

## 8<sup>TH</sup> EUROPEAN MARINE BOARD FORUM PROCEEDINGS

# SUPPORTING THE OCEAN DECADE IN EUROPE

1<sup>st</sup> December 2021, Brussels, Belgium and online



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

*“To make the Ocean Decade relevant to everyone, we need to make it personal, local and mainstream.”*

Ms. Jasmine Harrison



# EUROPEAN MARINE BOARD

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

The European Marine Board is an independent and self-sustaining science policy interface organization that currently represents 35 Member Organizations from 18 European countries. It was established in 1995 to facilitate enhanced cooperation between European marine science organizations towards the development of a common vision on the strategic research priorities for marine science in Europe. The EMB promotes and supports knowledge transfer for improved leadership in European marine research. Its membership includes major national marine or oceanographic institutes, research funding agencies and national consortia of universities with a strong marine research focus. Adopting a strategic role, the European Marine Board serves its member organizations by providing a forum within which marine research policy advice 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](http://www.marineboard.eu)



Edited by Paula Kellett, Rebecca van den Brand, Britt Alexander, Ana Rodriguez Perez, Ángel Muñiz Piniella, Jana Van Elslander & Sheila J. J. Heymans

This publication should be cited as: Kellett, P., van den Brand, R., Alexander, B., Rodriguez Perez, A., Muñiz Piniella, Á., Van Elslander, J., Heymans, J. J. (2022). 8<sup>th</sup> EMB Forum Proceedings. Supporting the Ocean Decade in Europe. DOI: 10.5281/zenodo.5814763

All images credited to Michael Chia and EMB unless otherwise stated. Cover Image: Noah Munivez, Pexels

# TABLE OF CONTENTS

European Marine Board Forum Series .....	4
8 <sup>th</sup> EMB Forum .....	4
8 <sup>th</sup> EMB Forum Programme .....	5
Key Messages .....	7
Opening Session .....	8
Welcome .....	8
Opening Address .....	8
Session 1: Engaging Early Career Ocean Professionals (ECOPs) in the Ocean we want .....	10
This is the Ocean we want .....	10
Audience Questions & Answers .....	11
Panel Discussion .....	12
Audience Questions & Answers .....	15
Session 2: EMB activities towards the Ocean we want .....	17
Underwater Noise .....	17
Audience Questions & Answers .....	18
Marine Geohazards .....	19
Audience Questions & Answers .....	20
Launch of EMB programme for an Inspiring and Engaging Ocean .....	21
Session 3: An inspiring and engaging Ocean Decade .....	22
Panel Discussion .....	22
Audience Questions & Answers .....	27
Session 4: Harmonising Ocean Decade activities in Europe .....	28
Ambitions for the Ocean Decade .....	28
Panel Discussion .....	29
Closing Session .....	35
Abbreviations .....	36

## EUROPEAN MARINE BOARD FORUM SERIES

**The European Marine Board Forum** (EMB Forum) brings together European marine research stakeholders, representatives of the marine science community, funding agencies and national and European science institutions, to discuss research priorities and to promote marine science in Europe and globally. EMB Fora provide a platform for EMB members, partner organizations, individual scientists, and European and national policymakers to interact on a particular topic or theme of strategic importance to:

- Provide a focal meeting point for discussion;
- Facilitate the exchange of information and ideas and agree on a common position; and
- Enhance collaboration, and reduce fragmentation and/or duplication in the European research effort.

The main messages, discussions, and decisions from EMB Fora are recorded and published as proceedings. Presentations and outputs of EMB Fora are available on the European Marine Board website<sup>1</sup>.

### 8<sup>th</sup> EMB Forum

The 8<sup>th</sup> EMB Forum was held as a hybrid event on 1 December 2021 at BluePoint in Brussels and online. Due to the ongoing COVID-19 pandemic, the majority of participants joined online.

