Science for Coastal and Ocean Research'* (Position Paper 23, May 2017 & Policy Brief 5, October 2017) were presented at the European Maritime Day in Poole in May 2017 and at the Objective Sciences International 9th Forum in Geneva in November 2017.

The document received 11 citations thus far in peer-reviewed journal papers and other publications, and over 3000 copies of the publication were distributed online or in hard-copy.

For the full impact reports, consult: <https://www.marineboard.eu/vocabulary/impact-reports>

# Finances

The EMB annual budget is based on member organization contributions and external contracts, e.g. EU framework projects. The Flemish Government of Belgium provides an in-kind contribution to the Board through the provision of office space and running costs and equipment at the InnovOcean site in Ostend, as well as the employment cost of one Secretariat staff member. Member organizations also provide in-kind contribution through support for participation of national experts in EMB activities, i.e. travel and subsistence to attend meetings.

## AVAILABLE FUNDS 2019

	EUR
<b>Member Contributions</b>	405,000
<b>FP drawdown on employment costs</b> Staff time related to the external projects	146,481
<b>Other income</b>	38,759
<b>In kind contribution from Flemish Government through the Flanders Marine Institute</b>	164,491
<b>Total available funds</b>	<b>754,731</b>

## EXPENDITURE 2019

	EUR
<b>Secretariat employment costs</b>	300,657
<b>Meetings &amp; Travel</b>	97,096
<b>Publications &amp; dissemination</b>	32,954
<b>Running expenses and other costs</b>	21,173
<b>Costs covered by the Flanders Marine Institute</b>	164,491
<b>Total</b>	<b>616,371</b>

## RESERVE FUND

	EUR
Available funds 2019	754,731
Expenditure 2019	616,731
<b>Total 2019 balance</b>	138,360
<b>2018 carry over</b>	248,204
<b>Total</b>	<b>386,564</b>

# Annexes



## ANNEX 1:

### Marine Board member organizations, delegates and alternates

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#### BELGIUM

Belgian Science Policy Office (BELSPO)  
*Koen Lefever*

Fonds National de la Recherche Scientifique (FNRS)  
National Fund for Scientific Research  
*Jean-Marie Beckers*

Fonds voor Wetenschappelijk Onderzoek -  
Vlaanderen (FWO)  
The Research Foundation - Flanders  
*Jan Mees*  
*Tina Mertens*

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#### CROATIA

Institut za oceanografiju i ribarstvo (IZOR)  
Institute of Oceanography and Fisheries  
*Ivica Vilibic*

Institut Ruđer Bošković (IRB)  
Ruđer Bošković Institute  
*Martin Pfannkuchen*  
*Daniela Marić Pfannkuchen*

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#### DENMARK

Institut for Akvatiske Ressourcer (DTU Aqua)  
National Institute for Aquatic Resources  
*Patrizio Mariani*  
*Kirsten Thomsen*

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#### ESTONIA

Eesti Teaduste Akadeemia  
Estonian Academy of Sciences  
*Tarmo Soomere*

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#### FRANCE

Centre National de la Recherche Scientifique  
(CNRS)  
National Centre for Scientific Research  
*Jean-Marie Flaud*  
*Bruno Blanke*

Institut Français de Recherche pour l'Exploitation  
de la Mer (IFREMER)  
French Research Institute for Exploitation of the Sea  
*Gilles Lericolais (Chair)*

Universités Marines  
Marine Universities of France  
*Yves-Marie Paulet (vice-Chair)*  
*François Lallier*

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#### GERMANY

Konsortium Deutsche Meeresforschung (KDM)  
German Marine Research Institute  
*Jan-Stefan Fritz (vice-Chair)*  
*Ralph Schneider*

Helmholtz-Zentrum für Ozeanforschung Kiel  
(GEOMAR)  
Helmholtz Centre for Ocean Research Kiel  
*Peter Herzig*  
*Katja Matthes*

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#### GREECE

Ελληνικό Κέντρο Θαλάσσιων Ερευνών (HCMR)  
Hellenic Centre for Marine Research  
*Aris Karagiorgis*  
*George Petihakis*

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#### IRELAND

Marine Institute  
*Fiona Grant*  
*Niall McDonough*

Irish Marine Universities Consortium  
*Jeremy Gault*  
*Anthony Grehan*  
*Colin Brown*

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#### ITALY

Consiglio Nazionale delle Ricerche (CNR)  
National Research Council  
*Fabio Trincardi*  
*Katrin Schroeder*

Istituto Nazionale di Oceanografia e di Geofisica  
Sperimentale (OGS)  
National Institute of Oceanography and Experimental  
Geophysics  
*Cosimo Solidoro*

