

Annual Report 2023

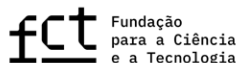
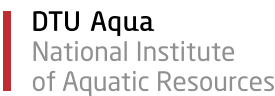
EUROPEAN MARINE BOARD IVZW

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

The European Marine Board is an independent and self-sustaining science policy interface organisation that currently represents 38 Member organisations from 19 European countries. It was established in 1995 to facilitate enhanced cooperation between European marine science organisations 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. 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 EMB serves its Member organisations by providing a forum within which marine research policy advice is developed and conveyed to national agencies and to the European Commission, with the objective of promoting the need for, and quality of, European Marine Research.

www.marineboard.eu





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Highlights 2023

ExCom meeting, 22 February, Ostend, Belgium

Brown Bag Lunch N° 6: Carbon Storage, 23 February, Brussels, Belgium

H2020 Project BRIDGE-BS Regional stakeholder conference, 29 March, Thessaloniki, Greece

EMB Spring Plenary meeting, 27-28 April, Online

SINTEF Ocean and the Norwegian Research Centre (NORCE) from Norway joined the EMB

H2020 Project EcoScope modelling workshop, 30 May – 1 June, Thessaloniki, Greece

EMB Young Ambassador Training Workshop, 15-16 June, Ostend, Belgium

IOC General Assembly, 21-30 June, Paris, France

10 Years of the Galway Statement, 5-6 July, Galway, Ireland

H2020 Project BRIDGE-BS General Assembly, 28-29 September, Ankara, Türkiye

Launch of Position Paper No. 27 on 'Building Coastal Resilience in Europe' and Policy Brief No. 11 on 'Blue Carbon: Challenges and opportunities to mitigate the climate and biodiversity crises' at EuroOCEAN2023



Art-science Networking Group Meet & Greet, 13 November, Online

J

ERASMUS+ Project FLORES Kick-Off meeting, 31 January, Online

F

H2020 Project EuroSea foresight workshop, 15 March, Brussels, Belgium

M



Online launch of Future Science Brief No. 9 on 'European offshore renewable energy: Towards a sustainable future', 4 April

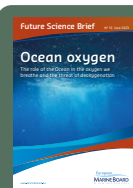
A

European Maritime Day 2023, 24-25 May, Brest, France

M

SEArca event on 'The marine dimension of the Nature Restoration Law', 29 June 2023, European Parliament, Brussels, Belgium

J



Launch of Future Science Brief No. 10 on 'Ocean oxygen: The role of the Ocean in the oxygen we breathe and the threat of deoxygenation' at ASLO, 8 June, Palma de Mallorca, Spain

J

A

SAMS Webinar: 'What can EMB do you for you?', 2 August, Online

S

H2020 Project EuroSea Final conference, 19-21 September, Paris, France

O

The Cyprus Marine and Maritime Institute (CMMI) joined the EMB

EMB ECOP Network Forum, 8-9 October, Santiago de Compostela, Spain

N

EuroOCEAN 2023 Conference, 10-11 October, Vigo, Spain



D

Present Respect at Sea video at Eurofleets+ Workshop, 1 December, Online

Horizon Europe project RHE-MEDiation General Assembly, 19-20 December, Porto, Portugal and Online

Message from the Chair



Here we are at the end of yet another memorable year, where the European Marine Board has managed to achieve significant milestones and create lasting memories.

One of those milestones is without a doubt the EuroOCEAN 2023 Conference, a key EMB event in the marine science-policy landscape that takes place every five years. Held against the sunny backdrop of Vigo's port in Spain, this edition, labelled under the European Council Spanish Presidency, brought together over 250 Ocean stakeholders under the unifying theme of "One Ocean, One Voice". As the conference was co-organised with JPI Oceans, EuroMarine, EuroGOOS and Eurocean, the conference was a pivotal moment to assess our progress within the EU Mission Ocean and the UN Ocean Decade, and to set the course for the future to achieve their ambitious goals by 2030.

The conference opened with a strong keynote speech, delivered by our very own EMB Ambassadors, who spoke with passion from the perspective of the Early Career Ocean Professionals, after just having organised the very first EMB ECOP Network Forum in Santiago de Compostela. The EuroOCEAN Conference culminated with all co-organisers gathering to sign the Vigo Declaration "Speaking with One Voice to achieve the One Ocean we want". I am hopeful that these connections between European marine organisations and Ocean stakeholders at all levels of their careers can continue to grow stronger in the coming years.

I want to extend my sincere gratitude to everyone who contributed to making EuroOCEAN 2023 a success, with special thanks to EMB Science Officer **Ángel Muñoz Piniella** and ExCom Vice-Chair **Rosa Fernández** from CETMAR for their leadership in its organisation.

I am also pleased to welcome three new Members to the European Marine Board this year: SINTEF Ocean (Norway), NORCE Norwegian Research Centre (Norway) and the Cyprus Marine and Maritime Institute (Cyprus). With a total of 38 members from 19 European countries at the end 2023, EMB's reach continues to expand.

In terms of output, all contributing experts and the EMB Secretariat have outdone themselves again in 2023. No less than four high-level strategic documents were published on four different topics: Offshore Renewable Energy, Ocean Oxygen, Coastal Resilience and Blue Carbon. These publications are valuable documents at different levels of the decision-making process throughout Europe, as has already been demonstrated by the positive feedback that we have received.

This is just a glimpse into our achievements in 2023. I invite you to read through our Annual Report to find out all about our many interesting activities and outputs

And to conclude this last Annual Report foreword for me, I have to say that it has been a tremendous honour to have served as Chair of the European Marine Board for almost five years. As we approach the end of 2023, I reflect back on the many achievements and memorable moments during my Chairmanship, as I will be passing the torch to my successor in April 2024. While saying farewell to the European Marine Board is bittersweet, I am certain that this ship will continue to sail smoothly in the right direction under the strong leadership of the Secretariat and the devoted Members

Dr. Gilles Lericolais, EMB Chair

Executive Director's report



As the saying goes, nothing is constant except change, and that was the case in 2023. Just when I thought that the EMB Secretariat is now fully formed and working well together, we learned the happy news that one of our Science Officers, **Paula Kellett**, was going to have a baby. We were all very excited to welcome this new addition to our extended family, but it did mean that we were missing a team member for 5 months last year. Luckily, we were joined by a very lovely intern from Mexico, **Fernanda Bayo-Ruiz**, who had just finished her Master's degree when Paula went on maternity leave, and Fernanda helped to pick up some of the important (communication and other) jobs that we had to move around with Paula being away. Fernanda was able to help us until November, when Paula returned and our second baby arrived: **Ana Rodriguez** left on maternity leave in November, creating another temporary hole in our team, which we have yet to fill.

Even with all these changes in the Secretariat, we were able to achieve all of the milestones we had set for ourselves for 2023, not least of which publishing four new documents between April and October. Paula was able to lead on the publication of the Future Science Brief on Offshore Renewable Energy, Ana lead on the Future Science Brief on Ocean Oxygen, as well as helping with the work on the Blue Carbon Policy Brief. **Britt Alexander** was also able to pull the Position Paper on Coastal Resilience over the finish line in time for the very well received launch event we had for these two documents at the EuroOCEAN 2023 Conference in Vigo, Spain. Britt also led on the important task of picking two new Artists in Residence for our EMBacing the Ocean programme, and we welcomed **Rhoda Ting** and **Mikkel Dahlin Bojesen** from **Studio ThinkingHand** and **Sonia Levy** as our new Artists in Residence. Of course, we also had two new Young Ambassadors join our extended family: **Alexandra Hahn** a PhD candidate from GEOMAR, and **Riwan Leroux** a PostDoc from IFREMER. With Paula on maternity leave, **Jana Van Elslander** stepped into Paula's shoes and kept the Young Ambassadors programme going. Jana was instrumental in ensuring that the Young Ambassador webinars continued and that their first ECOP Network Forum, which took place on the days before the EuroOCEAN 2023 conference, was a success. I was lucky enough to meet our extensive ECOP Network at the event that they held in Santiago de Compostela, Spain. This event was planned, organised and run by the EMB Young Ambassadors, and it was lovely to see the two current Ambassadors, **Juliette Aminian Biquet** and **Alfredo Santiago Garcia de Vinuesa Gutierrez**, working so well with the new Ambassadors, and how inspirational they were to the wider EMB ECOP Network. Their plenary speech delivered at the EuroOCEAN 2023 conference was well deliberated, well presented, and well received by those who would listen. Finally, EuroOCEAN 2023 was a huge success: **Ángel Muñoz Piniella**, our master conference organiser, put together a wonderful event that was appreciated by the EMB Members, local Spanish stakeholders and the co-organisers alike. This was the first edition of EuroOCEAN where we brought the wider Ocean community together, and we were able to bring a unified message from the wider European Ocean science community through the Vigo Declaration. All these activities were undertaken by the Secretariat while also attending multiple project and other meetings, as you can see in our highlights on page 4.

The EMB Secretariat work ceaselessly to represent our Members, and to communicate about the important messages from our documents, and I believe that we were able to do that well in 2023. We will endeavour to continue on this track and work for our Members during 2024.

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

EMB mission, structure and governance

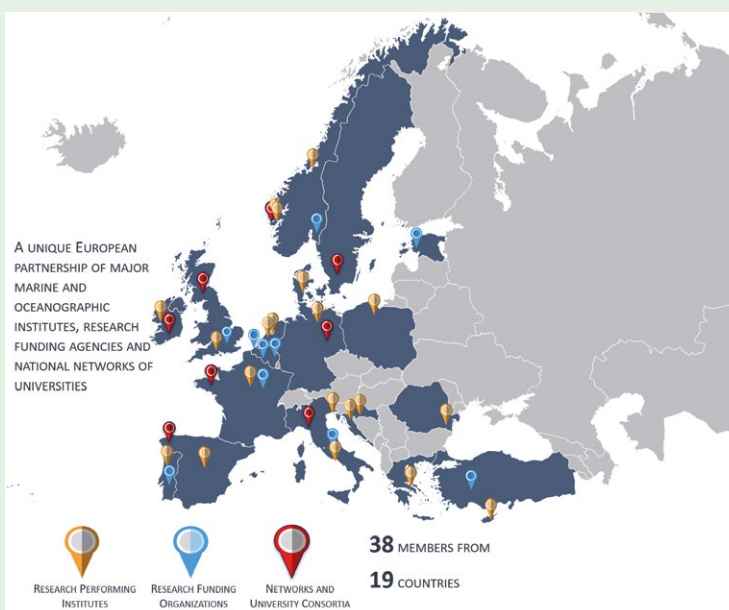
MISSION

The European Marine Board (EMB) provides an independent platform for its Member organisations 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. These target European and national research programme managers, strategy developers, policymakers and the marine research community to drive future European and national marine research agendas, and to support strategies and policies.

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

STRUCTURE AND GOVERNANCE



The European Marine Board (EMB) was established in 1995 to facilitate enhanced cooperation between European marine science organisations. Members are major national marine or oceanographic institutes, research funding agencies, or national consortia of universities with a strong marine research focus. In 2023, the EMB represented 38 Member organisations from 19 countries.

EMB DELEGATES

The representatives (EMB Delegates) from EMB Member organisations form 'the Board', which is the highest decision-making organ of the EMB. EMB Delegates meet twice a year at Plenary meetings to share knowledge, define common priorities, and 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.

The EMB's mixed membership of research performing organisations, research funding organisations, 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 ensure 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. The EMB Executive Director is *ex-officio* member of the ExCom. ExCom mandates in 2023:



Gilles Lericolais – Chair
French Research Institute for the
Exploration of the Sea (IFREMER),
France
Spring 2019 – 2024



Fiona Grant – Vice-Chair
Marine Institute (MI), Ireland
Spring 2020 - 2025



Alan Evans – Vice-Chair
Natural Environment Research
Council (NERC), UK
Spring 2020 - 2025



Katrin Schroeder – Vice-Chair
National Research Council (CNR),
Italy
Spring 2020 - 2025



Rosa Fernández Otero – Vice-Chair
Technological Centre of The Sea
(CETMAR), Spain
Spring 2021 - 2024



Martin Pfannkuchen – Vice-Chair
Ruđer Bošković Institute (IRB),
Croatia
Spring 2022 - 2025

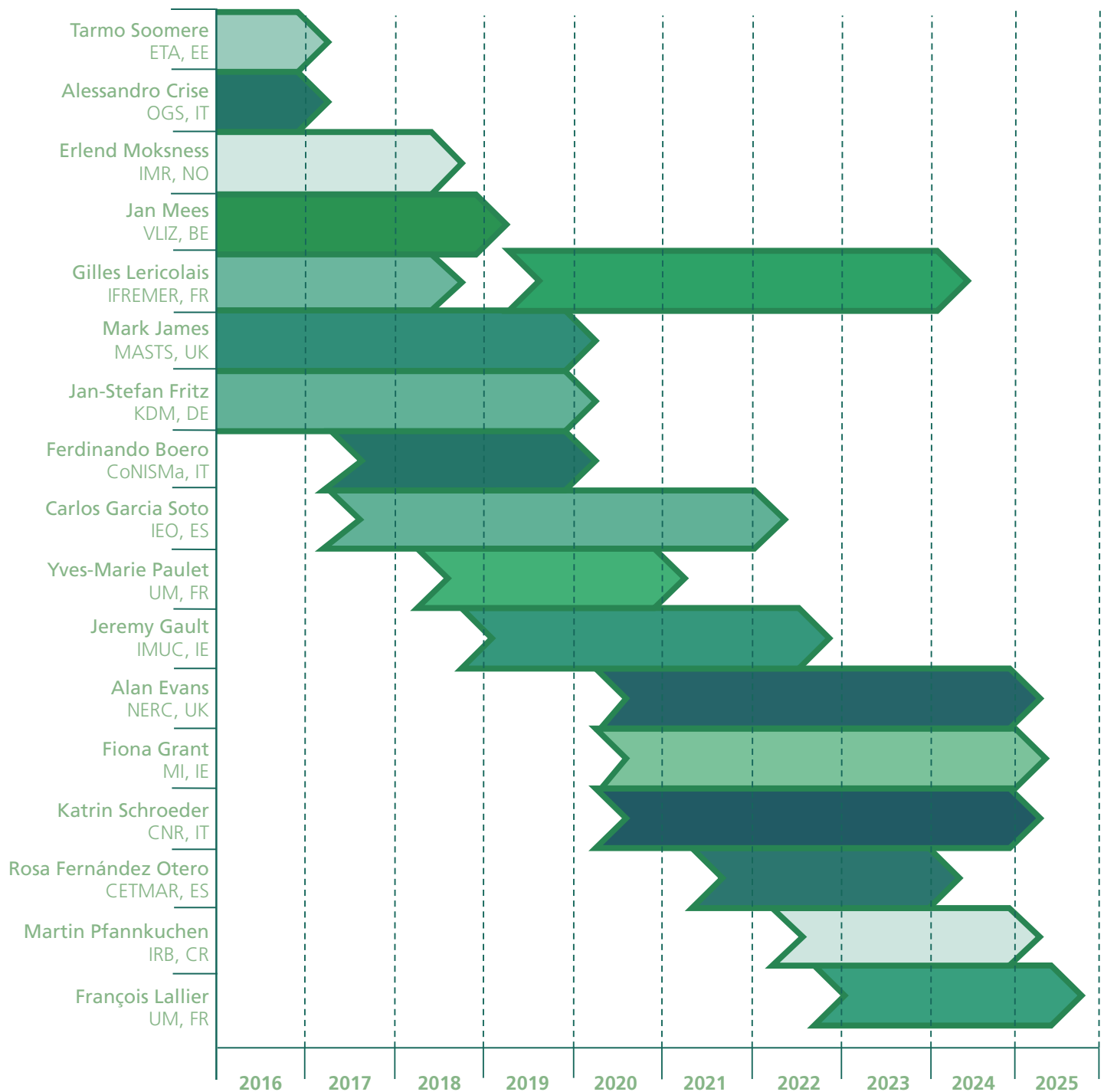


François Lallier – Vice-Chair
Marine Universities
(UM), France
Autumn 2022 - 2025



**Sheila JJ Heymans – ex-officio
Member**
EMB Executive Director

HISTORICAL OVERVIEW OF EXCOM MEMBERS SINCE THE INDEPENDENCE FROM ESF IN 2016



EMB SECRETARIAT

The EMB Secretariat implements the strategic- and operational decisions and activities proposed by the Board and ExCom. EMB activities and the operation of its Secretariat are funded through annual Member contributions, EMB external contracts and generous support from the Flemish Government of Belgium, through the Flanders Marine Institute (VLIZ).

The EMB Secretariat is led by Executive Director **Sheila Heymans**. The team consists of four Science Officers **Paula Kellett**, **Ángel Muñoz Piniella**, **Britt Alexander** and **Ana Rodriguez**, and the Executive and Finance Officer **Jana Van Elslander**. During 2023, the team was joined for four months by **Fernanda Bayo-Ruiz**, who did an internship at the EMB Secretariat.