At the end of the first year of the UN Decade of Ocean Science for Sustainable Development<sup>2</sup> (Ocean Decade, 2021-2030), the event was an opportunity to take stock of progress and discuss plans for developing the Ocean Decade over the remaining years. Diverse stakeholders gave presentations and participated in panel discussions, with audience interaction. This Forum was endorsed as an official Ocean Decade event.

During the event, it was officially announced that EMB would become the first Ocean Decade Implementing Partner<sup>3</sup>. EMB also announced its new Ocean Decade artist-in-residence programme “EMBracing the Ocean”<sup>4</sup>.

Other Ocean Decade-relevant EMB activities were also highlighted, including the recently launched Future Science Brief N<sup>o</sup>. 7 on *Addressing underwater noise in Europe: Current state of knowledge and future priorities*<sup>5</sup> and the launch of the new EMB Position Paper N<sup>o</sup>. 26 on *Marine Geohazards: Safeguarding society and the Blue Economy from a hidden threat*<sup>6</sup>.

This document is a summary of the discussions that took place during the 8<sup>th</sup> EMB Forum. The full recordings of the sessions are available on the EMB YouTube Channel<sup>7</sup>.

<sup>1</sup> <http://www.marineboard.eu/forum>

<sup>2</sup> <https://www.oceandecade.org/>

<sup>3</sup> <https://www.oceandecade.org/news/the-ocean-decade-takes-off-in-europe/>

<sup>4</sup> <https://www.marineboard.eu/embracing-ocean>

<sup>5</sup> <https://www.marineboard.eu/publications/addressing-underwater-noise-europe-current-state-knowledge-and-future-priorities>

<sup>6</sup> <https://www.marineboard.eu/publications/marine-geohazards-safeguarding-society-and-blue-economy-hidden-threat>

<sup>7</sup> [https://www.youtube.com/watch?v=rf2T4lEeh\\_k&list=PLXKTm\\_QGiR-hkK06\\_aGo2t18TjMXY757D](https://www.youtube.com/watch?v=rf2T4lEeh_k&list=PLXKTm_QGiR-hkK06_aGo2t18TjMXY757D)

# 8<sup>TH</sup> EUROPEAN MARINE BOARD FORUM

## Programme

5

Moderator: Sheila Heymans, EMB Executive Director

Opening Session		
09.30 – 09.35	<i>Forum opening &amp; housekeeping</i>	<b>Sheila Heymans</b> , Executive Director, European Marine Board
09.35 – 09.45	<i>Welcome</i>	<b>Gilles Lericolais</b> , Chair, European Marine Board
09.45 – 10.00	<i>Opening address</i>	<b>Charlina Vitcheva</b> , Director-General, DG Maritime Affairs and Fisheries, European Commission
Session 1. Engaging Early Career Ocean Professionals (ECOPs) in the Ocean we want		
10.00 – 10.30	<i>This is the Ocean we want</i>	<b>Jasmine Harrison</b> , Rudderly Mad, UK
10.30 – 11.15	<i>Panel discussion</i> with questions from audience on “How do we engage ECOP’s in the Ocean Decade and what is the Ocean they want?”	<b>Alessandro Cresci</b> , IMR, Norway <b>Natalija Dunić</b> , IOF, Croatia <b>Rebecca Zitoun</b> , GEOMAR, Germany <b>Anjali Gopakumar</b> , University of Bologna, Italy <b>Jasmine Harrison</b> , Rudderly Mad, UK
11.15 – 11.45	<i>Networking and coffee / Online breakout room for networking</i>	
Session 2. EMB activities towards the Ocean we want		
11.45 – 12.00	<i>Underwater noise</i> (a Clean Ocean) including Q&A	<b>Frank Thomsen</b> , DHI, Denmark
12.00 – 12.15	<i>Marine geohazards</i> (a Predicted and a Safe Ocean) including Q&A	<b>Heidrun Kopp</b> , GEOMAR, Germany
12.15 – 12.30	<i>Launch of EMB programme</i> for an Inspiring and Engaging Ocean	<b>Gilles Lericolais</b> , Chair, European Marine Board
12.30 – 14.00	<i>Group photograph, followed by lunch / Online breakout room for networking</i>	
Session 3. An inspiring and engaging Ocean Decade		
14.00 – 14.45	<i>Panel Discussion</i> with questions from the audience on communicating about and engaging a wider community in the Ocean Decade	<b>María del Carmen García-Martínez</b> , IEO, Spain, and Chair of EMBOP <b>Romulus-Marian Paiu</b> , Mare Nostrum, Romania <b>Peer Fietzek</b> , Kongsberg Maritime, Germany <b>Elisabetta Balzi</b> , DG Research and Innovation, European Commission