Consorzio Nazionale Interuniversitario per le  
Scienze del Mare (CoNISMa)  
National Inter-University Consortium for Marine  
Sciences  
*Ferdinando Boero (vice-chair)*  
*Lisandro Benedetti-Cecchi*

Stazione Zoologica Anton Dohrn (SZN)  
Anton Dohrn Marine Station  
*Roberto Danovaro*  
*Adriana Zingone*

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## THE NETHERLANDS

Koninklijk Nederlands Instituut voor Onderzoek  
der Zee  
Royal Netherlands Institute for Sea Research (NIOZ)  
*Henk Brinkhuis*  
*Gert-Jan Reichart*

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## NORWAY

Havforskningsinstituttet  
Institute of Marine Research (IMR)  
*Geir Huse*  
*Karin Kroon Boxaspen*

Norges forskningsrad  
The Research Council of Norway (RCN)  
*Christina Abildgaard*

Norsk Marint Universitetskonsortium  
Norwegian Marine University Consortium  
*Susanna Pakkasmaa*  
*Jarl Giske*

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## POLAND

Instytut Oceanologii Polskiej Akademii Nauk  
(IO-PAN)  
Institute of Oceanology of the Polish Academy of  
Sciences  
*Slawomir Sagan*  
*Monika Kedra*

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## PORTUGAL

Centro de Investigação Marinha e Ambiental  
(CIMAR)  
Centre of Marine and Environmental Research  
*Vitor Vasconcelos*  
*Adelino Canario*

Fundação para a Ciência e a Tecnologia (FCT)  
Foundation for Science and Technology  
*Sofia Cordeiro*  
*Raquel Ribeiro*

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## ROMANIA

Romanian Black Sea Research Cluster  
*Vasile Patrascu*  
*Elena Stoica*

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## SPAIN

Instituto Espanol de Oceanografia (IEO)  
Spanish Institute of Oceanography  
*Carlos Garcia Soto (vice-chair)*

Centro Tecnológico del Mar (CETMAR)  
Technological center of the Sea  
*Rosa Fernández*

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## SWEDEN

Göteborgs universitet  
University of Gothenburg (UGOT)  
*Per Hall*  
*Katarina Abrahamson*

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## TURKEY

Türkiye Bilimsel ve Teknik Arastirma Kurumu  
TÜBİTAK  
Scientific and Technological Research Council of  
Turkey  
*Leyla Tolun*

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## UNITED KINGDOM

Marine Alliance for Science and Technology  
Scotland (MASTS)  
*Mark James (vice Chair)*  
*David Paterson*

National Oceanography Centre (NOC)  
*Edward Hill*  
*Alan Evans*

Natural Environment Research Council (NERC)  
*Mike Webb*

## ANNEX 2:

### Participants of EMB plenary meetings 2019

#### Spring 2019 Plenary Meeting, 13 June 2019, Paris, France

##### EMB DELEGATES

Representative	Member Organization
AMUND MÅGE	Norwegian Marine University Consortium
BEATRIZ BALINO	Norwegian Marine University Consortium
CHRISTIAN RIISAGER-SIMONSEN	National Institute for Aquatic Resources
CHRISTINA ABILDGAARD	The Research Council of Norway
COSIMO SOLIDORO	National Institute of Oceanography and Applied Geophysics
DANIELA MARIĆ PFANNKUCHEN	Ruder Boskovic Institute
DOMINIQUE SIMON	Marine Universities Consortium France
ELENA STOICA	Romanian Black Sea Research Cluster
FERDINANDO BOERO	National Inter-University Consortium for Marine Sciences
FIONA GRANT	Marine Institute
FRANÇOIS LALLIER	Marine Universities Consortium France
GEORGE PETIHAKIS	Hellenic Centre for Marine Research
GERT-JAN REICHART	Royal Netherlands Institute for Sea Research
GILLES LERICOLAIS	French Institute for the exploitation of the Sea
HENNING WEHDE	Institute of Marine Research
ISABEL SOUSA-PINTO	Centre for Marine and Environmental Research
IVICA VILIBIĆ	Institute of Oceanography and Fisheries
JAN MEES	Research Foundation Flanders
JAN-STEFAN FRITZ	German Marine Research Consortium
JEAN-MARIE FLAUD	National Center for Scientific Research
JEREMY GAULT	Irish University Consortium
KALLE OLLI	Estonian Academy of Sciences
KATRIN SCHROEDER	National Research Council Italy
KOEN LEFEVER	Belgian Science Policy Office
LENA GIPPERTH	University of Gothenburg
MARK JAMES	Marine Alliance For Science & Technology for Scotland (MASTS)
MARTIN PFANNKUCHEN	Ruder Boskovic Institute
PETER HERZIG	Geomar Helmholtz Centre for Ocean Research Kiel
RAFAEL GONZÁLEZ-QUIRÓS	Instituto Español de Oceanografía
ROSA FERNÁNDEZ	Centro Tecnológico del Mar (CETMAR)
SLAWOMIR SAGAN	Institute of Oceanology Polish Academy of Sciences
SOFIA CORDEIRO	Science and Technology Foundation
VASILE PATRASCU	Romanian Black Sea Research Cluster
YVES-MARIE PAULET	Marine Universities Consortium France