The Secretariat is based at the InnovOcean Campus in Ostend, Belgium, together with the Flanders Marine Institute, ILVO and other national and international partners.



The EMB Chair and Secretariat at the EuroOCEAN 2023 Conference in Vigo, Spain.

From left to right: Britt Alexander (Science Officer), Fernanda Bayo-Ruiz (Intern), Gilles Lericolais (EMB Chair), Jana Van Elslander (Executive and Finance Officer), Sheila Heymans (Executive Director), Ana Rodriguez (Science Officer) and Ángel Muñoz Piniella (Science Officer).



The EMB Secretariat in Ghent, Belgium.

From left to right: Jana Van Elslander (Executive and Finance Officer), Paula Kellett (Science Officer), Britt Alexander (Science Officer), Ana Rodriguez (Science Officer), Ángel Muñoz Piniella (Science Officer) and Sheila Heymans (Executive Director).

EMB YOUNG AMBASSADORS

Since 2019, EMB's Young Ambassador programme aims to strengthen collaboration with, and engagement from early career researchers. The EMB Young Ambassadors play an important role in advocating and promoting the relevance of marine science and the Ocean to their peers and wider networks. They are EMB's soundboard to a vast group of early career researchers and ensure that the voices and ideas of young researchers are reflected within the EMB's work. The Young Ambassadors engage with EMB for a two-year period after which they join the Young Ambassador Alumni Group.

Young Ambassadors during 2023



Juliette Aminian Biquet

PhD candidate at the Centre of Marine Sciences (CCMAR) in Portugal, whose studies are supported by the Portuguese Science and Technology Foundation (FCT)



Alfredo Santiago Garcia de Vinuesa Gutierrez

Postdoc researcher at the Spanish Institute of Oceanography (IEO-CSIC) in Cádiz, Spain



Riwan Leroux

Postdoc from the French Institute for the Exploitation of the Sea (IFREMER), France



Alexandra Hahn

PhD candidate from Helmholtz Centre for Ocean Research Kiel (GEOMAR), Germany

Young Ambassador activities in 2023

During 2023 the Young Ambassadors further developed the EMB Early Career Ocean Professional (ECOP) Network that was set up in 2022 with support from the EMB Secretariat. The ECOP Network aims to connect ECOPs from EMB Member organisations, provide a platform to engage with and have a voice at EMB Board level, and to inform them on the European marine science-policy landscape.

In October 2023, the Young Ambassadors organised the first two-day ECOP Network Forum (see p. 20). The event took place in-person only at the Cidade da Cultura, Santiago de Compostela, Spain and aimed to give ECOPs from EMB Member organisations the opportunity to learn about EMB and the European science-policy landscape, and to receive hands-on training on how to interact with, and effectively communicate their science to, policymakers.

The Young Ambassadors organised the regular ECOP Wednesdays webinar series, where speakers from the marine science-policy landscape presented their work and insights, and attendees engaged in the discussion (see p. 24).

The Young Ambassadors also engaged individually in a variety of different EMB activities and events. You can learn more about the EMB Young Ambassadors, see all of their activities, and read their blog articles on the EMB website: <https://www.marineboard.eu/emb-young-ambassador-programme>

GENDER AND DIVERSITY EQUITY AND INCLUSION

Gender and Diversity Equity and Inclusion are important in marine science as they help reflect the diversity of society, attract and retain the best talent, and ensure innovation. As a European science policy think-tank, it is important for EMB to reflect the diversity of society, both at the EMB Secretariat and at Board level.

The EMB aims to ensure diverse engagement in all activities through inclusion: we aim to understand the diversity of needs linked to Ocean science, and we aim to be exemplary and serve as role models to our community. EMB also adds a statement to each publication that we are aware working towards full diversity but we understand we have not achieved it fully.



Gender and Diversity Equity and Inclusion Plan

In 2021, the EMB Secretariat set up a Gender and Diversity Plan which included actions conducted by the EMB Secretariat and in the wider organisation. The existing plan was further elaborated and enhanced following the EMB Secretariat's engagement in Gender and Diversity Equity and Inclusion training in 2022.

The Gender and Diversity Equity and Inclusion Plan is periodically reviewed and updated by EMB Board and Secretariat. This Plan also complies with the requirements of the European Commission for eligibility to join European Projects.

The new EMB Gender and Diversity Plan is available on the EMB website. It is a living document and will be updated when considered appropriate: <https://www.marineboard.eu/gender-diversity>

Related activities in 2023

In April 2023, the EMB Secretariat hosted an Open Session at the Spring Plenary meeting (see p. 14) on the topic of Gender and Diversity Equity and Inclusion. The online session was opened by Sheila Heymans, Executive Director of EMB, and focused on the topic in general, the different activities the EMB is already doing, and what the EMB Members could do to further support Gender and Diversity Equity and Inclusion within EMB and their own organisations. The Open Session featured a keynote presentation and a panel discussion with relevant European and international initiatives, as well as an opportunity to brainstorm in breakout groups. The closing remarks were given by EMB Chair **Gilles Lericolais**.

More information, as well as the different presentations are available here: <https://www.marineboard.eu/emb-spring-plenary-meeting-2023-online>

In May 2023, the 10th ECOP Wednesdays webinar (see p. 24) featured **Maria del Carmen García Martínez**, the Director of the Oceanographic Centre of Malaga, who presented the Spanish Oceanicas Initiative¹. This initiative seeks to highlight and disseminate the work of pioneering women in Oceanography. The presentation was followed by an interactive discussion.



¹ <https://oceanicas.ieo.es/>

Plenary meetings 2023

EMB Plenary meetings are held twice a year, online in spring and hosted by a Member organisation in autumn. During these meetings EMB Member organisations share knowledge, define common priorities and agree on activities and outputs to influence European and national marine research and policy agendas. At these meetings, EMB Delegates interact with invited speakers, guests, and observers from the European Commission, UNESCO's Intergovernmental Oceanographic Commission (IOC-UNESCO) and other stakeholders.

SPRING PLENARY MEETING | 27-28 APRIL 2023, ONLINE

On 27-28 April 2023, 52 EMB Delegates and Alternates (representatives of the EMB Members) gathered online for the EMB Spring Plenary meeting and were joined by the four EMB Young Ambassadors and 12 external speakers and observers. The full attendance list is available in Annex 2.

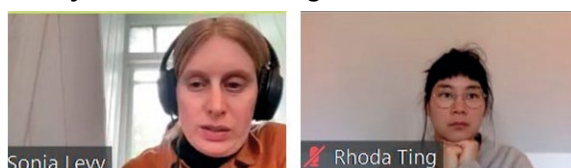
Two new EMB Members

At the start of the meeting, the Board approved the applications of two new EMB Members: the Norwegian Research Centre (NORCE) and SINTEF Ocean, both from Norway.

EMB ExCom elections

Three members of the Executive Committee, **Alan Evans** (NERC, UK), **Fiona Grant** (MI, Ireland) and **Katrin Schroeder** (CNR, Italy) were re-elected for an additional two-year term as EMB Vice-Chair.

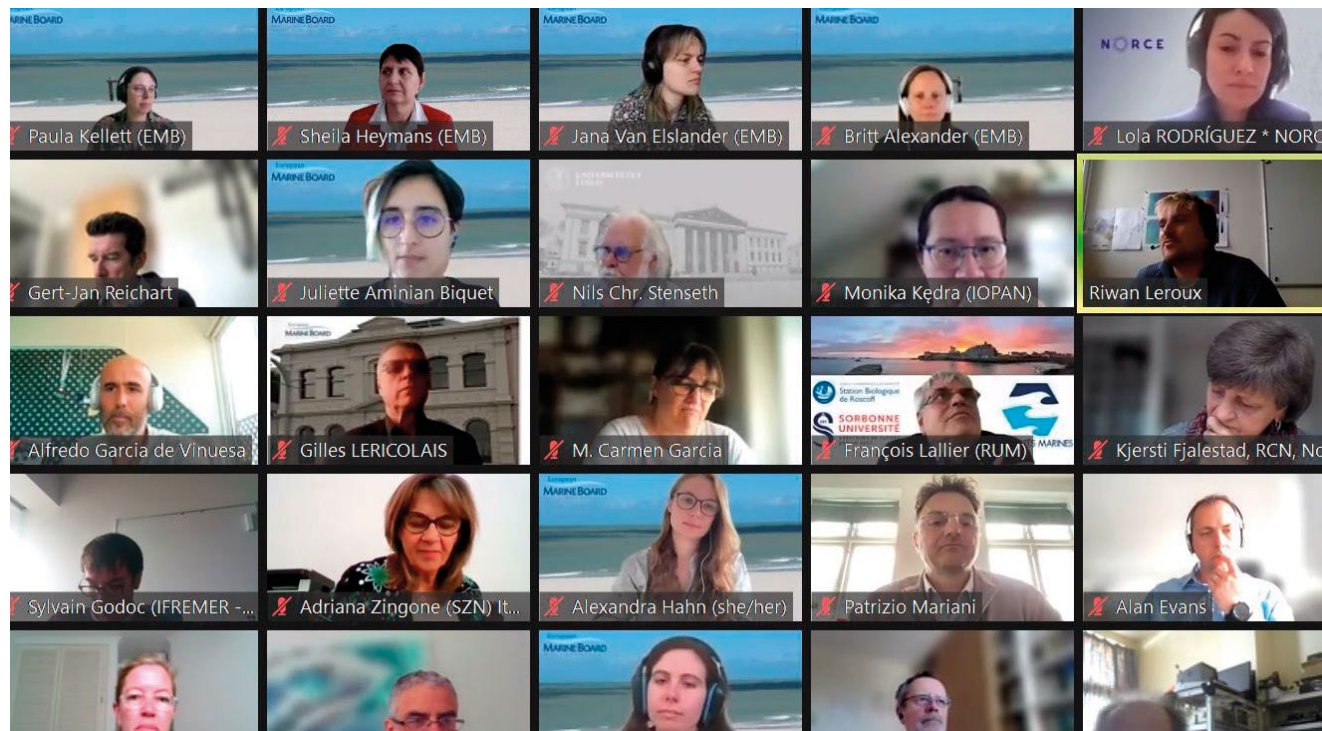
Newly selected EMBracing the Ocean artists



The newly selected artists for the 2023-2024 edition of the EMBracing the Ocean (see p. 39) artist-in-residence programme were introduced: **Sonia Levy**, a research-led visual artist based in the UK, and **Studio ThinkingHand**, an art duo formed by **Rhoda Ting** and **Mikkel Dahlin Bojesen**, based in Denmark.

Open Session

The Open Session of the Spring Plenary meeting was hosted by the EMB Secretariat on the topic of Gender and Diversity Equity and Inclusion. The Open Session included a keynote presentation from **Rebecca Shellock** on the importance of gender balance and diversity in marine science research, a panel discussion with relevant European and international initiatives, and gave information on EMB's activities regarding this topic and the opportunity to brainstorm on future activities (see p. 12).



Some of the attendees at the online Spring Plenary 2023 meeting.

Credit: EMB

AUTUMN PLENARY MEETING | 12-13 OCTOBER 2023, VIGO, SPAIN AND ONLINE

The EMB Autumn Plenary 2023 meeting was hosted by EMB Member the Technological Centre of the Sea (CETMAR) in Vigo, Spain on 12-13 October 2023 as a hybrid event. The meeting was attended by 48 EMB Member representatives, four EMB Young Ambassadors, one EMB Young Ambassador Alumni and two observers. The full attendance list is available in Annex 2.

EuroOCEAN 2023 Conference

Back-to-back with the Autumn Plenary, the EuroOCEAN 2023 conference (see p. 18) took place on 10-11 October 2023 as an in-person event at the Auditorio y Palacio de Congresos Mar de Vigo in Spain. The science-policy conference brought together over 250 stakeholders from the marine science and policy landscape. The conference highlighted the synergies between the UN Ocean Decade, the EU Mission: Restore our Ocean and Waters by 2030, and other EU initiatives. More details on the conference, programme and speakers can be found on the EuroOCEAN website². The EuroOCEAN conference was closed by presenting the Vigo Declaration³, which was signed by the Chairs of the involved European marine networks.

New EMB Working Group topic

A new EMB Working Group topic on 'Monitoring, Reporting and Verifying Marine Carbon Dioxide Removal' was selected.

The EMB Secretariat was tasked to create the Terms of Reference in collaboration with the topic proposers. The Terms of Reference were approved offline, and the Secretariat opened a call for expert nominations in late 2023.

New EMB Member organisation

During the meeting, the Board ratified the Cyprus Marine and Maritime Institute (CMMI) from Cyprus as a new Member. This newest Member increases the EMB Membership to 38 Members from 19 European countries.

CMMI CEO Zacharias Siokouros presenting at the Autumn Plenary 2023 in Vigo, Spain.

Updates from the Young Ambassadors and Alumni

The EMB Young Ambassadors actively engaged in the Plenary meeting and shared their experience and take-away messages from the first EMB Early Career Ocean Professional (ECOP) Network Forum (see p. 20), which the Ambassadors organised on 8-9 October 2023 in Santiago de Compostela, Spain. The reflections and recommendations from this event on future engagement of ECOPs in the science-policy sphere were also presented in a keynote speech during the opening session of the EuroOCEAN 2023 conference.

Anjali Gopakumar attended the Autumn Plenary as the representative of the EMB Alumni, the group of former Young Ambassadors, and provided updates about the ongoing activities of all the Alumni.



The in-person attendees at the Autumn Plenary 2023 hybrid meeting in Vigo, Spain.

² <https://www.euroceanconferences.eu/>

³ <https://www.euroceanconferences.eu/vigo-declaration>



EMB science-policy interactions & events

The EMB 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 International Organisations, to advance marine science in Europe and beyond. We strongly believe in two-way communication and welcome the input from policymakers to provide the best available scientific advice at the right time. We stimulate communication by organising a variety of interactive events ranging from small-scale discussions on a specific topic (e.g. Brown Bag Lunches) to large-scale overarching events (e.g. the CommOCEAN and EurOCEAN conferences).

EUROCEAN 2023 CONFERENCE



EuroOCEAN conferences are major European marine science-policy conferences organised every 4-5 years. They provide a forum for the marine and maritime research community and wider stakeholders to interface with European and Member State policymakers and strategic planners.

The EuroOCEAN 2023 conference took place on 10-11 October 2023 as an in-person event at the Auditorio y Palacio de Congresos Mar de Vigo, Vigo, Galicia, Spain.

With the slogan “One Ocean, One Mission, One Decade – One Voice”, the EuroOCEAN 2023 science-policy conference aimed to highlight the synergies between the EU Mission: Restore our Ocean and Waters by 2030, other EU research, innovation, and management initiatives, and the UN Decade of Ocean Science for Sustainable Development.



Credit: © Lalo R. Villar

The conference programme included captivating presentations and discussions on a variety of topics:

- Enabling ecosystem-based management for fisheries and conservation;
- Addressing pharmaceutical pollution from inland to sea;
- Transforming ports at the interface between land, society and the Blue Economy;
- Ensuring Ocean knowledge in the age of the Digital Ocean;
- Changing humanity's relationship with the Ocean: art as agent of change;
- Coastal resilience and Blue Carbon in Europe; and
- What's next: rallying actions for our Ocean and Waters.

An empty chair was placed on stage to allow participants to contribute and discuss with the experts during the panel discussion as a way to break the barrier between panellists and the audience.



The conference was attended by over 250 marine policymakers, scientists, science stakeholders and communicators, maritime industry representatives, and European and national decision-makers and programme managers, i.e. those that set, manage, and implement the marine science agenda. The young generation of scientists was also well represented, as each panel had a young scientist, and many of the ECOP's attending the ECOP Network Forum (see p. 20) stayed to join the EurOCEAN Conference.

You can find information on the EurOCEAN 2023 conference on the website: <https://www.euroceanconferences.eu>

VIGO DECLARATION: SPEAKING WITH ONE VOICE TO ACHIEVE THE ONE OCEAN WE WANT

The main output of the EurOCEAN 2023 conference was the Vigo Declaration. At the end of the Conference on 11 October, the Vigo Declaration was presented by EMB Executive Director **Sheila Heymans**, and adopted and signed by all European marine science networks (who also co-organised the conference): Joint Programming Initiative on Oceans (JPI Oceans), the European Marine Research Network (EuroMarine), the European Global Ocean Observing System (EuroGOOS), the European Centre for Information on Marine Science and Technology (Eurocean) and the European Marine Board.

The Vigo Declaration “Speaking with One Voice to achieve the One Ocean we want” calls for integrated land-sea policies and management, sustained and better coordinated Ocean observation and increased citizen engagement.

You can download the Vigo Declaration, and pledge your support via the EurOCEAN website:

<https://www.euroceanconferences.eu/vigo-declaration>



The European marine science networks during the signing of the Vigo Declaration.

ECOP NETWORK FORUM

The involvement of Early Career Ocean Professionals (ECOPs) in the science-policy landscape is crucial for successful collaborations. Such a partnership across disciplines and generations is a two-way street: ECOPs bring their expertise, values, energy and network, and benefit from the same inputs from senior Ocean Professionals. To advance this goal, the EMB Young Ambassadors created the EMB ECOP Network in 2022 to connect ECOPs across EMB Member organisations and empower them to engage in the marine science-policy landscape.