Session 4. Harmonizing Ocean Decade activities in Europe		
14.45 - 15.00	<b>Ambitions for the Ocean Decade</b>	<b>Vladimir Ryabinin</b> , Intergovernmental Oceanographic Commission
15.00 – 15.45	<b>Panel discussion</b> with questions from the audience on bridging science and policy at different levels to support the Ocean Decade in Europe	<b>Zoi Konstantinou</b> <sup>8</sup> , DG Maritime Affairs and Fisheries, European Commission <b>Niall McDonough</b> , Marine Institute, Ireland, and Chair of JPI Oceans <b>Gesine Meißner</b> , Chair of German Ocean Decade Committee, Germany <b>Colin Stedmon</b> , Danish Centre for Marine Research, Denmark and Ocean Decade Arctic Action Plan <b>Annemie Rose Janssen</b> , RBINS, Belgium and Ocean Decade Southern Ocean Task Force
Closing Session		
15.45 – 15.55	<b>Jean-Eric Paquet</b> , Director-General, DG Research and Innovation, European Commission	
15.55 – 16.00	<b>Sheila Heymans</b> , Executive Director, European Marine Board	
16.00	<b>Reception</b>	

The full programme is available for download on the EMB website<sup>9</sup>.

<sup>8</sup> Zoi Konstantinou kindly stepped in at the last minute to replace Andreea Strachinescu from DG MARE

<sup>9</sup> <https://www.marineboard.eu/8th-marine-board-forum>

## KEY MESSAGES

7

The UN Decade of Ocean Science for Sustainable Development (2021-2030) marks an important period for the marine community in Europe and internationally. The speakers and panelists of the 8<sup>th</sup> EMB Forum discussed many different aspects of this Ocean Decade, and a number of overarching messages emerged:

- **The Ocean Decade represents a great opportunity for the scientific community to engage with the public and to tell them about the importance of the Ocean.** In a time where the Ocean is receiving political attention already, this can be further exploited by directing unified international attention towards the Ocean for the public at large.
- **The Ocean Decade is a unique opportunity to work together across disciplines and stakeholder groups on an international scale.** Successful delivery of the Ocean Decade objectives requires wide-ranging collaboration. These mutual objectives should be used as a driver to explore new collaborations and increase global work towards the Ocean we want.
- **Public-facing messaging about the Ocean Decade, and the Ocean more generally, has to be relevant to the daily lives of the citizens.** In order for messaging to stand out amongst the many other topics capturing people's attention, Ocean Decade communications must highlight the direct links between the Ocean and people's lives.
- **The marine science community needs to reach out in new and varied ways to engage people with the Ocean.** The Ocean science community should work with communicators to seek new ways to reach out using various communication forms that are tailored to the intended audience. This can and should go beyond traditional science communication approaches and innovation to integrate marine science with other disciplines and stakeholders.
- **Scientists and policy-makers should work together more closely within the context of the Ocean Decade.** This will help to ensure that policy-relevant science and knowledge is generated and made available, and that policy-makers are aware of the information already available to help them make science-based Ocean policy decisions.
- **The EU Mission: Restore our Ocean and Waters, and the Ocean Decade have complimentary aims, and the work done within the context of the Mission will input directly to the delivery of the Ocean Decade.**