## OBSERVERS, SPEAKERS AND GUESTS

Representative	Organization
WENDY WATSON-WRIGHT	External Review Team
JACKY WOOD	External Review Team
WILLIE WILSON	External Review Team
MARK DICKEY-COLLAS	External Review Team
NED DWYER	External Review Team
LIAM LACHS	EMB Young Ambassador
ALBA GONZÁLEZ VEGA	EMB Young Ambassador
TOM REDD	JPI-OCEANS



# Autumn 2019 Plenary Meeting, 5-6 November 2019, Berlin, Germany

## EMB DELEGATES

Representative	Member Organization
ALAN EVANS	National Oceanography Centre
CARLOS GARCIA-SOTO	Instituto Español de Oceanografía
COSIMO SOLIDORO	National Institute of Oceanography and Applied Geophysics
FERDINANDO BOERO	National Inter-University Consortium for Marine Sciences
FIONA GRANT	Marine Institute
GERT-JAN REICHART	Royal Netherlands Institute for Sea Research
GILLES LERICOLAIS (CHAIR)	French Institute for The Exploitation of the Sea
IVICA VILIBIĆ	Institute of Oceanography and Fisheries
JAN-STEFAN FRITZ	German Marine Research Consortium
JEREMY GAULT	Irish University Consortium
KATJA MATTHES	Helmholtz Centre for Ocean Research Kiel
KATRIN SCHROEDER	National Research Council Italy
KJERSTI FJALESTAD	Research Council of Norway
KOEN LEFEVER	Belgian Science Policy Office
MARK JAMES	Marine Alliance for Science & Technology for Scotland (MASTS)
MARTIN PFANNKUCHEN	Ruder Boskovic Institute
NIKLAS ANDERSSON	University of Gothenburg
PATRIZIO MARIANI	National Institute for Aquatic Resources
PER ÅBERG	University of Gothenburg
ROSA FERNÁNDEZ	Centro Tecnológico del Mar (CETMAR)
SLAWOMIR SAGAN	Institute of Oceanology Polish Academy of Sciences
SUSANNA PAKKASMAA	Norwegian Marine University Consortium
TARMO SOOMERE	Estonian Academy of Sciences
TINA MERTENS	Research Foundation Flanders
YVES-MARIE PAULET	Marine Universities Consortium France

## OBSERVERS, SPEAKERS AND GUESTS

Representative	Member Organization
SALVATORE ARICO	IOC-UNESCO
SOPHIE SEEYAVE	POGO
THORSTEN KIEFER	JPI-OCEANS
LUCY COX	EMBCP
ANDREAS VILLWOCK	EMBCP
MARIA CARMEN GARCÍA	EMBCP
SHARON TATMAN	DELTA RES

## ANNEX 3: WORKING GROUP MEMBERS 2019

### Working Group Valuing Marine Ecosystem Services (VALMARE)

#### Working Group Members:

- Melanie Austen, Plymouth Marine Laboratory, UK – WG Chair
- Peder Andersen, University of Copenhagen, Denmark
- Claire Armstrong, University of Tromsø, Norway
- Ralf Döring, TI-Institute of Sea Fisheries, Germany
- Stephen Hynes, National University of Ireland, Galway, Ireland
- Harold Levrel, French Research Institute for Exploitation of the Sea (Ifremer), France
- Adriana Resurreição, MARE – Marine and Environmental Sciences Centre, Portugal
- Soile Oinonen, Finish Environment Institute (SYKE), Finland