EMB Young Ambassadors, with support from the EMB Secretariat, organised the first Forum of the EMB ECOP Network in Santiago de Compostela, Spain, in October 2023, as a side event of the EuroOCEAN 2023 Conference held in the nearby city of Vigo. The ambition of this two-day Forum was to: 1) provide training on how to engage with policymakers, including by increasing awareness and engagement in EMB activities, 2) provide EMB ECOPs a networking space, 3) gather EMB ECOPs' ideas on how to improve their engagement in the science-policy landscape and provide recommendations, including at the EuroOCEAN 2023 conference.



Credit: © EMB Young Ambassadors

In total, 38 ECOPs from 25 EMB Members joined the Forum. Participants were at various stages of their careers, including Masters and PhD candidates, postdoctoral candidates and technicians. ECOPs' expertise covered a broad spectrum of natural and social Ocean sciences, from ecology and taxonomy to conservation and spatial planning.

The ECOPs were very positive about the Forum, highlighting how it was especially useful for them to learn about the EMB and European science-policy landscape, connecting with colleagues at similar career stages and voice ECOPs needs. Many ECOPs could also attend the EuroOCEAN Conference afterwards and could put the discussions from the Forum into practice. Insights from brainstorming sessions could directly be communicated to the EuroOCEAN Conference via the EMB Young Ambassadors keynote speech.

EMB ECOPs showed at the Forum and EuroOCEAN how eager they are to be involved in decision-making processes, including in the EMB, and in the science-policy landscape. They still face numerous challenges that could be easily addressed in cross-generational collaborations, as summarised in a report published in March 2024. Two priorities emerged from the discussions. First, organising in-person meetings for ECOPs affiliated with EMB Member organisations is the most effective way to provide training, foster their engagement in the marine science-policy sphere, give them a voice in the science-policy landscape, and promote their engagement in EMB activities. Secondly, as ECOPs are willing to engage, but need better connections with EMB activities, to ensure that they are able to join them. As the EMB ECOP Network grows and actively seeks to engage in EMB activities, EMB Delegates will be invited to increasingly engage with ECOPs in their organisations.



Credit: © EMB Young Ambassadors

Participants at the ECOP Network Forum in Santiago de Compostela, Spain.

BROWN BAG LUNCH NO. 6: CARBON CAPTURE AND STORAGE

EMB's Brown Bag Lunches, organised over lunch in Brussels, Belgium, bring together stakeholders to initiate discussion on a relevant marine science topic. These events start with lunch, followed by a topical presentation from an expert, and end with an interactive discussion amongst the in-person participants. Participants are usually a mix of relevant stakeholders, such as researchers, policymakers, and industry.

The 6th EMB Brown Bag Lunch (BBL) took place on 23 February 2023 hosted by the Helmholtz Association in the KoWi room in Brussels. The event featured Professor **Douglas Connelly**, Associate Director for Research at the National Oceanographic Centre (NOC) in the UK, who gave a fascinating talk on 'Assuring the integrity of offshore carbon capture and storage'.

His talk highlighted the outcomes of the large EU Project he coordinated: STEMM-CCS⁴ (Strategies for Environmental Monitoring of Marine Carbon Capture and Storage), which looked at using existing and newly developed approaches for monitoring offshore carbon capture and storage reservoirs.

The presentation was live-streamed and has been made available on the EMB YouTube channel⁵, and more information can be found on the EMB website⁶.



Credit © EMB

In-person participants at the 6th Brown Bag Lunch in Brussels, Belgium.

⁴ <https://www.stemm-ccs.eu/>

⁵ https://www.youtube.com/watch?v=TnTzX_Cxyxc&list=PLXKTm_QGiR-huHf6E_hXnfjDNtHbTsX5

⁶ <https://www.marineboard.eu/events/brown-bag-lunch-ndeg-6-carbon-capture-and-storage>

EMB SCIENCE WEBINARS

EMB's Third Thursday Science Webinar series highlights the science that underpins or is linked to EMB publications and activities. The webinars usually take place every third Thursday of the month from 13:00-14:00 CE(S)T. The format of the webinar includes a short opening by the EMB moderator and up to 30 minutes of presentation by one or two speakers, followed by an opportunity for the audience to ask questions.

All presentations and video recordings from each webinar are available on the EMB website⁷ and on the EMB YouTube channel⁸. The following list provides an overview of the webinars that took place in 2023.



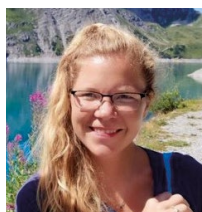
January 2023: Multidisciplinary understandings of indeterminacy, uncertainty and risk

Chris Fremantle, researcher, lecturer and EMBracing the Ocean (see p. 39) committee member, presented: 'Multidisciplinary understandings of indeterminacy, uncertainty and risk'. The webinar explored some of his recent work on differences between disciplines (e.g. social and natural sciences, arts, humanities, law, economics) in the values, meanings and ways of working with indeterminacy and uncertainty, including how research interacts with decision-making.



February 2023: Sea ice - Ocean interactions in the Arctic

David Docquier, postdoctoral researcher in Climatology at the Royal Meteorological Institute of Belgium, discussed sea ice - Ocean interactions in the Arctic, a topic which will be covered in EMB's upcoming flagship publication, Navigating the Future VI, that focuses on the marine science required to help us in understanding wider Earth systems.

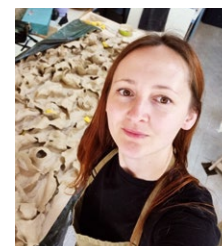


March 2023: Experiences from EMB Young Ambassadors: Connecting research with marine policy and society

In this webinar, outgoing EMB Young Ambassadors discussed their research and experiences as Young Ambassadors. **Rebecca Zitoun** focused on her experiences connecting research with marine policy and society and **Anjali Gopakumar** spoke about the lessons she learnt and introspections from an ECOP.

April 2023: EMBracing the Ocean artists-in-residence: Enabling Ocean sustainability through creative collaboration

EMBracing the Ocean artists for 2022-2023 **Michael Begg**, an experimental composer and sound artist based in Scotland, and **Lera Litvinova**, a Ukrainian visual artist and art curator, spoke about how their projects developed as part of the residency in collaboration with Ocean scientists. Michael developed a series of musical compositions called 'Sounding the ice factory' and Lera created ceramic art pieces accompanied by text and video as part of her series 'Under the surface'.



June 2023: Ecosystem effects of offshore windfarms: understanding and use for a sustainable future

During this webinar, **Beth Scott**, Professor in Marine Ecology at the University of Aberdeen, spoke about the ecosystem effects of offshore windfarms, linked to EMB Future Science Brief No. 9 on 'European offshore renewable energy: Towards a sustainable future'.

⁷ <https://www.marineboard.eu/science-webinars>

⁸ <https://www.youtube.com/channel/UCcBGY9lckBVRijeW-0a1CsQ>



July 2023: Interdisciplinary collaborations in marine social science

Interdisciplinary research is increasingly called for to solve global challenges, and this webinar addressed how natural scientists can collaborate with social scientists to develop effective research projects. The webinar featured short talks from nine (social) scientists from the Marine Alliance for Science and Technology for Scotland (MASTS): **Kay Barclay, Vincent Onyango, Remi Diaz, Meriwether Wilson, David Paterson, Beth Scott, Tim Stojanovic, Daniela Diz** and **Tavis Potts**.

September 2023: The impact of deoxygenation in the Black Sea on ecosystem services: insights from BRIDGE-BS expeditions

Mustafa Yücel spoke about 'The impact of deoxygenation in the Black Sea on ecosystem services: insights from BRIDGE-BS expeditions', which links to EMB Future Science Brief No. 10 on 'Ocean Oxygen: The role of the Ocean in the oxygen we breathe and the threat of deoxygenation' and the Horizon 2020 BRIDGE-BS Project in which EMB also participates.



October 2023: Online launch of EMB Position Paper No. 27: Building Coastal Resilience in Europe

During this webinar the new Position Paper on 'Building Coastal Resilience in Europe' was launched. The key messages were presented by **Sebastian Villasante**, Chair of the Working Group, followed by a panel discussion with **Ivan Conesa Alcolea** (DG RTD) and a Q&A with members of the Working Group. This Position Paper on 'Building Coastal Resilience in Europe' presents key policy and scientific recommendations on how to build coastal resilience and enhance capacity to cope with impacts from climate change and other pressures on the coast.

November 2023: Building coastal and marine resilience in Ireland: a community perspective

Eugene Farrell, lecturer in Geography at the University of Galway, Ireland, gave a talk about 'Building coastal and marine resilience in Ireland: a community perspective', which linked to EMB's newest Position Paper No. 27 on 'Building Coastal Resilience in Europe'.



December 2023: Sailing for oxygen - how citizen science can help understand Ocean deoxygenation

This webinar, linked to the Future Science Brief No. 10 on Ocean Oxygen, featured the citizen science Project 'Sailing for oxygen - how citizen science can help understand Ocean deoxygenation', presented by **Toste Tanhua**, a Senior Scientist at GEOMAR, Germany and chemical oceanographer.

ECOP WEDNESDAYS WEBINARS

In July 2022, the EMB Young Ambassadors started the ECOP Wednesdays Webinar series, which is aimed specifically at the EMB ECOP Network and focuses on the European and international marine science-policy landscape.

These one-hour webinars are hosted by EMB's Young Ambassadors, held over lunch on the first Wednesday of the month, and include presentations from professionals within the broad landscape of marine science-policy. These events give attendees a chance to learn about this complex landscape and an opportunity to interact with professionals during the discussion session.

The following list provides an overview of the webinars that took place in 2023. You can find more information on the EMB website⁹ and watch all presentations on the EMB YouTube Channel¹⁰.

February 2023: A Space to Connect - Ocean ArtScience Collaborations for a Shared Future



Julia Jung, transdisciplinary Ocean scientist, and **Aleksandra Cherkasheva**, satellite oceanographer, gave a talk about Ocean art-science collaboration. **Julia** outlined their journey from natural sciences to the ArtScience world, while **Aleksandra** showcased some of the artworks produced during the Exquisite Corpse Project in which they both participated.

March 2023: Experiences including socioecological knowledge from Spanish and west African stakeholders

During this webinar, **Marcos Llope**, a researcher at the Spanish Institute of Oceanography (IEO-CSIC), and EMB Young Ambassador **Alfredo Garcia de Vinuesa** shared their experience of working on several projects together with stakeholders to gain socioecological knowledge about marine socio-ecosystems, integrating ecosystems characteristics with human impacts and sociological information.



April 2023: The pursuit of deep seabed mining in the face of uncertainties



Pradeep Singh, Fellow at the Research Institute for Sustainability, Helmholtz-Centre Potsdam (RIFS), highlighted the many uncertainties that currently exist in the pursuit of deep seabed mining and provided an update from the meeting of the Council of the ISA in March 2023.

May 2023: The Oceanicas Initiative

This webinar featured **Maria del Carmen Garcia Martinez**, the Director of the Oceanographic Centre of Malaga, who presented the Spanish Oceanicas Initiative. This initiative seeks to highlight and disseminate the work of pioneering women in Oceanography.



July 2023: From a research project to a policy management tool



Young Ambassador **Riwan Leroux** shared information on the PROTECT Project 'impact indicators in a deeP- sea maRine prOtecTed arEa and reCommendations for management', which plans to co-construct management strategies by working at the intersection between research and public policy.

⁹ <https://marineboard.eu/ecop-wednesdays-event-series>

¹⁰ <https://www.youtube.com/channel/UCcBGY9lckBVRijeW-0a1CsQ>

August 2023: The Wild Postcard Project - Local biodiversity through the art of children



The founders of 'The Wild Postcard Project', **Eileen Diskin** from University College Dublin and **Angela Stevenson** from GEOMAR in Germany shared details on their project which aims to inspire people of all ages to engage with their own local biodiversity, and to shift perceptions in order to address the lack of awareness.

September 2023: How to make EU politics understandable and accessible for young people

Quentin Deschandelliers, an MEP (Member of European Parliament) assistant and lobbyist, shared his experience on how to make EU politics understandable and accessible for young people.



November 2023: Experiences of engaging as a youth and early career marine researcher in science-policy-society interfaces



This webinar featured **Marie-Morgane Rouyer**, a PhD candidate at the University of Montpellier, France, who shared her experience, engaging as an early career marine researcher mostly through the Global Youth Biodiversity Network.

December 2023: Ocean, society and anachronism

Ricardo Serrão Santos explored the multifaceted relationship between humans and the Ocean in his lecture 'Ocean, society and cultural anachronism', and shared his experience on transitioning from science to politics, how his beliefs about the importance of the Ocean were questioned, and how the Ocean awareness has increased since 2015.



EMB PUBLICATIONS IN 2023

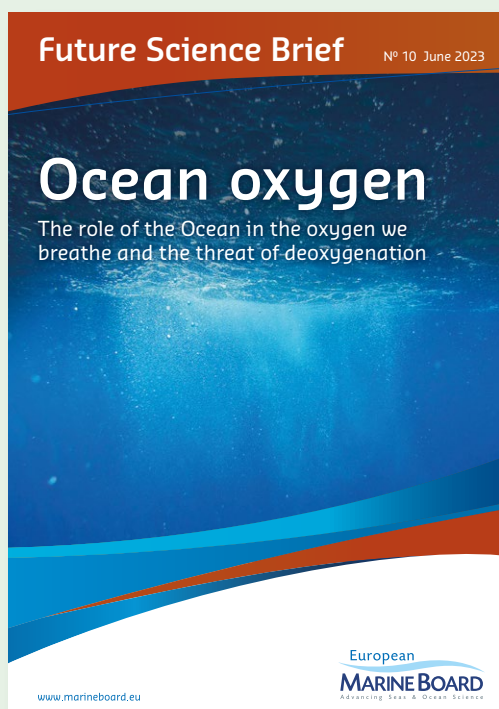
EMB has an outstanding reputation as a provider of high-quality science-policy advice. Our publications are designed for a non-technical audience, providing recommendations for future research and capacity building which can be addressed by European and national funding mechanisms.

European offshore renewable energy: Towards a sustainable future



EMB Future Science Brief No. 9 provides an overview of the technology and European deployment status in the offshore renewable energy sector. It discusses the environmental and socioeconomic considerations, and presents the key knowledge, research, and capacity gaps that must be addressed to ensure sustainable delivery of the EU Green Deal. It closes with key policy, research, capacity, and data recommendations to take the sector forward.

Ocean Oxygen: The role of the Ocean in the oxygen we breathe and the threat of deoxygenation



EMB Future Science Brief No. 10 highlights the most recent science on Ocean oxygen, including causes, impacts and mitigation strategies of Ocean oxygen loss, and whether “every second breath we take comes from the Ocean”. It closes with key policy, management and research recommendations to address Ocean deoxygenation and communicate more accurately about the role of the Ocean in Earth’s oxygen.

Blue Carbon: Challenges and opportunities to mitigate the climate and biodiversity crises



Blue Carbon ecosystems are a Nature-based Solution that can help mitigate the climate and biodiversity crises, while stabilising livelihoods, protecting coasts, and supporting other societal needs such as food security from the Ocean. EMB Policy Brief No. 11 describes different types and benefits of Blue Carbon ecosystems, and discusses uncertainties and challenges for the conservation and restoration of Blue Carbon ecosystems as a climate change solution. The document also highlights the wider role of the Ocean in mitigating climate change through the carbon cycle, and closes with key research and management recommendations.

Building Coastal Resilience in Europe



European coasts face multiple, interacting and cumulative pressures including those resulting from increasing greenhouse gas emissions (e.g. sea-level rise, Ocean warming, Ocean acidification, extreme events) and localised activities such as fishing, aquaculture, waste disposal and coastal urbanisation. These create a unique set of context-specific issues that need to be addressed holistically using a systems approach, considering the dynamics between both coastal societies and ecosystems as part of interconnected social-ecological systems. EMB Position Paper No. 27 'Building Coastal Resilience in Europe' presents key policy, scientific and community recommendations on how to build coastal resilience and enhance capacity to cope with impacts from climate change and other coastal pressures.

All EMB publications are available on the EMB website¹¹ or you can request hard copies via the EMB Secretariat: info@marineboard.eu

¹¹ <https://marineboard.eu/publications>



Ongoing thematic activities

BLUE CARBON

At the 2022 Autumn Plenary meeting, the Board voted for Blue Carbon as the next EMB activity topic. Since it was appropriate to publish this document soon in time to feed into other initiatives, the EMB decided to publish a Policy Brief on this topic, written by the speakers from the Open Session of the EMB Autumn Plenary of 2022 and an additional EMB-affiliated Working Group member to ensure Mediterranean representation. The Working Group (WG) was chaired by Executive Director **Sheila Heymans** and the WG members included: **Jean-Pierre Gattuso** (CNRS, France), **Natalie Hicks** (University of Essex, UK), **Peter Landschützer** (VLIZ, Belgium), **Griet Neukermans** (University of Gent, Belgium), and **Hans-Otto Pörtner** (AWI, Germany).