With this Forum, EMB confirmed its active support for the Ocean Decade. As the first Ocean Decade Implementing Partner, the EMB will use its broad network to help coordinate Ocean Decade activities in Europe, and will actively support the Ocean Decade through foresight, coordination, and communication. The EMB will also provide active financial support to the Ocean Decade via the new "EMBracing the Ocean" artist-in-residence programme, which was also announced during the Forum. During the Forum, two recent EMB foresight publications on underwater noise and marine geohazards were presented. The speakers particularly highlighted the contributions these documents make to the Ocean Decade Challenges and Outcomes. Future EMB publications will also make clear contributions to the Ocean Decade and its aims.

## OPENING SESSION

8



### Welcome

**Dr. Gilles Lericolais**, *Chair of the European Marine Board & CEO Advisor for Ifremer, France*

**Dr. Lericolais** welcomed participants to the 8<sup>th</sup> EMB Forum, which was being held under unusual circumstances given the ongoing COVID-19 situation. He introduced the EMB, and in particular the purpose of the EMB Fora in enabling discussion and knowledge exchange between stakeholders on both sides of the marine science-policy interface. Moreover, he announced that the EMB had become the first Ocean Decade Implementing Partner. He pointed out that the Ocean Decade is a good way to place the Ocean at the forefront of policy agendas and for Europe to engage more closely in Ocean science.



### Opening address

**Ms. Charlina Vitcheva**, *Director-General, DG Maritime Affairs and Fisheries (MARE), European Commission*

**Ms. Vitcheva** explained how the European Commission (EC) is involved with, and contributes to, the Ocean Decade. She pointed out the necessity and relevance of the Ocean Decade for the European Union (EU) and reaffirmed that the EC is fully engaged. To solve the major societal challenges of the Ocean Decade, the Commission has integrated its goals into the *Mission Restore our Ocean and Waters*<sup>10</sup> (Mission Ocean), which she reported is the main day-to-day business of DG MARE. The Decade is at the top of their agenda.

***“The Decade is the opportunity and the framework we needed to share capacity, to build strong and lasting international commitment, and to maximize the impact of our actions.”***

– Ms. Charlina Vitcheva

<sup>10</sup> [https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/missions-horizon-europe/healthy-oceans-seas-coastal-and-inland-waters\\_en](https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/missions-horizon-europe/healthy-oceans-seas-coastal-and-inland-waters_en)

She explained that through the Mission, the EC aims to go beyond classic research and broaden innovation and investment across sectors. Several initiatives and strategies have set targets directed towards conservation, protection and climate neutrality. The EU Biodiversity Strategy has the objective to protect at least 30% of marine ecosystems by the end of 2030. Moreover, in the Zero Pollution Action Plan, the EC aims to prevent marine pollution particularly from land sources, including plastics and nutrients. With regards to the Blue Economy, the EC intends to foster sustainable development and decarbonization. She highlighted that the Mission is also directed towards raising public awareness and connecting people with the Ocean. This will partly be achieved through interactions with citizens in building a sustainable Blue Economy.

***“I hope that the Ocean Decade can bring along wider consensus on priorities, substantial collaboration and openness in sharing data, capacity, technology and scientific knowledge.”***

*– Ms. Charlina Vitcheva*

She then drew attention to EU projects on Ocean Literacy and Blue skills. She mentioned the EU4Ocean project<sup>11</sup> in which young people are encouraged to bring innovative solutions to the table. In terms of funding for these projects and initiatives, she reported that DG MARE is reaching out beyond its own financial boundaries. For example, for the projects on the development of blue skills, which are the work skills required for a sustainable blue economy, DG MARE is calling on the EU social fund. Lastly, she pointed out that there are many more initiatives that contribute to the knowledge base for the Ocean Decade and that listening to this knowledge is the first step to policy-making.