#### EMB Secretariat Support:

Joke Coopman

### Working Group European Research Vessels

#### Working Group Members:

- Per Nieuwejaar, Institute of Marine Research (IMR), Norway - WG Chair
- Valérie Mazaure, Ifremer, France - WG co-Chair
- Christian Betzler, University of Hamburg, Germany
- Mafalda Carapuço, Instituto Português do Mar e da Atmosfera (IMPA), Portugal
- André Cattrijsse, Flanders Marine Institute (VLIZ), Belgium
- Franco Coren, Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (OGS), Italy
- Juanjo Dañobeitia, European Multidisciplinary Seafloor and Water-Column Observatory (EMSO), Italy
- Colin Day, National Oceanographic Centre (NOC), UK
- Aodhan Fitzgerald, Marine Institute, Ireland
- Stefan Florescu, GeoEcoMar, Romania
- Jose Ignacio Diaz, Spanish Institute of Oceanography (IEO), Spain
- Michael Klages, University of Gothenburg, Sweden
- Erica Koning, Netherlands Institute for the Sea (NIOZ-NMF), Netherlands
- Olivier Lefort, Ifremer, France
- Giuseppe Magnifico, Italian National Research Council (CNR), Italy
- Øystein Mikelborg, Norwegian Polar Institute, Norway
- Lieven Naudts, Royal Belgian Institute of Natural Sciences (RBINS - OD Nature), Belgium

#### EMB Secretariat Support:

Paula Kellett

## Working Group Big Data

### Working Group Members:

- Lionel Guidi, Universités Marines (UM) - Sorbonne University, France – WG Chair
- Antonio Fernandez-Guerra, Max Planck Institute for Marine Microbiology, Germany – WG co-Chair
- Matthias Obst, University of Gothenburg, Sweden
- Tara Marshall, University of Aberdeen, Scotland
- Edward Curry, Data Science Institute at NUI Galway, Ireland
- Jean-Olivier Irisson, Universités Marines (UM) - Sorbonne University, France
- Federica Foglini, CNR (Istituto di Scienze Marine, ISMAR), Italy
- Ketil Malde, University of Bergen & Institute of Marine Research, Norway
- Jerry Tjiputra, NORCE Norwegian Research Centre, Norway
- Carlos Canchaya, University of Vigo, Spain
- Rita Ribeiro, Faculty of Sciences of University of Porto/ INESC TEC – LIAAD, Portugal

### EMB Secretariat Support:

Britt Alexander

## Working Marine Geohazards

### Working Group Members:

- Heidrun Kopp, GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany – WG Chair
- Nabil Sultan, Ifremer, France
- Christian Berndt, GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany
- Francesco Chiocci, University of Rome “Sapienza”, Italy – WG co-Chair
- Mathilde B. Sørensen, Department of Earth Science, University of Bergen, Norway
- Asgeir Sorteberg, Geophysical Institute, Norway
- Teresa Ferreira, University of the Azores, Portugal
- Conceição Fortes, LNEC - National Laboratory for Civil Engineering, Portugal
- Eulàlia Gràcia, ICM-CSIC, Spain
- M. Namik Çağatay, Istanbul Technical University, Turkey
- Isobel Yeo, NOC, UK
- Achim Kopf, MARUM, Germany

### EMB Secretariat Support:

Ángel Muñoz Piniella

## ANNEX 4: Panel members 2019

### European Marine Board Communications Panel (EMBCP)

#### Panel Members:

- Lucy Cox, National Oceanography Centre (NOC), United Kingdom – Panel Chair
- Ferdinando Boero, National Inter-University Consortium for Marine Sciences (CoNISMa), Italy
- Mette Mila, Research Council of Norway, Norway
- Daria Ezgeta Balic - Institute of Oceanography and Fisheries (IZOR), Croatia
- Marco Faimali, National Research Council, Institute of Marine Sciences (ISMAR, CNR), Italy
- Carmen García Martínez - Spanish Institute of Oceanography (IEO), Spain
- Géraldine Guillevic, French Research Institute for Exploitation of the Sea (Ifremer), France
- Kelle Moreau, Royal Belgian Institute of Natural Sciences (RBINS), Belgium
- Kjartan Mæstad, Institute of Marine Research (IMR), Norway
- Sheila Byrnes, Marine Institute, Ireland
- Martha Papathanassiou, Hellenic Centre for Marine Research (HCMR), Greece
- Francesca Petrera, National Institute of Oceanography and Experimental Geophysics (OGS), Italy
- Tymon Zielinski, Institute of Oceanology of the Polish Academy of Sciences (IO-PAN), Poland
- Kathrin Kopke - University College Cork (UCC), Ireland
- José Teixeira, Centre of Marine and Environmental Research (CIIMAR), Portugal
- Kim Sauter, Royal Netherlands Institute for Sea Research (NIOZ), The Netherlands
- Jan Seys, Flanders Marine Institute (VLIZ), Belgium
- Dominique Simon, Réseau des Universités Marines Françaises (Marine Universities of France), France
- Andreas Villwock, German Marine Research Consortium (KDM), Germany