The Working Group kick-off meeting took place in January 2023, and they aimed to provide a concise overview of Blue Carbon, describing what Blue Carbon is, the benefits of Blue Carbon, the role of the Ocean in the carbon cycle, examples and benefits of Blue Carbon ecosystem in Europe, and uncertainties on their conservation and restoration for climate change, and including recommendations relevant for policy and future research funding.

The publication was reviewed during the summer of 2023 and was published and launched in October 2023 at the EurOCEAN Conference (see p. 18).

Ana Rodriguez was the Science Officer supporting this WG.

More information can be found on the EMB website: <https://marineboard.eu/blue-carbon>



WG Member Natalie Hicks, EMB Executive Director Sheila Heymans and Science Officer Ana Rodriguez during the publication launch at the EurOCEAN 2023 Conference.

Credit: © EMB Young Ambassadors

MARINE HABITAT MAPPING

The Working Group (WG) on Marine Habitat Mapping is chaired by **Simonetta Fraschetti** (UNINA, Italy) and co-chaired by **James Strong** (NOC, UK) and includes 12 WG members (see Annex 3). The Working Group kicked off in April 2022, hosted by the Anton Dohrn Zoological Station in Naples, Italy. During 2023, the WG held monthly online meetings and a full draft of the document was developed.

The rationale for the document stems from the recognition that despite many efforts in marine habitat mapping, the distribution and extent of many habitats is poorly known, especially in the deep sea, and our knowledge of the status of these systems is extremely limited. This shortfall stems from the technical difficulties of observing and mapping species and habitats in a cost-effective manner, which are highlighted in the document. Spatial and thematic gaps in marine habitat mapping translate into critical consequences in terms of sustainable planning of human uses of the marine environment, and conservation and restoration prioritisation. This Future Science Brief describes current and future trends, gaps, challenges and priorities to reach an ecosystem approach to mapping. It covers the acquisition of data from the seabed and water column via remote-sensing and ground-truthing techniques for the creation of marine habitat maps, combining data to produce maps using modelling approaches, and the challenges of adopting fit-for-purpose classification schemes. It provides an overview of what has been mapped and where across the European sea-basins, and highlights the critical gaps in geographic extent and habitat types including the deep-sea, Natura2000 sites and Marine Protected Areas, particularly in the Mediterranean Sea. Finally, it also describes future needs for assessing and communicating uncertainty and confidence in maps, and for increasing the dissemination of maps to increase their value for end-users and to the public for increasing Ocean Literacy.

On 29 June 2023, the WG Chair, **Simonetta Fraschetti**, presented the preliminary recommendations from the document at the SEARica event 'The marine dimension of the Nature Restoration Law'¹², held at the European Parliament in Brussels. The event was held the week before the vote on the new Nature Restoration Law in order to discuss the feasibility of the marine aspects of the proposal. On 15 December a further informal meeting was held online with representatives from DG Environment and the WG Chairs to discuss the mapping needs of marine habitats in light of the new requirements of the Law.



WG Chair Simonetta Fraschetti at the SEARica Event in Brussels, Belgium.

The Future Science Brief is expected to be launched in spring 2024. **Britt Alexander** is the Science Officer supporting this WG.

More information on this WG and the publication is available on the EMB website: <https://www.marineboard.eu/marine-habitat-mapping>

¹² <https://www.searica.eu/maritime-focusses/biodiversity-and-ocean-literacy/searica-event-on-the-marine-dimension-of-the-nature-restoration-law>

NAVIGATING THE FUTURE VI

EMB's flagship publication series, *Navigating the Future*, provides foresight and strategic direction to marine science in Europe and internationally. The last edition, 'Navigating the Future V: Marine Science for a Sustainable Future' was published in 2019, and provides robust, independent scientific advice on future seas and Ocean research from now until 2030 and beyond.

In 2022, the EMB considered it timely to begin working on the sixth edition of the *Navigating the Future* series. *Navigating the Future VI* aims to take a holistic perspective to highlight the science needed to understand the links between the Ocean and the global Earth system, society, and public policy, so that knowledge about the Ocean can take a central role in planning for a sustainable future. In short, it aims to highlight the Ocean's place in the world. The Position Paper is structured around four key chapters: Ocean and People; Ocean and Climate; Ocean and Fresh Water; and Ocean and Biodiversity, selected due to their link to policy interests at national, European, and international level, and their transdisciplinary nature.

The Position Paper is developing recommendations for knowledge-based solutions to address key societal challenges on how humanity can live in harmony with the Ocean. It will provide recommendations on how to close knowledge gaps on these fundamental aspects of marine science and how to make these discoveries visible and understandable to policymakers, industry, and society.

The Working Group (WG) kick-off meeting took place in October 2022, and during 2023 the WG progressed writing on the different chapters. The WG, consisting of 33 members (see Annex 3), is being chaired and co-chaired by EMB Chair **Gilles Lericolais** and Executive Director **Sheila Heymans**. At the end of 2023, the Secretariat started the final editing to prepare for internal and external review. The Position Paper is expected to be published in mid-2024.

More information on this WG and the publication is available on the EMB website: <https://www.marineboard.eu/navigating-future-vi>



All in-person attendees during the NFVI kick-off meeting in Ostend, Belgium.

Credit: © EMB

DEEP SEA AND OCEAN HEALTH

The Working Group (WG) on Deep Sea and Ocean Health is chaired by **Sylvia Sander** (GEOMAR, Germany), the Co-Chair is **Christian Tamburini** (Mediterranean Institute of Oceanography, France), and the WG includes 11 members (see Annex 3).

In 2022, the EMB considered it timely to revisit the topic of the deep-sea environment, to take stock of where we are, to highlight the progress that has been made since the publication of its Position Paper No. 22 on 'Delving Deeper: Critical challenges for 21st century deep sea research' in September 2015, and to make recommendations to take deep-sea research forward.

In February 2023, a kick-off meeting of the WG took place at the InnovOcean campus in Ostend, Belgium and the WG has continued to meet online throughout the year.

The aim of this Future Science Brief is to outline the fundamental knowledge gaps, the challenges of exploring and understanding the deep sea, and to provide an overview of the human impacts to the deep sea, while delivering future recommendations in relation to the deep-sea research and management. This document does not focus on any specific sector or field but take a holistic view of the deep sea. It highlights how the deep sea contributes to overall Ocean health, and what research is needed to ensure sustainable management of its resources.

Ángel Muñiz Piniella is the Science Officer supporting this WG.

More information on this WG and the publication is available on the EMB website: <https://www.marineboard.eu/deep-sea-and-ocean-health>



Members of the EMB WG Deep Sea and Ocean Health at the kick-off meeting in Ostend, Belgium.

Credit: © EMB

European projects and external interactions

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



Dover, United Kingdom.

Credit: © EMB

EuroSea, on ‘Improving and Integrating European Ocean Observing and Forecasting Systems for Sustainable use of the Oceans’, was a €12.6m project funded under the EU Horizon 2020 programme. It was coordinated by GEOMAR

Helmholtz Centre for Ocean Research in Kiel, Germany, and involved 55 partners from 16 countries, including partners in Brazil and Canada. The Project ran from November 2019 until December 2023 and aimed 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 strengthened the European and Global Ocean Observing System (EOOS and GOOS) and increased the technology readiness levels (TRL) of critical components of Ocean observations systems and tools.

The EMB Secretariat completed all its tasks, which were: leading on the Foresight on Ocean Observations in Work Package 1, in collaboration with EuroGOOS, IOC-UNESCO and GEOMAR, participating in the bi-monthly WP1 coordination meetings and being part of the Gender and Diversity Board, which met virtually as needed.

The EMB Secretariat organised a foresight workshop on the Sustainability of the Ocean Observation system on 15-16 March 2023 at the Museum of Natural Sciences in Brussels, Belgium. The outcomes of this workshop are key recommendations for mechanisms to sustainably fund and coordinate Ocean observation, prediction, and information delivery in Europe. These informed the Framework of the European Ocean Observing System (EOOS) as part of the EuroSea Project. The report is on the EMB website¹³.

The final EuroSea meeting took place on 19-22 September 2023 at the UNESCO headquarters in Paris, France. The EuroSea Final General Assembly, on 21 September was followed by the EuroSea Symposium on Ocean Observing and Forecasting. This high-level gathering brought together policy, science, and industry stakeholders to discuss and formulate strategies on sustainable Ocean observing and forecasting. With over 160 registrations, the event was a standing testament to Europe’s strong commitment to strengthening the Ocean observing and forecasting infrastructures, governance, and dialogue with the users of marine space and resources. It ended with the publication of the EuroSea Declaration¹⁴: a commitment to advancing ocean observing and forecasting. This Declaration signifies a united effort among global stakeholders to address critical Ocean challenges and ensure the sustainable future of our Ocean.



Participants of the EuroSea foresight workshop ‘Ensuring accurate climate related predictions in Europe in 2035’ in Brussels, Belgium.

Credit: © EMB

As the EuroSea Project concluded, the Legacy Report¹⁵ was released to not only commemorate its achievements but also to set the stage for a more effective, efficient, and impactful future in Ocean observing and forecasting. The findings, recommendations, and best practices outlined in the report offer valuable insights for advancing marine knowledge and sustaining a science-based blue economy on a global scale. Information about the EuroSea Project can be found at: <https://eurosea.eu/>

¹³ <https://marineboard.eu/publications/report-foresight-workshop-ensuring-accurate-climate-related-predictions-europe-2035>

¹⁴ <https://eurosea.eu/new/eurosea-declaration-for-ocean-observing-and-forecasting/>

¹⁵ <https://eurosea.eu/new/eurosea-legacy-report-unveils-transformative-impact-on-european-ocean-observing-forecasting/>



The EMB Secretariat participates in the H2020 Project BRIDGE-BS, which aims to enhance the science-based policy in the Black Sea region to develop blue growth while maintaining and protecting resilient ecosystems. The Project is led by the Middle East Technical University, Türkiye, and includes 33 partners. It runs from 1 June 2021 until 30 November 2025. The Project is developing predictive tools and capabilities to understand and predict the impacts of climate-driven and anthropogenic multi-stressors on the services stemming from Black Sea ecosystems. These services and their responses to stressors are being mapped, monitored and modelled in order to identify a safe operating space within which a sustainable blue economy can flourish.

The EMB Secretariat contributes to Work Package (WP) 8 'Science-based policy making for Blue Growth' led by the International Center for Black Sea Studies (ICBSS) and the Technological Centre of the Sea (CETMAR). The objectives of WP8 are to ensure the uptake of the science developed within BRIDGE-BS by engaging policy stakeholders, strengthening the science-policy nexus, and to contribute to science-based policy making for blue growth in the Black Sea. The EMB Secretariat leads a sub-task that will produce an International Policy Brief on 'Reinforcing the implementation of marine EU and international policies in the Black Sea region', which will be published at the end of 2025. This will build on the key outputs of the Project, such as new predictive tools, recommendations for ecosystem-based adaptive management, and safe operating boundaries/ecosystem limits for sustainable blue growth.

On 29 March 2023, EMB Secretariat Members **Sheila Heymans** and **Britt Alexander** attended the BRIDGE-BS 'Science-Policy Dialogue Forum for a Sustainable Blue Economy in the Black Sea' in Thessaloniki, Greece. They moderated and facilitated the session on multi-stressors, which feeds into the science-policy work in WP8, and they wrote a workshop summary based on the discussions.

On 27-29 September 2023, Sheila and Britt attended the second Project General Assembly in Ankara, Türkiye, during which they facilitated a scoping workshop with work package leads as a first step in the development of the BRIDGE Policy Brief. The aim of the workshop was to brainstorm on the links between the key results emerging from the BRIDGE-BS Project and their contribution to progress on critical EU and international policy initiatives.



Credit: © Bridge-BS

Executive Director Sheila Heymans presenting at the BRIDGE-BS Science-Policy Dialogue Forum in Thessaloniki, Greece.

More information about the BRIDGE-BS Project can be found here: <http://bridgeblacksea.org/>



EcoScope (Ecocentric Management for sustainable fisheries and healthy marine ecosystems) is a Horizon 2020 Project that started in September 2021 and will run until August 2025, with a budget of €7.9m. The Project is coordinated by Aristotle University of Thessaloniki, Greece and involves

24 partners from 17 countries. The aim of EcoScope is to promote effective ecosystem-based fisheries management by developing easy to use e-tools that can be used to explore different management options and their consequences in the full ecosystem context. The Project will produce an interoperable EcoScope Platform and a robust decision-making EcoScope Toolbox, available through a single public portal.

The EMB Secretariat leads Work Package (WP) 8 on 'Interaction with stakeholders and capacity building'. The main tasks involve stakeholder mapping, stakeholder management planning, and identifying the needs of policymakers and stakeholders through three strategic workshops and targeted surveys. The EMB Secretariat also participates in WP7 'Assessing societal expectations and economic values', where we will lead a task on writing a Policy Brief on community preferences, in WP5 'Assessing the ecosystem and its components', in WP1 'Project management' and WP10 'Dissemination and visibility'.

In 2023, **Ana Rodriguez** published a paper in the journal *Frontiers in Marine Science* on 'Using ecosystem models to inform ecosystem-based fisheries management in Europe' linked to WP8. The paper was co-authored by **Sheila Heymans** and other consortium members. The paper ensures that the valuable insights obtained during the stakeholder engagement events and the policy review reaches a wider audience. Ana also wrote an article for the EcoScope newsletter¹⁶ on the end-user focussed approach of the work being done in EcoScope.

Sheila Heymans continued with the organisation of the Ecopath 40 Years¹⁷ conference and courses, which will take place on 3-8 June 2024 at the InnovOcean Campus in Ostend. This conference is very relevant to EcoScope because the ecosystem models which the project is developing are based on Ecopath with Ecosim.

The EMB Secretariat have also participated in the steering committee meetings and supported outreach and communication activities by providing content for the EcoScope newsletter.

More information about the EcoScope Project can be found here: <https://ecoscopium.eu/>

¹⁶ <https://ecoscopium.us21.list-manage.com/track/click?u=d49d1dd9dd479226794d7a902&id=45a1f984e8&e=6fe7577d70>

¹⁷ <https://www.ecopath40.org/>

EMODNET TENDER IN SUPPORT OF EOOS

From January 2022 until December 2023, the EMB Secretariat was involved in the follow-up tender EMODnet Phase IV, led by Seascope Belgium Consultants. This is directly linked to EMB's work on the EOOS Framework (see p. 43).



In 2023, the EMB Secretariat supported the EMODnet Secretariat with a targeted assessment, where the EMB performed a desk study on the Regional Sea Convention/Regional sea-basin coordination of joint monitoring/Ocean observation and attended complimentary interviews with each sea convection secretariat.



Executive Director Sheila Heymans presenting at the EMODnet Open Conference in Brussels, Belgium

The EMB Secretariat also supported the EMODnet Open Conference, which took place on 29-30 November in Brussels, as rapporteurs of the parallel Townhall Sessions. Executive Director Sheila Heymans was invited as a speaker during one of the Townhall Sessions on 'EMODnet, EU Mission Ocean and wider society'.

ERASMUS+ FLORES



FLORES is an ERASMUS+ Project that kicked off in January 2023 and will run until December 2024, with a total budget of €700,000. The project is coordinated by CETMAR, Spain. The project feeds into the European Pact for Skills for Offshore Renewable Energy, promoting a strong and large-scale partnership to upskill and reskill Europeans from all career stages to boost the Offshore Renewable Energy sector.

EMB's tasks mainly involve the dissemination of and discussion on the recommendations that were made in the Future Science Brief No. 2 on Training the 21st Century Marine Professional, as well as those from the recently published Future Science Brief No. 9 on Offshore Renewable Energy, which link specifically to training and capacity building needs for this sector. Further, EMB will promote the link between the project and the marine science research community and support dissemination and communication of the project and its outputs. In 2023, **Paula Kellett** attended the FLORES side-events online during the Galician Offshore international Hub on 2 March 2023, where the main outputs of the two EMB publications were presented to project partners.

More information about the FLORES Project can be found at: <https://oreskills.eu/>



Credit: © Norbert Pietsch, Pixabay

RHE-MEDIATION

From July 2023 until May 2026, the EMB Secretariat participates in the Mission Ocean Mediterranean Lighthouse Project RHE-MEDIation. The Project has a total budget of ca. €7.0m and aims to provide tools and methodologies to destress the Mediterranean Sea from chemical pollution. The Project is coordinated by RINA, Italy.



EMB is leading subtask 6.3 on 'Scaling up governance through bottom-up knowledge transfer from local through National to European level'. Within this task, EMB will collate the results from the Project sites (in Italy, Greece and Türkiye) into a policy document that will showcase the outcomes of the project and its importance to the Marine Strategy Framework Directive, the Water Framework Directive and the Urban Waste Water Treatment Directive. This document will be translated into relevant languages to inform national implementation. This document will also be relevant to other sea-basins, to replicate the Mediterranean Lighthouse results to other basins.