#### EMB Secretariat Support:

Ángel Muñoz Piniella

### University Consortiums Panel

#### Panel Members:

- Mark James, Marine Alliance for Science and Technology for Scotland (MASTS), United Kingdom - Panel Chair
- Yves- Marie Paulet, Universités Marines, France
- Dominique Simon, Universités Marines, France
- Lisandro Benedetti-Cecchi, CoNISMa, Italy
- Jeremy Gault, Irish Marine Universities Consortium, Ireland
- Anthony Grehan, Irish Marine Universities Consortium, Ireland
- Susanna Pakkasmaa, Norwegian Marine Universities Consortium (NMUC), Norway

#### EMB Secretariat Support:

Paula Kellett



## ANNEX 5: Meetings and events organized in 2019 (including jointly)

Date	Event and Venue
16/01/2019	EMBCP Steering Group meeting - Telemeeting
28-30/01/2019	SOPHIE project Consortium meeting - Ostend
30/01-01/02/2019	SOPHIE Expert Group Workshop - Ostend
06/02/2019	EMB ExCom meeting - Brussels
06/02/2019	2 <sup>nd</sup> BBL on Ecosystem Based management & the role of MSP - Brussels
07/02/2019	EOOS Steering Group meeting - Brussels
07-08/03/2019	Working Group Research Vessels - Galway
14/03/2019	Meeting with EFARO - Ostend
03/04/2019	European Parliament event on "Valuing Marine Ecosystem services" - Brussels
15-16/04/2019	EMBCP meeting - Paris
09-10/05/2019	Working Group Big Data kick-off meeting - Ostend
16-17/05/2019	Workshop on Big Data and Digitalization at European Maritime Day - Lisbon
21-22/05/2019	Training Workshop for EMB Young Ambassadors – Ostend
10/06/2019	EMB External Review Team meeting - Paris
11-12/06/2019	EurOCEAN 2019 Conference - Paris
13/06/2019	EMB Spring Plenary meeting - Paris
14/06/2019	EMB ExCom meeting - Paris
19/06/2019	EMBCP Steering Group meeting - online
28/06/2019	EOOS Steering Group meeting - Brussels
25/09/2019	EMBCP Steering Group meeting - online
01/10/2019	EOOS Steering Group - Brussels
02/10/2019	EOOS Advisory Committee meeting - Brussels
02/10/2019	3 <sup>rd</sup> EMB BBL on How marine stations can address societal challenges - Brussels
4/11/2019	EMB ExCom meeting - Berlin
5-6/11/2019	EMB Autumn Plenary meeting - Berlin
6-7/11/2019	EMBCP meeting - Berlin
19/11/2019	European Parliament event Key environmental challenges & the role of the Sustainable Development Goals - Brussels

## ANNEX 6:

### Presentations to meetings by EMB Secretariat and ExCom members in 2019

Date	Event and Venue	Speaker(s)
17/01/2019	JPI Oceans Seminar - Brussels	Sheila Heymans
22/01/2019	EMODnet Structured Dialogue - Ostend	Sheila Heymans
24/01/2019	Meeting with DG RTD – Anna Teresa Caetano - Brussels	Sheila Heymans, Ángel Muñoz Piniella
25/01/2019	AtlantOS telemeeting	Sheila Heymans
28-30/01/2019	SOPHIE Consortium meeting - Ostend	Sheila Hemans, Paula Kellett
31/01-01/02/2019	SOPHIE Expert Group workshop - Ostend	Sheila Hemans, Paula Kellett
04/02/2019	Meeting with EOOSC on Big Data – telemeeting	Sheila Heymans
06/02/2019	2nd BBL on Ecosystem Based management & the role of MSP - Brussels	Sheila Heymans & ExCom
07/02/2019	EOOS SG meeting - Brussels	Sheila Heymans, Ángel Muñoz Piniella
12/02/2019	BANOS meeting – Brussels	Sheila Heymans
4-6/02/2019	EuroFleets+ kick-off meeting – Galway	Sheila Heymans
7-8/02/2019	EMB Working Group meeting on Research Vessels - Galway	Sheila Hemans, Paula Kellett
13/03/2019	VLIZ Marine Science Day – Ostend	Sheila Heymans
14/02/2019	Meeting with EFARO – Ostend	Sheila Heymans
18-19/03/2019	Ocean Dialogues meeting – Brussels	Sheila Heymans
20/03/2019	MSFD working Group on GES – update on EOOS - Brussels	Sheila Heymans
25-28/03/2019	1 <sup>st</sup> AtlantOS Symposium & Final Conference - Paris	Sheila Heymans, Ángel Muñoz Piniella
05/04/2019	InnovOcean Seminar – Ostend	Joke Coopman
15-16/04/2019	EMBCP meeting – Paris	Ángel Muñoz Piniella
29/04/2019	Meeting with JPI-Oceans & VLIZ – Ostend	Sheila Heymans
9-10/05/2019	EMB Working Group Big Data kick-off – Ostend	Sheila Heymans, Britt Alexander
13/05/2019	GOOS side event at the Ocean Decade World Planning meeting – Copenhagen	Sheila Heymans
16/05/2019	Workshop on Big Data and Digitalization at European Maritime Day – Lisbon	Jeremy Gault

<b>Date</b>	<b>Event and Venue</b>	<b>Speaker(s)</b>
27/05/2019	EuroMarine Workshop on Blue Growth & enhancement of Human Resources - Italy	Mark James
04/06/2019	26 <sup>th</sup> SCARFish meeting - Brussels	Sheila Heymans
10/06/2019	EMB External Review Meeting - Paris	Sheila Heymans, Jan Mees, Jeremy Gault
11-12/06/2019	EurOcean Conference - Paris	Several ExCom members
17/06/2019	Alternet meeting on the European post 2020 Biodiversity Strategy - Ghent	Sheila Heymans
28/06/2019	EOOS Steering Group telemeeting	Sheila Heymans, Ángel Muñiz Piniella
4-5/07/2019	EuroGEOSS workshop - Lisbon	Sheila Heymans
29/08/2019	International Ocean Governance – telemeeting	Sheila Heymans
06/09/2019	International Ocean Governance kick-off – Brussels	Sheila Heymans, Britt Alexander
13/09/2019	EMB presentation to NMUC – telemeeting	Sheila Heymans
19/09/2019	Meeting with EurOcean, Sergio Bryton – Ostend	Sheila Heymans
20/09/2019	Seminar on Fisheries Science – Brussels	Sheila Heymans
26-27/09/2019	ICYMARE Conference – Bremen	Sheila Heymans
01/10/2019	EOOS Steering Group - Brussels	Sheila Heymans, Ángel Muñiz Piniella
02/10/2019	EOOS Advisory Committee – Brussels	Sheila Heymans, Ángel Muñiz Piniella
02/10/2019	3rd EMB BBL on How marine stations can address societal challenges - Brussels	Sheila Heymans
09/10/2019	Future Outlooks on Oceans & Human Health for the Baltic Sea – Helsinki	Sheila Heymans
10/10/2019	International workshop on Marine Ecosystem Accounting – Helsinki	Sheila Heymans
15/10/2019	Meeting with Deltares & NIOZ– Delft	Sheila Heymans
18-21/11/2019	JRC Modelling workshop – Ispra	Sheila Heymans
19/11/2019	European Parliament event Key environmental challenges & the role of the Sustainable Development Goals - Brussels	Gilles Lericolais
26-27/11/2019	EU conference on Modelling for policy support - Brussels	Sheila Heymans
27-29/11/2019	EuroSea Kick-off meeting – Brussels	Sheila Heymans, Ángel Muñiz Piniella
28/11/2019	20 Year VLIZ celebration – Ostend	Sheila Heymans
2-6/12/2019	Ecopath Conference – Florida	Sheila Heymans
10-11/12/2019	Black Sea Connect CSA project – Brussels	Ángel Muñiz Piniella
13/12/2019	Ocean Literacy online Session	Ángel Muñiz Piniella, Britt Alexander