Credit: © EMB

The RHE-MEDIation photobioreactor (prototype), a microalgae-based technology to integrate in existing cleaning systems and plants to prevent the polluted waters with heavy metals, PFAS, pharmaceuticals and pesticides, from being discharged through river catchments from urban households and industrial facilities.

EMB will also engage in subtask 8.4 on 'Regulatory assessment and contribution to EC Directives' by liaising with other consortium partners and feeding back relevant information to the Directorate-General for Environment from the European Commission to ensure ongoing awareness of the Project, its results and outputs, and its relevance for EU Directives.

Science Officer **Ángel Muñoz Piniella** will be the main person responsible for the EMB tasks within the Project.

More information about the RHE-MEDIation Project can be found here: <https://rhemediation.eu>

TARGETED INTERVENTIONS



**2021
2030** United Nations Decade
of Ocean Science
for Sustainable Development

UN Ocean Decade of Ocean Science for Sustainable Development

The United Nations Decade of Ocean Science for Sustainable Development¹⁸ (Ocean Decade) runs from 2021-2030. As an Ocean Decade Implementing Partner for Europe, the European Marine Board has committed to support the Ocean Decade through various activities and events, and ensures that its activities support the goals and challenges of the initiative.

The Secretariat closely coordinates with fellow European Implementing Partners, as well as the Ocean Decade Unit of IOC through regular meetings, to ensure complementarity between the different activities.

A full overview of the EMB Secretariat's Ocean Decade related activities in 2023 is listed below.

EMB Publications

Each EMB publication published in 2023 (see p. 26) includes a dedicated box highlighting in what way they contribute to the Ocean Decade challenges and objectives, and the documents are submitted for endorsement as an Ocean Decade activity.

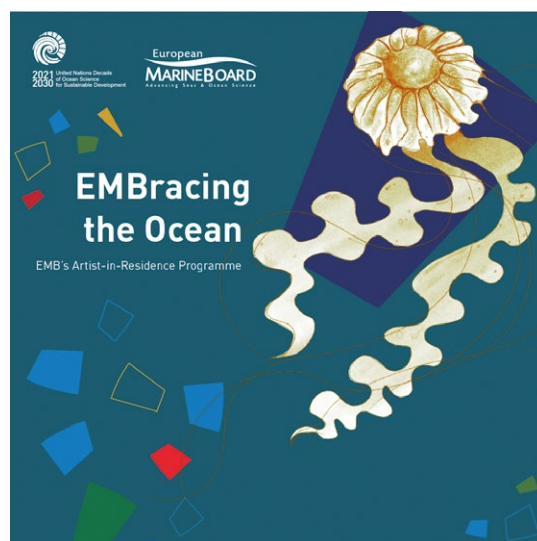
EMB Events

The marine-science policy conference, EuroOCEAN 2023 (see p. 18), that took place in Vigo, Spain in October 2023, was officially endorsed as an Ocean Decade activity and highlighted the synergies between the EU Mission: Restore our Ocean and Waters, the UN Ocean Decade and other initiatives.

EMBracing the Ocean programme

The EMBracing the Ocean programme is an endorsed Ocean Decade activity and provides €10,000 grants to artists from a wide range of disciplines to produce and disseminate new works through a co-creation process with Ocean scientists. The programme aims to raise societal awareness of the Ocean's value and inspire behavioural change for a sustainable future, while contributing new insight and/or perspectives to the scientific research process. The artist's tenancy runs from April for a full year.

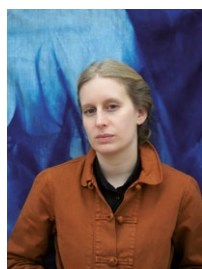
A second call for artists was opened in January 2023, and a total of 208 applications (65% female, 21% male, 1% non-binary and 12% other and undefined) were received from 45 countries worldwide. The EMBracing the Ocean Committee evaluated and selected the awardees based on criteria such as relevance and quality of previous work, quality of provisional ideas, potential for reaching as wide an audience as possible, potential for raising awareness of the Ocean, and for inspiring behavioural change towards sustainability.



Two artists were selected for a residency from April 2023-2024: **Sonia Levy**, a research-led visual artist, and **Studio ThinkingHand**, an art duo from Denmark.

¹⁸ <http://www.oceandecade.org/>

Sonia Levy: 'We Marry You, O Sea'



Sonia Levy's inquiry-led practice considers shifting modes of engagement with more-than-human worlds. During her residency, Sonia has developed a film on the Venetian Lagoon 'from below' in collaboration with local marine scientists from Stazione Idrobiologica Umberto D'Ancona, University of Padova where she spent time in a fieldwork residency. The film is entitled 'We Marry You, O Sea, as a Sign of True and Perpetual Dominion' and is composed of submerged footage collected when accompanying scientists and fishers on trips, directed by their research and knowledge on critical issues impacting the Lagoon socio-ecological system. The film premiered at a film festival in Venice and was exhibited locally in a science gallery and internationally in an art museum.

Through close exchanges with scientists from the Stazione, notably with Associate Professor **Alberto Barausse** participatory workshops will be held between January - March 2024 with local resource managers and policymakers using the submarine audiovisuals as a catalyst for co-creating epistemologies and strategies for the Lagoon's management.

Find out more about **Sonia Levy's** work on the EMB website: <https://marineboard.eu/sonia-levy>



Premiere of Sonia Levy's film at Cinema Galleggiante¹⁹ in Venice, Italy.

Credit: © Riccardo Barfi, Cinema Galleggiante 2022 (Henrik Hakansson).

Studio ThinkingHand: 'Deep Time'

Studio ThinkingHand is an art duo formed by **Rhoda Ting** and **Mikkel Dahlin Bojesen**, based in Denmark. Combining science, technology and industry, their works make stories visible looking at life beyond the human gaze. During their residency, Rhoda and Mikkel have been working with Ocean floor sediment from extreme environments, predominately in collaboration with Professor **Giuliana Panieri** and other scientists from the Department of Geosciences at the Arctic University of Norway. They dry these sediments into a powder, fold it into molten glass and create glass cores from those sediment samples to research the diversity of organic matter and mineral content with varying locations, seasons, depths and ecosystems.

Find out more about the work of **Studio ThinkingHand** on the EMB website: <https://marineboard.eu/studio-thinking-hand>



Art duo Mikkel Dahlin Bojesen and Rhoda Ting looking at the glass cores created from sediment samples.

Ocean Decade Newsletter

The EMB Secretariat continued to send out the Ocean Decade newsletter every 3 months to highlight the EMB Secretariat activities related to the Ocean Decade as an Implementing Partner. The newsletter also includes the endorsed activities of EMB Members and fellow European Implementing Partners, as well as other relevant news related to the Ocean Decade. As of December 2023, the newsletter had 618 subscribers.

You can subscribe to the EMB Ocean Decade newsletter via the EMB website: <https://www.marineboard.eu/emb-newsletter>

¹⁹ <https://www.ocean-space.org/activities/cinema-galleggiante-3>

EU MISSION: RESTORE OUR OCEAN AND WATERS BY 2030

The EU Mission: Restore our Ocean & Waters²⁰ (Mission Ocean) is an initiative of the Horizon Europe Research and Innovation programme that runs from 2021-2027 to help achieve the marine and freshwater targets of the European Green Deal. The Mission Ocean Charter collates all voluntary contributions to the Mission Ocean's objectives to help their achievement by 2030.



The EMB Secretariat endorsed the Mission Ocean Charter in 2022, and has since then pledged actions to support the Mission Ocean objectives and enablers, which will contribute to the successful implementation of the Mission. All EMB Secretariat Mission-related activities and events in 2023 are listed here.

EMB publications

The contribution to the Mission Ocean objectives and enablers is highlighted within each EMB publication. The following publications were published in 2023:

- Future Science Brief No. 9: 'European offshore renewable energy: Towards a sustainable future' (April 2023). This publication contributes to the Mission Ocean Objectives 2 (prevent and eliminate pollution) and 3 (make the sustainable blue economy carbon-neutral and circular);
- Future Science Brief No. 10: 'Ocean oxygen: The role of the Ocean in the oxygen we breathe and the threat of deoxygenation' (June 2023). This publication contributes to the three Mission Ocean Objectives and to Enabler 2 (public mobilisation and engagement);
- Policy Brief No.11 'Blue Carbon: Challenges and opportunities to mitigate the climate and biodiversity crises' (October 2023). This publication contributes to Mission Ocean Objective 3 (make the sustainable blue economy carbon-neutral and circular); and
- Position Paper No. 27: 'Building Coastal Resilience in Europe' (October 2023). This publication contributes to the three Mission Ocean Objectives and to the two Mission Ocean Enablers

EMB events

The EurOCEAN 2023 Conference (see p.18), that took place in Vigo, Spain in October 2023, highlighted the synergies between the Mission Ocean and the Ocean Decade. The conference contributed to all three Mission objectives and to the two Mission Ocean Enablers.



EMB Chair Gilles Lericolais, President of the Port of Vigo Carlos Botana and Elisabetta Balzi, Head of EC Unit Ocean, Seas and Waters at the EurOCEAN 2023 Conference.

Inspired by the conference, the President of the Port Authority of Vigo, **Carlos Botana**, signed the Mission Ocean Charter at the EurOCEAN 2023 conference, in the presence of **Elisabetta Balzi**, Head of Unit Healthy Seas and Ocean, DG RTD.

²⁰ https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/restore-our-ocean-and-waters_en

EMBracing the Ocean programme

The EMB's artists-in-residence projects from the EMBracing the Ocean programme 2022-2023 (see p. 39) contribute to the Mission Ocean objectives and enablers.

- **Studio ThinkingHand:** Danish-based visual art duo Rhoda Ting and Mikkel Dahlin Bojesen's project on 'deep time' to create glass sculptures from marine sediment contributes to the Mission Ocean enabler 'Public mobilisation and engagement'.
- **Sonia Levy:** London-based visual artist Sonia Levy's project on viewing the Venice Lagoon 'from below' contributes to the Mission Ocean enabler 'Public mobilisation and engagement'.

Communication & other

In 2023, the EMB Secretariat continued to spread the message of the Mission Ocean widely by highlighting Mission Ocean-related news in the weekly EMB newsletter (see p. 46), and by making all Mission-related activities from the EMB Secretariat and Members available on the EMB website: <https://marineboard.eu/emb-and-eu-mission>

Additionally, the EMB Secretariat participated in the following events and activities:

- Executive Director **Sheila Heymans** gave a keynote on 'Citizens at the heart of the Mission' at the 1st Annual Mission Ocean Forum (17 February 2023);
- Science Officer **Paula Kellett** participated in the EMODnet video²¹ outlining their support for the EU Mission Ocean (17 February 2023);
- Executive Director **Sheila Heymans** gave a presentation on 'European Marine Science and the Mission: Restore our Ocean and Waters by 2030' and participated in the subsequent panel discussion of an Ocean Mission webinar organised by UK Research and Innovation (UKRI) (10 March 2023);
- Executive Director **Sheila Heymans** participated in the Ocean Decade Digital Ocean Forum in Brussels, and was on a Round Table Panel on the Societal Aspects, ethics and responsibility of the EU DTO (14-15 June 2023); and
- Executive Director **Sheila Heymans** gave a talk at the Townhall meeting on the Mission of the EMODnet Open Conference on Perspectives on the EU Mission (29 November 2023).



Credit: © Lalo R. Vilar

²¹ <https://www.youtube.com/watch?v=d-qVjPIOHvg>

OCEAN OBSERVING



European
Ocean
Observing
System

Since 2015, EMB and EuroGOOS have been working together to promote and facilitate the establishment of the future European Ocean Observing System (EOOS) with a framework to strengthen coordination. Since September 2017, EMB is also a partner in the

implementation of EMODnet, specifically supporting the development of the European Ocean Observing System by promoting Stakeholder Dialogue. From January 2022 until December 2023, EMB was involved in the EMODnet Phase IV workplan to continue supporting this line of activities (see p. 37).

On 2 March 2023, the EOOS Strategy and Roadmap for Implementation for 2023-2027 'Advancing EOOS - the foundation of European Ocean knowledge' was officially launched during an online event moderated by **Sheila Heymans**, and included contributions from representatives from the European Commission (DG RTD and DG MARE), and some users of Ocean Observations. EOOS' Vision is of a European Ocean Observing System that is sustained and meets the specific needs of users. The Strategy 2023-2027 sets out the direction for development of EOOS in the coming period as it transitions from the successful initiation stage of networking and structuring towards a sustained operational phase with concerted implementation activities.

The EOOS Steering Group met on 4 April and 27 October to discuss the need for updating the EOOS governance after the launch of the new Strategy and the implementation activities for 2023. The EOOS Operations Committee met on 9 March to discuss their activities, and a joint meeting between the EOOS Operations Committee and the EOOS Resource Forum took place on 28 November 2023. The Advisory Committee was also invited to this meeting as observers.

More information is available on the EMB website and EOOS website:

<https://marineboard.eu/eoos-european-ocean-observing-system>

<https://www.eoos-ocean.eu/>





EMB panels

EUROPEAN MARINE BOARD COMMUNICATION PANEL

The EMB Communication Panel (EMBCP) provides a pan-European platform for marine science communicators to promote EMB activities, to synergise outreach activities, and to advocate Ocean Literacy. In 2023, 20 Members from 14 countries were part of EMBCP.

In 2023, the EMBCP focused on co-developing the programme for the CommOCEAN conference in 2024, which will take place in Málaga, Spain. In addition, the EMBCP welcomed new members representing TÜBİTAK (Türkiye) and the newest EMB member, the Cyprus Marine & Maritime Institute (CMMI). **Maria del Carmen García Martínez** (IEO-CSIC) was re-elected as Chair with a mandate until Spring 2025.

The EMBCP met twice in 2023: online on 19 April and in person on 23-24 October, hosted by the Institute of Oceanography and Fisheries in Split, Croatia.

You can find out more about this Panel on the EMB website:

<https://www.marineboard.eu/embcnp>



In person participants at the EMBCP Autumn 2023 meeting in Split, Croatia.

Communication and outreach

The EMB uses a variety of channels to reach its stakeholders, including disseminating publications at conferences, media campaigns for EMB events, and online outlets including Twitter/X, Facebook, LinkedIn, Instagram, YouTube, newsletters, and the EMB website.

EMB website

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

In 2023, the website was visited 65,771 times, with visitors from 199 countries. There were 9,081 downloads of EMB documents and others from the EMB website, of which the top five were:



1. Future Science Brief No. 9 on 'Offshore Marine Renewable Energy' (703 downloads)
2. Policy Brief No. 11 on 'Blue Carbon' (630 downloads)
3. Position Paper No. 27 on 'Coastal Resilience' (519 downloads)
4. Future Science Brief No. 10 on 'Ocean Oxygen' (320 downloads)
5. Future Science Brief No. 7 on 'Underwater Noise' (157 downloads)

EMB newsletter

At the end of 2023 the full stakeholder list contained 1,940 subscribers, of which 822 are subscribed to the Message to the Board, EMB's weekly newsletter providing updates on the EMB Secretariat activities, as well as other events, news and job postings. You can subscribe to the EMB newsletter via the EMB website: <https://www.marineboard.eu/emb-newsletter>.

YouTube

Where possible, all EMB events (i.e. Science webinars, Open Forum) are live-streamed and available for re-play on the EMB YouTube Channel, along with various other outputs. The EMB YouTube channel continued to grow significantly, totalling 555 subscribers, and the number of views tripled over the last year, with a total of 14,690 views as of December 2023. To increase the reach and make the channel more inclusive, the Secretariat is making English subtitles available for videos and will continue to do so.



Follow EMB on YouTube here: <https://www.youtube.com/@europeanmarineboard9043>

Social Media Channels

The European Marine Board is active on different social media platforms, which we use to announce and promote EMB activities, to highlight relevant news and events from the marine science and policy communities, but also to enhance Ocean literacy. The accounts are used to communicate with and instantly update the Member organisations, other networks and individual stakeholders.

Twitter/X



10,400 followers

Instagram



1,204 followers

LinkedIn



1,268 followers

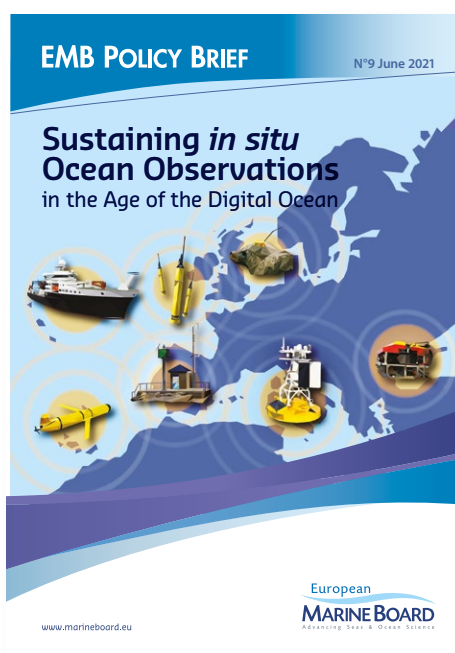
Facebook



929 followers

IMPACT FROM EMB PUBLICATIONS

The EMB Secretariat tracks the dissemination and impact of its documents for a period of at least two years after publication. The highlights are presented in a two-page infographic with easily accessible statistics. Below is an overview of the impact reports that were published in 2023.