## ANNEX 7: Member contributions 2019

Marine Board Member	Country	Contribution 2019 / €
Research Foundation Flanders, FWO	Belgium	€ 12.000
National Fund for Scientific Research, FNRS	Belgium	€ 12.000
Belgian Science Policy Office, BELSPO	Belgium	€ 12.000
Institute of Oceanography and Fisheries, IZOR	Croatia	€ 3.000
Institute Ruđer Bošković, IRB	Croatia	€ 3.000
National Institute for Aquatic Resources, DTU Aqua	Denmark	€ 12.000
Estonian Academy of Sciences, ETA	Estonia	€ 8.000
Universités Marines, UM	France	€ 17.000
French Research Institute for Exploitation of the Sea, IFREMER	France	€ 17.000
National Centre for Scientific Research, CNRS	France	€ 17.000
German Marine Research Consortium, KDM	Germany	€ 17.000
Helmholz Centrum for Ocean Research, GEOMAR	Germany	€ 17.000
Hellenic Centre for Marine Research, HCMR	Greece	€ 8.000
Marine Institute, MI	Ireland	€ 12.000
Irish Marine Universities Consortium, IMUC	Ireland	€ 12.000
National Institute of Oceanography and Experimental Geophysics, OGS	Italy	€ 17.000
National Research Council, CNR	Italy	€ 17.000
National Inter-University Consortium for Marine Sciences, CoNISMa	Italy	€ 17.000
Royal Netherlands Institute for Sea Research, NIOZ	Netherlands	€ 12.000
Norwegian Marine University Consortium, NMUC	Norway	€ 12.000
Research Council of Norway, RCN	Norway	€ 12.000
Institute of Marine Research, IMR <sup>1</sup>	Norway	€ 12.000
Institute of Oceanology - Polish Academy of Sciences, IO-PAN	Poland	€ 8.000
Science and Technology Foundation, FCT	Portugal	€ 8.000
Centre of Marine and Environmental Research, CIIMAR	Portugal	€ 8.000
Romanian Black Sea Research Cluster, RBSR	Romania	€ 8.000
Spanish Institute of Oceanography, IEO	Spain	€ 12.000
Centro Tecnológico del Mar, CETMAR	Spain	€ 12.000
University of Gothenburg, UGOT	Sweden	€ 6.000
Scientific and Technological Research Council of Turkey, TÜBİTAK	Turkey	€ 8.000
Natural Environment Research Council, NERC	UK	€ 17.000
National Oceanography Centre, NOC <sup>2</sup>	UK	€ 17.000
Marine Alliance of Science and Technology Scotland, MASTS	UK	€ 17.000
<b>Total</b>		<b>€ 405.000</b>

<sup>1</sup> Paid by Research Council of Norway

<sup>2</sup> Paid by NERC



## ANNEX 8:

### Full list of EMB publications

#### PUBLICATIONS IN 2019:

- Nieuwejaar, P., Mazauric, V., Betzler, C., Carapuço, M., Cattrijsse, A., Coren, F., Danobeitia, J., Day, C., Fitzgerald, A., Florescu, S., Ignacio Diaz, J., Klages, M., Koning, E., Lefort, O., Magnifico, G., Mikelborg, Ø., Naudts, L. (2019) **Next Generation European Research Vessels: Current Status and Foreseeable Evolution**. Heymans, J. J., Kellett, P., Viegas, C., Alexander, B., Coopman, J., Muñiz Piniella, Á. [Eds.] Position Paper 25 of the European Marine Board, Ostend, Belgium. 140pp. ISBN: 978-94-92043-79-5 DOI: 10.5281/zenodo.347789
- European Marine Board (2019). **Navigating the Future V: Recommendations for the Ocean Decade**. EMB Policy Brief N°. 6, September 2019. ISSN: 0778-3590. ISBN: 978-94-92043-77-1. DOI: 10.5281/zenodo.3465570. European Marine Board
- Muñiz Piniella, Á., Alexander, B., Coopman, J., Kellett, P., Heymans, J.J. (Eds.). 2019. **EurOCEAN 2019 conference report**. EurOCEAN 2019 - Europe's marine science contribution to a sustainable future. UNESCO, Paris, France, 11-12 June 2019. ISBN: 978-94-92043-76-4 doi: 10.5281/zenodo.3384627
- European Marine Board (2019) **Navigating the Future V: Marine Science for a Sustainable Future**. Position Paper 24 of the European Marine Board, Ostend, Belgium. ISBN: 9789492043757. ISSN: 0167-9309. DOI: 10.5281/zenodo.2809392
- Austen M.C., Andersen P., Armstrong C., Döring R., Hynes S., Levrel H., Oinonen S., Ressurreição A. (2019) **Valuing Marine Ecosystems - Taking into account the value of ecosystem benefits in the Blue Economy**, Coopman, J., Heymans, J.J., Kellett, P., Muñiz Piniella, A., French, V., Alexander, B. [Eds.] Future Science Brief 5 of the European Marine Board, Ostend, Belgium. 32pp. ISBN: 9789492043696 ISSN: 4920-43696 DOI: 10.5281/zenodo.2602732
- Heymans, J. J., Coopman, J., Kellett, P., Muñiz Piniella, A., Larkin, K. **European Marine Board Annual Report 2018**. European Marine Board, Ostend, Belgium. 2019. ISSN 2565-7402. 55pp