Sustaining *in situ* Ocean Observations in the Age of the Digital Ocean

Policy Brief No. 9 on 'Sustaining *in situ* Ocean Observations in the Age of the Digital Ocean' was published in June 2021. This Policy Brief focuses on the benefits, funding and governance challenges, and the investment needed for the transformation and sustainability of *in situ* Ocean observations.

This document is the result of an *ad hoc* Working Group established by the European Marine Board to address this topic, in light of the UN Decade of Ocean Science for Sustainable Development, and the start of the Age of the Digital Ocean.

Full impact reports are available on the EMB website:
<https://www.marineboard.eu/publications/impact-reports>



Finances

The EMB annual budget is based on Member organisation contributions and external contracts, e.g. EU framework projects. The Flemish Government of Belgium, through the Flanders Marine Institute (VLIZ), provides an in-kind contribution to the EMB through the provision of office space, running costs and equipment at the InnovOcean campus in Ostend, as well as the employment cost of one Secretariat staff member. Member organisations 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 2023

	EUR
Member Contributions	446,000
FP drawdown on employment costs Staff time & direct costs related to external projects	158,473
Other income	17,592
In-kind contribution from Flemish Government through the Flanders Marine Institute (VLIZ)	124,878
Total available funds	746,943

EXPENDITURE 2023

	EUR
Secretariat Employment costs	338,044
Meetings, Travel & Ambassador Programme	21,574
Strategic events	28,820
Project costs (Staff time & direct costs)	118,097
Artist-in-residence Programme	18,000
Publications & dissemination	38,075
Running expenses and other costs	18,803
Costs covered by the Flanders Marine Institute (VLIZ)	124,878
Total expenditure	706,291

RESERVE FUND

	EUR
Available funds 2023	746,943
Expenditure 2023	706,291
Total 2023 balance	40,651
2022 carry over	629,349
Total	670,000

Annexes

ANNEX 1:

European Marine Board Member Organisations, Delegates and Alternates

BELGIUM

Belgian Science Policy Office (BELSPO)

Koen Lefever

David Cox

Fonds National de la Recherche Scientifique (FNRS)

National Fund for Scientific Research

Marilaure Grégoire

Loïc Michel

Fonds voor Wetenschappelijk Onderzoek - Vlaanderen (FWO)

The Research Foundation - Flanders

Jan Mees

Tina Mertens

CROATIA

Institut za oceanografiju i ribarstvo (IZOR)

Institute of Oceanography and Fisheries

Melita Peharda Uljevic

Daria Ezgeta-Balić

Institut Ruđer Bošković (IRB)

Ruđer Bošković Institute

Martin Andreas Pfannkuchen (Vice-Chair)

Ivica Vilibić

CYPRUS

Cyprus Marine and Maritime Institute (CMMI)

Zacharias Siokouros

Antri Theodorou

DENMARK

Institut for Akvatiske Ressourcer (DTU Aqua)

National Institute for Aquatic Resources

Patrizio Mariani

Kirsten Thomsen

ESTONIA

Eesti Teaduste Akadeemia

Estonian Academy of Sciences

Tarmo Soomere

Kalle Olli

FRANCE

Centre National de la Recherche Scientifique (CNRS)

National Centre for Scientific Research

Jean-Marie Flaud

Jean-François Doussin

Institut Français de Recherche pour l'Exploitation de la Mer (IFREMER)

French Research Institute for Exploitation of the Sea

Gilles Lericolais (Chair)

Natalia Martin Palenzuela

Universités Marines

Marine Universities of France

François Lallie (Vice-Chair)

Yves-Marie Paulet

GERMANY

Konsortium Deutsche Meeresforschung (KDM)

German Marine Research Institute

Jan-Stefan Fritz

Ralph Schneider

Helmholtz-Zentrum für Ozeanforschung Kiel (GEOMAR)

Helmholtz Centre for Ocean Research Kiel

Katja Matthes

Basak Kisakurek

GREECE

Ελληνικό Κέντρο Θαλάσσιων Ερευνών (HCMR)

Hellenic Centre for Marine Research

Aris Karageorgis

George Petihakis

IRELAND

Marine Institute

Fiona Grant (Vice-Chair)

Niall McDonough

Irish Marine Universities Consortium

Cathal O'Mahony

Anthony Grehan

Colin Brown

ITALY

Consiglio Nazionale delle Ricerche (CNR)

National Research Council

Fabio Trincardi

Katrin Schroeder (Vice-Chair)

Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (OGS)

National Institute of Oceanography and Applied

Geophysics

Cosimo Solidoro

Consorzio Nazionale Interuniversitario per le Scienze del Mare (CoNISMa)

National Inter-University Consortium for Marine Sciences

Salvatrice Vizzini

Giorgio Budillon

Stazione Zoologica Anton Dohrn (SZN)

Anton Dohrn Marine Station

Chris Bowler

Adriana Zingone

THE NETHERLANDS

Koninklijk Nederlands Instituut voor Onderzoek der Zee (NIOZ)

Royal Netherlands Institute for Sea Research

Han Dolman

Gert-Jan Reichart

Deltares

Myra van der Meulen

Sharon Tatman

NORWAY

Havforskningsinstituttet

Institute of Marine Research (IMR)

Henning Wehde

Amund Måge

Norges forskningsrad

The Research Council of Norway (RCN)

Kjersti T. Fjalestad

Christian Wexels Riser

Norsk Marint Universitetskonsortium

Norwegian Marine University Consortium (NMU)

Nils Christian Stenseth

Øyvind Fiksen

NORCE Norwegian Research Centre (NORCE)

Trond Martin Dokken

Lola Rodriguez Coronil

SINTEF Ocean

Andy Booth

Rachel Tiller

POLAND

Instytut Oceanologii Polskiej Akademii Nauk (IO-PAN)

Institute of Oceanology of the Polish Academy of Sciences

Śławomir Sagan

Monika Kedra

PORTUGAL

Centro de Investigação Marinha e Ambiental (CIMAR)

Centre of Marine and Environmental Research

Joana Xavier

Adelino Canario

Fundação para a Ciência e a Tecnologia (FCT)

Foundation for Science and Technology

Sofia Cordeiro

Teresa Courinha

ROMANIA

Romanian Black Sea Research Consortium (RBRC)

Elena Stoica

SPAIN

Instituto Espanol de Oceanografia (IEO)

Spanish Institute of Oceanography

María del Carmen García Martínez

Marcos Llope

Centro Tecnológico del Mar (CETMAR)

Technological Center of the Sea

Rosa Fernández Otero (Vice-Chair)

Carlos Dopazo Pereira

SWEDEN

Göteborgs universitet

University of Gothenburg (UGOT)

Per Åberg

Lena Gipperth

TÜRKİYE

Türkiye Bilimsel ve Teknik Arastirma Kurumu (TÜBİTAK)

Scientific and Technological Research Council of Türkiye

Leyla Tolun

Eren Özsu

UNITED KINGDOM

Marine Alliance for Science and Technology Scotland (MASTS)

Mark James

David Paterson

National Oceanography Centre (NOC)

Edward Hill

Claire Evans

Natural Environment Research Council (NERC)

Mike Webb

Alan Evans (Vice-Chair)

ANNEX 2:

Participants of EMB Plenary meetings 2023

Spring Plenary Meeting | 27-28 April 2023, Online

EMB DELEGATES

Representative	Member organisation	Country
ADRIANA ZINGONE	Anton Dohrn Marine Station (SZN)	Italy
ALAN EVANS	Natural Environment Research Council (NERC)	UK
ALEXANDRA DROSSOU-BERENDES	Helmholtz Centre for Ocean Research Kiel (GEOMAR)	Germany
ALEXANDRA-SOPHIE ROY	German Marine Research Consortium (KDM)	Germany
ANDY BOOTH	SINTEF Ocean (SINTEF)	Norway
ARIS KARAGEORGIS	Hellenic Centre for Marine Research (HCMR)	Greece
CATHAL O'MAHONEY	Irish Marine Universities Consortium (IMUC)	Ireland
CHRIS BOWLER	Anton Dohrn Marine Station (SZN)	Italy
CLAIRE EVANS	National Oceanography Centre (NOC)	UK
COSIMO SOLIDORO	National Institute of Oceanography and Experimental Geophysics (OGS)	Italy
DARIA EZGETA-BALIC	Institute of Oceanography and Fisheries (IOF)	Croatia
DOMINIQUE SIMON	Marine Universities Consortium France (UM)	France
ELENA STOICA	Romanian Black Sea Research Consortium (RBRC)	Romania
FIONA GRANT	Marine Institute (MI)	Ireland
FRANÇOIS LALLIER	Marine Universities Consortium France (UM)	France
GEORGE PETIHAKIS	Hellenic Centre for Marine Research (HCMR)	Greece
GERT-JAN REICHART	Royal Netherlands Institute for Sea Research (NIOZ)	Netherlands
GILLES LERICOLAIS	French Institute for the Exploitation of the Sea (IFREMER)	France
GIORGIO BUDILLON	National Inter-University Consortium for Marine Sciences (CoNISMa)	Italy
HENNING WEHDE	Institute of Marine Research (IMR)	Norway
IVICA VILIBIĆ	Ruđer Bošković Institute (IRB)	Croatia
JACOPO CHIGGIATO	National Research Council Italy (CNR)	Italy
JAN MEES	Research Foundation - Flanders (FWO)	Belgium
JEAN-MARIE FLAUD	National Centre for Scientific Research (CNRS)	France
JOANA XAVIER	Centre of Marine and Environmental Research (CIMAR)	Portugal
KALLE OLLI	Estonian Academy of Sciences (ETA)	Estonia
KJERSTI T. FJALESTAD	The Research Council of Norway (RCN)	Norway
KOEN LEFEVER	Belgian Science Policy Office (BELSPO)	Belgium
LENA GIPPERTH	University of Gothenburg (UGOT)	Sweden
LEYLA TOLUN	Scientific and Technological Research Council of Türkiye (TÜBİTAK)	Türkiye
LOIC MICHEL	National Fund for Scientific Research (FNRS)	Belgium
LOLA RODRIGUEZ	NORCE Norwegian Research Centre (NORCE)	Norway
MARIA DEL CARMEN GARCÍA MARTINEZ	Spanish Institute of Oceanography (IEO-CSIC)	Spain
MARK JAMES	Marine Alliance for Science and Technology Scotland (MASTS)	UK
MARTIN ANDREAS PFANNKUCHEN	Ruđer Bošković Institute (IRB)	Croatia
MELITA PERHARDA ULJEVIC	Institute of Oceanography and Fisheries (IOF)	Croatia
MONIKA KĘDRA	Institute of Oceanology of The Polish Academy of Sciences (IO-PAN)	Poland
MYRA VAN DER MEULEN	DELTA RES	Netherlands
NILS C. STENSETH	Norwegian Marine University Consortium (NMU)	Norway
ØYVIND FIKSEN	Norwegian Marine University Consortium (NMU)	Norway
PATRIZIO MARIANI	National Institute for Aquatic Resources (DTU AQUA)	Denmark
PER ABERG	University of Gothenburg (UGOT)	Sweden

Representative	Member organisation	Country
ROSA FERNÁNDEZ	Technological Centre of The Sea (CETMAR)	Spain
SALVATRICE VIZZINI	National Inter-University Consortium for Marine Sciences (CoNISMa)	Italy
SHARON TATMAN	DELTARES	Netherlands
SLAWOMIR SAGAN	Institute of Oceanology of The Polish Academy of Sciences (IO-PAN)	Poland
SOFIA CORDEIRO	Science and Technology Foundation (FCT)	Portugal
SYLVAIN GODOC	French Institute for the Exploitation of the Sea (IFREMER)	France
TARMO SOOMERE	Estonian Academy of Sciences (ETA)	Estonia
TINA MERTENS	Research Foundation - Flanders (FWO)	Belgium
YVES-MARIE PAULET	Marine Universities Consortium France (UM)	France

OBSERVERS, SPEAKERS AND GUESTS

Representative	Organisation	Role
RHODA TING	EMB Artist-in-residence 2022 - 2023	EMB Artist-in-residence 2022 - 2023
SONIA LEVY	EMB Artist-in-residence 2022 - 2023	EMB Artist-in-residence 2022 - 2023
ALEXANDRA HAHN	Helmholtz Centre for Ocean Research Kiel (GEOMAR, Germany)	EMB Young Ambassador
ALFREDO SANTIAGO GARCÍA DE VINUESA GUTIÉRREZ	Spanish Institute of Oceanography (IEO-CSIC, Spain)	EMB Young Ambassador
JULIETTE BIQUET	Centre for Marine Sciences of the Algarve (CCMAR, Portugal)	EMB Young Ambassador
RIWAN LEROUX	French Institute for the Exploitation of the Sea (IFREMER, France)	EMB Young Ambassador
HENDRIK ENEVOLDSEN	IOC-UNESCO	Observer
METTE MILA	EMBracing the Ocean Committee	Observer
RODRIGO ATAIDE DIAS	DG MARE	Observer
SARAH DE RIJCKE	University of Leiden (Netherlands) / Fluid Knowledge project	Observer
WILLEM DE MOOR	JPI Oceans	Observer
BASAK KISAKUREK IBSEN	Helmholtz Centre for Ocean Research Kiel (GEOMAR, Germany)	Speaker
CHRISTINE CECIL	Jump	Speaker
REBECCA SHELLOCK	University of Tasmania (Australia)	Speaker
RENÉ GARELLO	The IEEE Oceanic Engineering Society	Speaker
ZHEN SUN	World Maritime University (Sweden)	Speaker

Autumn Plenary Meeting | 12-13 October 2023, Vigo, Spain and Online

EMB DELEGATES

Representative	Member organisation	Country
ADRIANA ZINGONE	Anton Dohrn Marine Station (SZN)	Italy
ALAN EVANS	Natural Environment Research Council (NERC)	UK
ALEXANDRA DROSSOU-BERENDES	Helmholtz Centre for Ocean Research Kiel (GEOMAR)	Germany
ALEXANDRA-SOPHIE ROY	German Marine Research Consortium (KDM)	Germany
ARIS KARAGEORGIS	Hellenic Centre for Marine Research (HCMR)	Greece
BÅRD WATHNE TVEITEN	SINTEF Ocean (SINTEF)	Norway
CARLOS DOPAZO PEREIRA	Technological Centre of The Sea (CETMAR)	Spain
CATHAL O'MAHONEY	Irish Marine Universities Consortium (IMUC)	Ireland
CLAIRE EVANS	National Oceanography Centre (NOC)	UK
COSIMO SOLIDORO	National Institute of Oceanography and Experimental Geophysics (OGS)	Italy
ED HILL	National Oceanography Centre (NOC)	UK
EREN ÖZSU	Scientific and Technological Research Council of Türkiye (TÜBİTAK)	Türkiye
FIONA GRANT	Marine Institute (MI)	Ireland
FRANÇOIS LALLIER	Marine Universities Consortium France (UM)	France
GERT-JAN REICHART	Royal Netherlands Institute for Sea Research (NIOZ)	Netherlands
GILLES LERICOLAIS	French Institute for the Exploitation of the Sea (IFREMER)	France
GIORGIO BUDILLON	National Inter-University Consortium for Marine Sciences (CoNISMa)	Italy
HENNING WEHDE	Institute of Marine Research (IMR)	Norway
IVICA VILIBIĆ	Ruđer Bošković Institute (IRB)	Croatia
JAN MEES	Research Foundation - Flanders (FWO)	Belgium
JEAN-MARIE FLAUD	National Centre for Scientific Research (CNRS)	France
JOANA XAVIER	Centre of Marine and Environmental Research (CIMAR)	Portugal
KATRIN SCHROEDER	National Research Council (CNR)	Italy
KJERSTI T. FJALESTAD	The Research Council of Norway (RCN)	Norway
KOEN LEFEVER	Belgian Science Policy Office (BELSPO)	Belgium
LENA GIPPERTH	University of Gothenburg (UGOT)	Sweden
LEYLA TOLUN	Scientific and Technological Research Council of Türkiye (TÜBİTAK)	Türkiye
LOÏC MICHEL	National Fund for Scientific Research (FNRS)	Belgium
LOLA RODRIGUEZ CORONIL	NORCE Norwegian Research Centre (NORCE)	Norway
MARIA DEL CARMEN GARCÍA MARTINEZ	Spanish Institute of Oceanography (IEO-CSIC)	Spain
MARILAURE GRÉGOIRE	National Fund for Scientific Research (FNRS)	Belgium
MARK JAMES	Marine Alliance for Science and Technology Scotland (MASTS)	UK
MARTIN ANDREAS PFANNKUCHEN	Ruđer Bošković Institute (IRB)	Croatia
MELITA PERHARDA ULJEVIC	Institute of Oceanography and Fisheries (IOF)	Croatia
MYRA VAN DER MEULEN	DELTA RES	Netherlands
NILS CHRISTIAN STENSETH	Norwegian Marine University Consortium (NMU)	Norway
PATRIZIO MARIANI	National Institute for Aquatic Resources (DTU AQUA)	Denmark
PER ÅBERG	University of Gothenburg (UGOT)	Sweden
ROSA FERNÁNDEZ	Technological Centre of The Sea (CETMAR)	Spain
SALVATRICE VIZZINI	National Inter-University Consortium for Marine Sciences (CoNISMa)	Italy
SLAWOMIR SAGAN	Institute of Oceanology of The Polish Academy of Sciences (IO-PAN)	Poland
SOFIA CORDEIRO	Science and Technology Foundation (FCT)	Portugal
SYLVAIN GODOC	French Institute for the Exploitation of the Sea (IFREMER)	France

Representative	Member organisation	Country
TARMO SOOMERE	Estonian Academy of Sciences (ETA)	Estonia
TROND MARTIN DOKKEN	NORCE Norwegian Research Centre (NORCE)	Norway
TURID LIE VILKENSEN	Norwegian Marine University Consortium (NMU)	Norway
ZACHARIAS SIOKOUROS	Cyprus Marine and Maritime Institute (CMMI)	Cyprus

OBSERVERS, SPEAKERS AND GUESTS

Representative	Organisation	Role
ALEXANDRA HAHN	Helmholtz Centre for Ocean Research Kiel (GEOMAR, Germany)	EMB Young Ambassador
ALFREDO SANTIAGO GARCÍA DE VINUESA GUTIÉRREZ	Spanish Institute of Oceanography (IEO-CSIC, Spain)	EMB Young Ambassador
ANJALI GOPAKUMAR	University of Bologna (Italy)	EMB Alumni
JULIETTE BIQUET	Centre for Marine Sciences of the Algarve (CCMAR, Portugal)	EMB Young Ambassador
RIWAN LEROUX	French Institute for the Exploitation of the Sea (IFREMER, France)	EMB Young Ambassador
RODRIGO ATAIDE DIAS	DG MARE	Observer
THORSTEN KIEFER	JPI Oceans	Observer

ANNEX 3:

WORKING GROUP MEMBERS 2023

Working Group Blue Carbon

Working Group Members:

- Sheila Heymans, Executive Director, European Marine Board – WG Chair
- Jean-Pierre Gattuso, National Centre for Scientific Research (CNRS), France
- Natalie Hicks, University of Essex, UK
- Peter Landschützer, Flanders Marine Institute (VLIZ), Belgium
- Griet Neukermans, University of Ghent, Belgium
- Hans-Otto Pörtner, Alfred Wegener Institute (AWI), Germany

EMB Secretariat Support:

Ana Rodriguez

Working Group Navigating the Future VI

Working Group Members:

- Gilles Lericolais, EMB Chair and French Research Institute for the Exploration of the Sea (IFREMER), France – WG Chair
- Sheila Heymans, Executive Director, European Marine Board – WG Co-Chair
- Francesco Marcello Falcieri, National Research Council Italy (CNR), Italy
- Juliette Biquet, Centre for Marine Sciences of the Algarve, Portugal, and EMB Young Ambassador
- Nicola Beaumont, Plymouth Marine Laboratory, UK (UK Natural Environment Research Council)
- Silja Klepp, Kiel University, Germany (German Marine Research Consortium)
- Lucía López-López, Spanish Institute of Oceanography (IEO-CSIC), Spain
- David Lusseau, Technical University of Denmark, Denmark
- Ekaterina Popova, National Oceanography Centre (NOC), UK
- Baris Salihoglu, Middle Eastern Technical University, Türkiye (Scientific and Technological Research Council of Türkiye)
- Olivier Thébaud, French Research Institute for Exploitation of the Sea (IFREMER), France
- Katrin Schroeder, National Research Council Italy (CNR), Italy
- Fiona Grant, Marine Institute (MI), Ireland
- Joke Lubbbecke, Helmholtz Centre for Ocean Research Kiel (GEOMAR), Germany
- Ruth Plets, Flanders Marine Institute (VLIZ), Belgium (Research Foundation - Flanders)
- Jean-Baptiste Sallée, National Centre for Scientific Research (CNRS), France
- Tarmo Soomere, Tartu Technical University, Estonia (Estonian Academy of Sciences)
- Nuria Teixido, Anton Dohrn Marine Station (SZN), Italy
- Ivica Vilibić, Ruđer Bošković Institute (IRB), Croatia
- Renske de Winter, Deltares, Netherlands
- Peter Kraal, Royal Netherlands Institute for Sea Research (NIOZ), Netherlands
- Tainá Fonseca, University of Algarve, Portugal (Portuguese Science and Technology Foundation)
- Christine Edwards, Robert Gordon University, UK (MASTS, UK)
- Joao Frias, Atlantic Technological University, Ireland (Irish Marine Universities Consortium)
- Slavica Matijević, Institute of Oceanography and Fisheries (IOF), Croatia
- Cosimo Solidoro, National Institute of Oceanography and Experimental Geophysics (OGS), Italy
- Beata Szymczycha, Institute of Oceanology of the Polish Academy of Sciences (IO-PAN), Poland
- Carlos Pereira Dopazo, University of Santiago de Compostela, Spain (Galician Marine Technology Centre)
- Kerstin Johannesson, University of Gothenburg (UGOT), Sweden
- Julia Calderwood, Marine Institute (MI), Ireland
- Antonia Giannakourou, Hellenic Centre for Marine Research (HCMR), Greece
- Enrique Blanco Gonzalez, University of Agder, Norway (Norwegian Marine University Consortium)
- Christophe Lejeusne, University of Aix-Marseille, France (Marine Universities of France)

- Loïc Michel, University of Liège, Belgium (Walloon Fund for Scientific Research)
- Geir Ottersen, Institute of Marine Research (IMR), Norway

EMB Secretariat Support:

Paula Kellett, Ángel Muñoz Piniella, Britt Alexander, Ana Rodriguez

Working Group Marine Habitat Mapping

Working Group Members:

- Simonetta Frascchetti, University of Naples Federico II and Anton Dohrn Marine Station (SZN), Italy – WG Chair
- James Strong, National Oceanography Centre (NOC), UK – WG Co-Chair
- Eimear O’Keeffe, Marine Institute (MI), Ireland
- Maria Salomidi, Hellenic Centre for Marine Research (HCMR), Greece
- Timm Schoening, Helmholtz Centre for Ocean Research Kiel (GEOMAR), Germany
- Federica Foglini, Institute of Marine Science (CNR-ISMAR), Italy
- Helen Lillis, Joint Nature Conservation Committee (JNCC), UK
- Jorge Goncalves, Centre of Marine Sciences of the Algarve (CCMAR), Portugal
- Georg Martin, Estonian Marine Institute, University of Tartu, Estonia
- Mats Lindegarth, University of Gothenburg (UGOT), Sweden
- Lene Buhl Mortensen, Institute of Marine Research (IMR), Norway
- Lenaïck Menot, French Research Institute for the Exploration of the Sea (IFREMER), France
- José Manuel González-Irusta, Spanish Institute of Oceanography (IEO-CSIC), Spain
- António Pascoal, Instituto Superior Técnico (IST), Portugal

EMB Secretariat Support:

Britt Alexander

Working Group Deep Sea and Ocean Health

Working Group Members:

- Sylvia Sander, Helmholtz Centre for Ocean Research Kiel (GEOMAR), Germany – WG Chair
- Christian Tamburini, Mediterranean Institute of Oceanography (MIO), France – WG Co-Chair
- Roberto Danovaro, Anton Dohrn Marine Station (SZN), Italy
- Sabine Gollner, Royal Netherlands Institute for Sea Research (NIOZ), The Netherlands
- Bleuenn Guilloux, University of La Rochelle, France
- Henk-Jan Hoving, Helmholtz Centre for Ocean Research Kiel (GEOMAR), Germany
- Igor Isajlović, Institute of Oceanography and Fisheries (IOF), Croatia
- Bhavani Narayanaswamy, Marine Alliance for Science and Technology Scotland (MASTS), UK
- Ellen Pape, University of Ghent, Belgium
- Marzia Rovere, Institute of Marine Science (CNR-ISMAR), Italy
- Miguel Semedo, Centre of Marine and Environmental Research (CIMAR), Portugal
- Pedro Vélez Belchí, Spanish Institute of Oceanography (IEO-CSIC), Spain

EMB Secretariat Support:

Ángel Muñoz Piniella

ANNEX 4:

Panel Members 2023

European Marine Board Communication Panel (EMBCP)

Panel Members:

- Maria del Carmen García Martínez, Spanish Institute of Oceanography (IEO-CSIC), Spain - Chair
- Jess Allen, National Oceanography Centre (NOC), United Kingdom
- Sheila Byrnes, Marine Institute (MI), Ireland
- Daria Ezgeta Balic, Institute of Oceanography and Fisheries (IOF), Croatia
- Francesca Garaventa, National Research Council Italy, Institute of Marine Research (IAS, CNR), Italy
- Marie Ghalanos, Cyprus Marine & Maritime Institute (CMMI), Cyprus
- Claudia Gili, Anton Dohrn Marine Station (SZN), Italy
- Kathrin Kopke, University College Cork (UCC), Ireland
- Alexis Mareschi & Géraldine Guillevic, French Institute for the Exploitation of the Sea (IFREMER), France
- Kelle Moreau, Royal Belgian Institute of Natural Sciences (RBINS), Belgium
- Mette Mila, The Research Council of Norway (RCN), Norway
- Maïke Nicolai, Helmholtz Centre for Ocean Research Kiel (GEOMAR), Germany
- Francesca Petrera, National Institute of Oceanography and Experimental Geophysics (OGS), Italy
- Kim Sauter & Aaike van Oord, Royal Netherlands Institute for Sea Research (NIOZ), The Netherlands
- Ezgi Sahin Yucel, Institute of Marine Sciences, Middle East Technical University (METU), Türkiye
- Jan Seys, Flanders Marine Institute (VLIZ), Belgium
- Dominique Simon, Marine Universities Consortium France (UM), France
- José Teixeira, Centre of Marine and Environmental Research (CIMAR), Portugal
- Hans Wilhelm Weinberger, Norwegian Marine University Consortium (NMU), Norway
- Tymon Zielinski, Institute of Oceanology of The Polish Academy of Sciences (IO-PAN), Poland

EMB Secretariat Support:

Ángel Muñiz Piniella

ANNEX 5:

MEETINGS AND EVENTS (JOINTLY) ORGANISED IN 2023

Date	Event and Venue
04/01/2023	EMBracing the Ocean Committee Meeting, Online
10/01/2023	EMB Working Group Blue Carbon Kick-off Meeting, Online
13/01/2023	EMB Working Group Marine Habitat Mapping Meeting, Online
13/01/2023	EMBCP Steering Group Meeting, Online
16/01/2023	Meeting with EMB Member CoNISMa, Online
16/01/2023	EMB Working Group NFVI Ocean and People Chapter Meeting, Online
17/01/2023	EMB Working Group NFVI Ocean and Freshwater Chapter Meeting, Online
18/01/2023	EMB Young Ambassador Meeting, Online
18/01/2023	EMB Working Group Coastal Resilience Chair Meeting, Online
19/01/2023	EMB Third Thursday Science Webinar: Multidisciplinary understandings of indeterminacy, uncertainty and risk, Online
25/01/2023	EMB Working Group Coastal Resilience Chair Meeting, Online
26/01/2023	EMB Working Group Coastal Resilience Meeting, Online
30/01/2023	EMB Working Group Deep Sea and Ocean Health Chair Meeting, Online
31/01/2023	EMB Working Group Deep Sea and Ocean Health Chair Meeting, Online
01/02/2023	EMB Working Group NFVI Ocean and Climate Chapter Meeting, Online
01/02/2023	ECOP Wednesdays webinar: A Space to Connect - Ocean ArtScience Collaborations for a Shared Future, Online
08/02/2023	Youth4Ocean and EMB Ambassadors Meeting, Online
08-09/02/2023	EMB Working Group Deep Sea and Ocean Health Kick-off Meeting, Ostend, Belgium
15/02/2023	EMB Working Group Deep Sea and Ocean Health Chair Meeting, Online
16/02/2023	EMB Third Thursday Science Webinar: Sea ice - Ocean interactions in the Arctic, Online
20/02/2023	EMB Young Ambassador Meeting, Online
22/02/2023	EMBracing the Ocean Committee Meeting, Online
22/02/2023	ExCom Meeting, Ostend, Belgium and online
23/02/2023	Brown Bag Lunch No. 6: Carbon Capture and Storage, Brussels, Belgium
23/02/2023	EurOCEAN 2023 Meeting with European Commission, Brussels, Belgium
27/02/2023	EMB Working Group Deep Sea and Ocean Health Meeting, Online
28/02/2023	EwE Webinar: Kim de Mutsert, Online
01/03/2023	ECOP Wednesdays webinar: Experiences from EMB Young Ambassadors: Connecting research with marine policy and society, Online
01/03/2023	EMB Young Ambassador Meeting, Online
01/03/2023	EMBCP Steering Group Meeting, Online
02/03/2023	EOOS Strategy and Plan launch, Online
02/03/2023	European Ocean Decade Implementing Partners Meeting, Online
03/03/2023	EurOCEAN 2023 Meeting with Spanish WestMed, Online

Date	Event and Venue
06/03/2023	EMB Working Group NFVI Ocean and Biodiversity Chapter Meeting, Online
07/03/2023	EMBracing the Ocean Committee Meeting, Online
07/03/2023	EMB Working Group Deep Sea and Ocean People Chair Meeting, Online
08/03/2023	EMB Working Group Blue Carbon Meeting, Online
10/03/2023	EurOCEAN 2023 Meeting, Online
13/03/2023	Mission Ocean Meeting with Acteon, Online
14/03/2023	EMB Young Ambassador Meeting, Online
14/03/2023	EMB Working Group Marine Habitat Mapping Meeting, Online
15/03/2023	EMB Working Group Deep Sea and Ocean Health Meeting, Online
16/02/2023	EMB Third Thursday Science Webinar: Experiences from EMB Young Ambassadors: Connecting research with marine policy and society, Online
21/02/2023	EMBracing the Ocean Committee Meeting, Online
24/03/2023	EMBracing the Ocean Committee Meeting, Online
31/03/2023	EMB Young Ambassador Meeting, Online
04/04/2023	Launch Webinar: EMB Future Science Brief No. 9 on Offshore Renewable Energy, Online
05/04/2023	ECOP Wednesdays webinar: The pursuit of deep seabed mining in the face of uncertainties, Online
05/04/2023	EMB Working Group Blue Carbon Meeting, Online
05/04/2023	EwE Webinar: Miriam Putz, Online
13/04/2023	EMB Working Group NFVI Ocean and Fresh Water Chapter Meeting, Online
17/04/2023	NECCTON Advisory Group Meeting, Online
18/04/2023	EMBCP Spring Meeting, Online
20/04/2023	Third Thursday Webinar: EMBracing the Ocean artists-in-residence: Enabling Ocean sustainability through creative collaboration, Online
21/04/2023	EMB Working Group Marine Habitat Mapping Meeting, Online
26/04/2023	Spring Plenary 2023 ExCom Meeting, Online
27-28/04/2023	Spring Plenary 2023 Meeting, Online
03/05/2023	EMBCP Steering Group Meeting, Online
03/05/2023	ECOP Wednesdays webinar: The Oceanicas Initiative, Online
04/05/2023	European Ocean Decade Implementing Partners Meeting, Online
08/05/2023	EMB Working Group NFVI Ocean and Biodiversity Chapter Meeting, Online
10/05/2023	EMB Working Group NFVI Ocean and Fresh Water Chapter Meeting, Online
11/05/2023	EMBracing the Ocean Orientation Meeting for new artists-in-residence, Online
15/05/2023	EMB Working Group Blue Carbon Meeting, Online
16/05/2023	Introduction to EMB Membership SINTEF Ocean, Online
16/05/2023	Introduction to EMB Membership NORCE, Online