#### POSITION PAPERS:

- Nieuwejaar, P., Mazauric, V., Betzler, C., Carapuço, M., Cattrijsse, A., Coren, F., Danobeitia, J., Day, C., Fitzgerald, A., Florescu, S., Ignacio Diaz, J., Klages, M., Koning, E., Lefort, O., Magnifico, G., Mikelborg, Ø., Naudts, L. (2019) **Next Generation European Research Vessels: Current Status and Foreseeable Evolution**. Heymans, J.J., Kellett, P., Viegas, C., Alexander, B., Coopman, J., Muñiz Piniella, Á. [Eds.] Position Paper 25 of the European Marine Board, Ostend, Belgium. 140pp. ISBN: 978-94-92043-79-5 DOI: 10.5281/zenodo.347789
- European Marine Board (2019) **Navigating the Future V: Marine Science for a Sustainable Future**. Position Paper 24 of the European Marine Board, Ostend, Belgium. ISBN: 9789492043757. ISSN: 0167-9309. DOI: 10.5281/zenodo.2809392
- Garcia Soto, C., *et al.* (2017) **Advancing Citizen Science for Coastal and Ocean Research**. French, V., Kellett, P., Delany, J., McDonough, N. [Eds.] Position Paper 23 of the European Marine Board, Ostend, Belgium. 112pp. ISBN: 978-94-92043-30-6  
Contribution Authors: Gro Van Der Meeren, Julia A. Busch, Jane Delany, Christine Domegan, Karin Dubsy, Géraldine Fauville, Gabriel Gorsky, Karen von Juterzenka, Francesca Malfatti, Gérald Mannaerts, Patricia McHugh, Pascal Monestiez, Jan Seys, Jan Marcin Węślawski, Oliver Zielinski
- Rogers A.D. *et al.* (2015) **Delving Deeper: Critical challenges for 21<sup>st</sup> century deep-sea research**. European Marine Board Position Paper 22. Larkin, K.E., Donaldson, K., McDonough, N. (Eds.). European Marine Board, Ostend, Belgium, 2014.  
Coordinating author: Alex D. Rogers; Contributing authors: Andy Brierley, Peter Croot, Marina Cunha, Roberto Danovaro, Colin Devey, Alf Haakon Hoel, Henry Ruhl, Pierre-Marie Sarradin, Seline Trevisnaut, Helena Viera, Martin Visbeck

- Flemming N.C. *et al.* (2014) **Land beneath the waves: State of the art, key opportunities and recommendations to advance the European Continental Shelf Prehistoric Research.** European Marine Board Position Paper 21. McDonough N, Chu, NC (Eds). European Marine Board, Ostend, Belgium, 2014. Coordinating author: Nicholas C. Flemming; Contributing authors: M. Namık Ça atay, Francesco Latino Chiocci, Nena Galanidou, Gilles Lericolais, Hauke Jöns, Tine Missiaen, Fionnbarr Moore, Alar Rosentau, Dimitris Sakellariou, Birgitte Skar, Alan Stevenson, and Henk Weerts. Special Contributions: Geoff Bailey and Deukalion Planning Group (Annex 2), Anders Fischer, Sunhild Kleingärtner and Ian Oxley
- European Marine Board (2013). **Navigating the Future IV.** Position Paper 20 of the European Marine Board, Ostend, Belgium. ISBN: 9789082093100
- Moore M., *et al.* (2013). **Linking Oceans and Human Health: A Strategic Research Priority for Europe.** Position Paper 19. McDonough N., Evrard M., Calewaert JB., French V. (Eds). European Marine Board, Ostend, Belgium. 2013. Contributing authors: Michael N. Moore, Craig Baker-Austin, Michael H. Depledge, Iora Fleming, Philipp Hess, David Lees, Paul Leonard, Lise Madsen, Richard Owen, Hans Pirlet, Mathew White, Vitor Vasconcelos, Nicholas Boase, Nicholas Osborne, Aldo Viarengo
- Olsen E. M., *et al.* (2013). **Achieving Ecologically Coherent MPA Networks in Europe: Science Needs and Priorities.** Marine Board Position Paper 18. Larkin, K. E. and McDonough N. (Eds.). European Marine Board, Ostend, Belgium. ISBN 978-9-079528-19-6. 84pp. Contributing authors: Luciano Fonseca, Raquel Goñi, David Johnson, Stelios Katsanevakis, Enrique Macpherson, Esben Moland Olsen, Dominique Pelletier, Marijn Rabaut, Marta Chantal Ribeiro, Phil Weaver, Tania Zaharia
- Haugan, P. (2013). **Getting ready for an ice-free Arctic.** McDonough, N. & Larkin, K. E. (Eds.) Marine Board Science Commentary 1, European Marine Board, Ostend, Belgium.
- Heip, C., & McDonough, N. (2012). **Marine Biodiversity: A Science Roadmap for Europe.** Marine Board Future Science Brief 1, European Marine Board, Ostend, Belgium. ISBN: 978-2-918428-75-6.
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