Date	Event and Venue
17/05/2023	EMB Working Group Deep Sea and Ocean Health Meeting, Online
17/05/2023	EMB Working Group NFVI Ocean and People Chapter Meeting, Online
24-25/05/2023	European Maritime Day, Brest, France
26/05/2023	EMB Working Group Marine Habitat Mapping Meeting, Online
30/05/2023	EwE Webinar: Daniel Vilas, Online
31/05/2023	EMB Young Ambassador Meeting, Online
01/06/2023	EMB Working Group Blue Carbon Meeting, Online
01/06/2023	EMB Working Group NFVI Ocean and Biodiversity Chapter Meeting, Online
06/06/2023	EMB Working Group Deep Sea and Ocean Health Meeting, Online
07/06/2023	EMB Working Group Marine Habitat Mapping Chair Meeting, Online
09/06/2023	Meeting with CMMI, Cyprus on EMB Membership, Online
13/06/2023	Launch of EMB Future Science Brief No. 10 Ocean Oxygen, Online
14/06/2023	EMB Working Group NFVI Ocean and People Chapter Meeting, Online
15/06/2023	Third Thursday Webinar: Ecosystem effects of offshore windfarms: understanding and use for a sustainable future, Online
15-16/06/2023	EMB Young Ambassador Training Workshop, Ostend, Belgium
21/06/2023	EMB Working Group Deep Sea and Ocean Health Meeting, Online
29/06/2023	SEArca event: The marine dimension of the Nature Restoration Law, Brussels, Belgium
30/06/2023	EMB Working Group NFVI Ocean and Fresh Water Chapter Meeting, Online
05/07/2023	ECOP Wednesdays Webinar: From a research project to a policy management tool, Online
06/07/2023	European Ocean Decade Implementing Partners Meeting, Online
12/07/2023	EMB Working Group NFVI Ocean and People Chapter Meeting, Online
13/07/2023	EMB Working Group NFVI Ocean and Biodiversity Chapter Meeting, Online
19/07/2023	EMBCP Steering Group Meeting, Online
20/07/2023	Third Thursday Science Webinar: Interdisciplinary collaborations in marine social science, Online
25/07/2023	EMB Working Group NFVI Ocean and Fresh Water Chapter Meeting, Online
02/08/2023	ECOP Wednesdays Webinar: The Wild Postcard Project - Local biodiversity through the art of children, Online
23/08/2023	EMB Young Ambassador Meeting, Online
30/08/2023	EMB Working Group NFVI Ocean and People Chapter Meeting, Online
01/09/2023	ECOP Wednesdays Webinar: How to make EU politics understandable and accessible for young people, Online
05/09/2023	EMB Working Group Deep Sea and Ocean Health Meeting, Online
05/09/2023	EMB Working Group NFVI Ocean and Fresh Water Chapter Meeting, Online
05/09/2023	EwE Webinar: Jennifer Rehren, Online

Date	Event and Venue
06/09/2023	EMBCP Steering Group Meeting, Online
07/09/2023	European Ocean Decade Implementing Partners Regular Meeting, Online
13/09/2023	EMB Working Group NFVI Ocean and Climate Chapter Meeting, Online
13/09/2023	Meeting with Juan Ronco, DG MARE, Ostend, Belgium
14/09/2023	EMB Working Group Marine Habitat Mapping Meeting, Online
21/09/2023	Third Thursday webinar: The impact of deoxygenation in the Black Sea on ecosystem services: insights from BRIDGE-BS expeditions, Online
29/09/2023	EMB Working Group NFVI Ocean and People Chapter Meeting, Online
02/10/2023	EMB Working Group Deep Sea and Ocean Health Meeting, Online
02/10/2023	EMB Young Ambassador Mentor Meeting, Online
8-9/10/2023	ECOP Network Forum, Santiago de Compostela, Spain
10-11/10/2023	EurOCEAN 2023 Conference, Vigo, Spain
12-13/10/2023	Autumn Plenary 2023 Meeting, Vigo, Spain
19/10/2023	Launch Webinar: EMB Position Paper No. 27 on Coastal Resilience, Online
20/10/2023	EMB Young Ambassador Meeting, Online
23-24/10/2023	EMBCP Meeting, Split, Croatia
26/10/2023	EMB Working Group Marine Habitat Mapping Chair Meeting, Online
26/10/2023	EMB Working Group Deep Sea and Ocean Health Meeting, Online
27/10/2023	Meeting with Cyprus Marine and Maritime Institute, Online
06/11/2023	Meeting with Cyprus Marine and Maritime Institute, Larnaka, Cyprus
08/11/2023	EMBCP Steering Group Meeting, Online
08/11/2023	ECOP Wednesdays webinar: Experiences of engaging as a youth & early-career marine researcher in science-policy-society interfaces, Online
09/11/2023	EMB ECOP & UN ECOP Meeting, Online
13/11/2023	Art-science Networking Group Meet & Greet, Online
16/11/2023	Third Thursday Webinar: Building coastal and marine resilience in Ireland: a community perspective, Online
16/11/2023	EMB Working Group NFVI Ocean and Fresh Water Chapter Meeting, Online
20/11/2023	Launch Webinar: EMB Policy Brief No. 11 on Blue Carbon, Online
01/12/2023	EMB Working Group Marine Habitat Mapping Chair Meeting, Online
06/12/2023	ECOP Wednesdays webinar: Ocean, society and anachronism, Online
06/12/2023	EMB Young Ambassador Meeting, Online
06/12/2023	EMBracing the Ocean committee Meeting, Online
07/12/2023	Third Thursday Webinar: Sailing for oxygen - how citizen science can help understand ocean deoxygenation, Online
13/12/2023	EMB ECOP Network Meeting, Online
15/12/2023	Meeting with DG ENV on Marine Habitat Mapping WG & the Nature Restoration Law, Online

ANNEX 6:

PRESENTATIONS AT MEETINGS BY THE EMB SECRETARIAT AND EXCOM IN 2023

Date	Event and Venue	Speaker(s)
09-11/01/2023	1st International Conference on Ocean Education and Training 2023, Ghent, Belgium	Paula Kellett
27/01/2023	Visit of Province of West-Flanders to InnovOcean Campus, Ostend, Belgium	Jana Van Elslander
30/01/2023	Breakfast @ VLIZ Bib, Ostend, Belgium	Paula Kellett
17/02/2023	Mission Restore our Ocean and Waters Annual Forum, Brussels, Belgium	Sheila Heymans
17/02/2023	InnovOcean Seminar, Ostend, Belgium	Paula Kellett
24/02/2023	Mission Atlantic: Introspection and Legacy Meeting, Copenhagen, Denmark	Sheila Heymans
02/03/2023	FLORES Meeting Galician Offshore International Hub, Online	Paula Kellett
10/03/2023	UKRI Horizon Europe Ocean Mission, Online	Sheila Heymans
28/04/2023	InnovOcean Seminar, Ostend, Belgium	Jana Van Elslander
03/05/2023	NSAC Workshop on MSP and Stakeholder Engagement, Brussels, Belgium	Sheila Heymans
26/05/2023	Launch of the European Blue Forum, Brest, France	Sheila Heymans
31/05-01/06/2023	EcoScope Workshop, Thessaloniki, Greece	Sheila Heymans
06-07/06/2023	6th annual workshop of the Network of Experts for ReDEveloping Models of the European Marine Environment (MEME), Online	Sheila Heymans
08/06/2023	Ocean Decade Masterclass, De Panne, Belgium	Jana Van Elslander
15/06/2023	Digital Ocean Forum 2023, Online	Sheila Heymans
21-23/06/2023	IOC General Assembly, Paris, France	Alan Evans
26/06/2023	EU Trainees' Job Fair, June 2023, Brussels, Belgium	Ángel Muñoz Piniella
26-27/06/2023	IOC General Assembly, Paris, France	Sheila Heymans
5-6/07/2023	10 years of the Galway Statement Meeting, Dublin, Ireland	Sheila Heymans, Gilles Lericolais
04/07/2023	Sustainable Blue Economy Partnership Meeting, Ostend, Belgium	Ángel Muñoz Piniella
26/07/2023	MASTS Webinar: Benefiting from the MASTS Membership of EMB, Online	Ángel Muñoz Piniella
08/09/2023	InnovOcean Seminar, Ostend, Belgium	Sheila Heymans
19-22/09/2023	EuroSea, Final conference, Paris, France	Sheila Heymans
20/09/2023	Visit of Diplomatic corps of Flanders to InnovOcean Campus, Ostend, Belgium	Jana Van Elslander
25/09/2023	Global Ocean Summit, Qingdao, China	Gilles Lericolais
27-29/09/2023	BRIDGE-BS General Assembly, Ankara, Türkiye	Sheila Heymans, Britt Alexander
04/10/2023	Workshop: "Engaging the future: Stakeholder involvement in the EU Bioeconomy", Online	Sheila Heymans
05/10/2023	European ocean science 2030 - ocean observing supporting future marine science needs, Galway, Ireland	Fiona Grant
8-9/10/2023	EMB ECOP Network Forum, Santiago de Compostela, Spain	Sheila Heymans
17/10/2023	Workshop: Stakeholder engagement community and the EU Mission Ocean network, Brussels, Belgium	Sheila Heymans

Date	Event and Venue	Speaker(s)
27/10/2023	InnovOcean Seminar, Ostend, Belgium	Britt Alexander
06/11/2023	UN Decade of Ocean Science, NDC for Ireland, Online	Fiona Grant
16-17/11/2023	ASOM-ARSOM: The governance of the Ocean, Paris, France	Gilles Lericolais
21/11/2023	DEFRA Modelling and Scenarios Workshop, Online	Sheila Heymans
29-30/11/2023	EMODnet Open Conference, Brussels, Belgium	Sheila Heymans
06/12/2023	SINTEF Ocean: Webinar on the European Marine Board, Online	Sheila Heymans

ANNEX 7:

EMB MEMBER CONTRIBUTIONS 2023

Marine Board Member	Country	Contribution 2023
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 (IOF)	Croatia	€ 3,000
Ruđer Bošković Institute (IRB)	Croatia	€ 3,000
Cyprus Marine and Maritime Institute (CMMI) ¹	Cyprus	€ 0
National Institute for Aquatic Resources (DTU AQUA)	Denmark	€ 12,000
Estonian Academy of Sciences (ETA)	Estonia	€ 8,000
French Institute for the Exploitation of the Sea (IFREMER)	France	€ 17,000
Marine Universities Consortium France (UM)	France	€ 17,000
National Centre for Scientific Research (CNRS)	France	€ 17,000
German Marine Research Consortium (KDM)	Germany	€ 17,000
Helmholtz Centre for Ocean Research Kiel (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 Inter-University Consortium for Marine Sciences (CoNISMa)	Italy	€ 17,000
National Research Council Italy (CNR)	Italy	€ 17,000
Anton Dohrn Marine Station (SZN)	Italy	€ 17,000
National Institute of Oceanography and Experimental Geophysics (OGS)	Italy	€ 17,000
Royal Netherlands Institute for Sea Research (NIOZ)	Netherlands	€ 12,000
DELTA RES	Netherlands	€ 12,000
Norwegian Marine University Consortium (NMU)	Norway	€ 12,000
The Research Council of Norway (RCN)	Norway	€ 12,000
Institute of Marine Research (IMR) ²	Norway	€ 12,000
SINTEF Ocean (SINTEF) ³	Norway	€ 6,000 ²
NORCE Norwegian Research Centre (NORCE) ³	Norway	€ 6,000 ²
Institute of Oceanology of The Polish Academy of Sciences (IO-PAN)	Poland	€ 8,000
Science and Technology Foundation (FCT)	Portugal	€ 8,000
Centre of Marine and Environmental Research (CIMAR)	Portugal	€ 8,000
Romanian Black Sea Research Consortium (RBRC)	Romania	€ 8,000
Spanish Institute of Oceanography (IEO-CSIC)	Spain	€ 12,000
Technological Centre of The Sea (CETMAR)	Spain	€ 12,000
University of Gothenburg (UGOT)	Sweden	€ 12,000
Scientific and Technological Research Council of Türkiye (TÜBİTAK)	Türkiye	€ 8,000
Marine Alliance for Science and Technology Scotland (MASTS)	UK	€ 17,000
Natural Environment Research Council (NERC)	UK	€ 17,000
National Oceanography Centre (NOC) ⁴	UK	€ 17,000
Total	38	€ 446,000

¹ Joined in October 2023 – 0% of total membership fee 2023 required

² Paid by Research Council of Norway (RCN)

³ Joined in April 2023 - 50% of total Membership fee 2023 required

⁴ Paid by Natural Environment Research Council (NERC)

ANNEX 8:

Full list of EMB publications

EMB PUBLICATIONS IN 2023:

- Soukissian, T., O'Hagan, A. M., Azzellino, A., Boero, F., Brito e Melo, A., Comiskey, P., Gao, Z., Howell, D., Le Boulluec, M., Maisondieu, C., Scott, B., Tedeschi, E., Maheri, A., & Pennock, S. (2023). **European offshore renewable energy: Towards a sustainable future**. Zenodo. <https://doi.org/10.5281/zenodo.7561906>
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- Villasante, S., Richter, K., Bailey, J. L., Bleckner, T., Farrell, E. J., Mongruel, R. C., Timmermann, K., Bouma, T. J., Melaku Canu, D., Chen, M., Lachs, L., Payo, A., & Sousa Pinto, I. (2023). **Building Coastal Resilience in Europe**. Zenodo. <https://doi.org/10.5281/zenodo.8224055>
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- Heymans, J. J., Van Elslander, J., Kellett, P., Muniz Piniella, A., Alexander, B., Rodriguez Perez, A. **European Marine Board Annual Report 2022**. European Marine Board, Ostend, Belgium. 2023. ISSN 2565-7402. 68pp

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- Ofir, E., X. Corrales, M. Coll, **J.J. Heymans**, M. Goren, J. Steenbeek, Y. Amitai, N. Shachar, and G. Gal. 2023. 'Evaluation of fisheries management policies in the alien species-rich Eastern Mediterranean under climate change', *Frontiers in Marine Science*, 10.
- **Rodriguez-Perez, A.**, A.C. Tsikliras, G. Gal, J. Steenbeek, J. Falk-Andersson, and **J.J. Heymans**. 2023. 'Using ecosystem models to inform ecosystem-based fisheries management in Europe: a review of the policy landscape and related stakeholder needs', *Frontiers in Marine Science*, 10.
- **Rodriguez-Perez, A.**, 2023. End-user-focused Approach. EcoScope Newsletter 1: 5-6.
- Van de Pol, L., K. Van der Biest, S.E. Taelman, L.D.L. Peña, G. Everaert, S. Hernandez, F. Culhane, Á. Borja, **J.J. Heymans**, G. Van Hoey, J. Vanaverbeke, and P. Meire. 2023. 'Impacts of human activities on the supply of marine ecosystem services: A conceptual model for offshore wind farms to aid quantitative assessments', *Heliyon*, 9: e13589.

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- Villasante, S., Richter, K., Bailey, J. L., Bleckner, T., Farrell, E. J., Mongruel, R. C., Timmermann, K., Bouma, T. J., Melaku Canu, D., Chen, M., Lachs, L., Payo, A., & Sousa Pinto, I. (2023). **Building Coastal Resilience in Europe**. Alexander, B., Muñoz Piniella, A., Kellett, P., Rodriguez Perez, A., Van Elslander, J., Bayo Ruiz, F., Heymans, J. J. [Eds.] Position Paper N°. 27 of the European Marine Board, Ostend, Belgium. 126pp. ISSN: 0167-9309. ISBN: 9789464206197. DOI: 10.5281/zenodo.8224055
Coordinating authors: Sebastian Villasante, Kristin Richter; Contributing authors: Jennifer L. Bailey, Thorsten Blenckner, Eugene J. Farrell, Remi C. Mongruel, Karen Timmermann, Tjeerd J. Bouma, Donata Melaku Canu, Margaret Chen, Liam Lachs, Andres Payo, Isabel Sousa Pinto

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Coordinating author: Per Nieuwejaar; Contributing authors: Valerie Mazauric, Christian Betzler, Mafalda Carapuco, Andre Cattrijsse, Franco Coren, Juanjo Danobeitia, Colin Day, Aodhan Fitzgerald, Stefan Florescu, Jose Ignacio Diaz, Michael Klages, Erica Koning, Olivier Lefort, Giuseppe Magnifico, Oystein Mikelborg, Lieven Naudts.
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Coordinating Author: Carlos Garcia Soto; Contributing Authors: Gro Van Der Meeren, Julia A. Busch, Jane Delany, Christine Domegan, Karin Dubsky, Géraldine Fauville, Gabriel Gorsky, Karen von Juterzenka, Francesca Malfatti, Gérald Mannaerts, Patricia McHugh, Pascal Monestiez, Jan Seys, Jan Marcin Węślawski, Oliver Zielinski.
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Contributing editors: Aurélien Carbonnière, Niamh Connolly, Jan de Leeuw, Maud Evrard, Jan Mees, Jean-François Minster, Kostas Nittis, Geoffrey O'Sullivan, Nicolas Walter.
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Contributing authors: João Gomes Ferreira, Wolfgang Fennel, Michael Hartnett, Peter Herman, Michiel Knaapen, Hans Los, Morten Pejrup, Thomas Pohlmann, David Prandle, Roger Proctor, Yann-Hervé de Roeck, Karline Soetaert, Takvor Soukissian, Tapani Stipa, Georg Umgieser, Waldemar Walczowski.
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- Boissonnas J., d'Ozouville L. *et al.* (2001). **Navigating the Future – Towards a Marine European Research Area.** Marine Board Position Paper 3. Marine Board-ESF, Strasbourg, France. 14pp.
Core Drafting Group: J. Boissonnas, O.R. Godø, C. Jeandel, J.W. de Leeuw, K. Lochte, R.F.C. Mantoura, J. Marks, J.F. Minster, G. O'Sullivan, L. d'Ozouville, S. Vallergera, G. Wefer; Other contributors: H. Halvorson, C. Heip, B. B. Jørgensen.
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