Credit: Michael Chia and EMB

Coordinating the 8<sup>th</sup> EMB Forum as a hybrid event

<sup>11</sup> <https://webgate.ec.europa.eu/maritimeforum/en/node/4484>

## SESSION 1 Engaging Early Career Ocean Professionals (ECOPs) in the Ocean we want

10



### This is the Ocean we want

**Ms. Jasmine Harrison**, *Adventure athlete, Rudderly Mad, UK*

**Ms. Harrison** is the record holder for the youngest woman to row solo across the Atlantic Ocean. She spoke about her experience at sea, how the Ocean inspires her, the Ocean she wants and how the Ocean Decade could gain more visibility. She showed footage of the wildlife she encountered during her trans-Atlantic expedition, as well as the sunsets and the Sargassum (floating algae), in which she got stuck a few times. She used the Sargassum as an example of the consequences of climate change in the Ocean. At the time, she did not know what the Sargassum was, however she was certain that it should not be there, in the middle of the Atlantic. She was also surprised by a few storms. This made her realize that the Ocean she wants has predictable weather systems. In addition, she expressed a wish for an Ocean that does not destroy islands, livelihoods and homes.

***“We want the Ocean to be alive, sustainable and resilient. That means litter free and wildlife full.”***

*– Ms. Jasmine Harrison*

She noted that information about the Ocean Decade had reached her. However, she pointed out that she has an inherent interest in the Ocean and if she would not have had this interest, she didn't think she would have known about it.

In making connections between citizens and the Ocean, she stated that most people do not see the damage that is done to the Ocean. They do not see how their actions can affect the Ocean negatively. The consequences seem to be far removed from their own lives. They also do not see how conservation will be beneficial for future generations. Therefore, she advised to create initiatives that communicate on a local and personal level, to make people aware of ways in which their actions can harm the Ocean, and what they can do to contribute to protecting the Ocean for their children. This communication should take place on social media, because that is where everybody now lives: online. Moreover, she suggested that it would be beneficial if we could find celebrities that could provide a good example in saving the Ocean, so as to normalize environmentally-friendly behaviour.

## Audience Questions & Answers

**Sheila Heymans:** *Could you see what you were filming underwater?*

**Jasmine Harrison:** No, I couldn't see it. I just put my camera underwater. The fish at the end of the video<sup>12</sup> – I didn't know it was a striped marlin until I looked at the footage later.

**Gilles Lericolais:** *Thank you for going there and making this trip. Where did you find the Sargassum? I really think politicians should see what you have filmed.*

**Jasmine Harrison:** I found the Sargassum about 900 miles from Antigua. It got bigger and bigger and it accumulated in large clumps. I had to circumvent it because I got stuck a lot.

**Fiona-Elaine Strasser (All-Atlantic Youth Ambassadors, Germany):** *Was there less wildlife in the Sargassum patch?*

**Jasmine Harrison:** It seemed that fish used it to stay under and shelter. However, there were significantly fewer dolphins and whales.

**Peer Fietzek (Kongsberg Maritime, Germany):** *What and how much did you eat?*

**Jasmine Harrison:** I was meant to eat a lot of dehydrated food to which you add water. However, I did not like it very much so I mainly lived on biscuits and chocolates!

**Britt Alexander (EMB):** *Did you have to go into the water to clean the underside of the boat? How did it feel to be in the water in the middle of the Ocean? And what emotions did the isolation spark?*

**Jasmine Harrison:** Yes, I went into the water to clean the boat. The algae grows so quickly and slows you down. Apart from that I wanted to go in every time there was a dolphin and swim with them. I felt like I was part of the Ocean, that I was an animal there. I knew it was not going to be forever, so I embraced the experience as much as I could.

**Gert Verreet (Flanders Department of Economy, Science and Innovation, Belgium):** *I can see on your boat that you are sponsored by Talisker, did you have a lot of whisky on board?*

**Jasmine Harrison:** No, I did not. There was not a lot of room on the boat in general, but I did take rum!

<sup>12</sup> [https://www.youtube.com/watch?v=L-9gWilaGQc&iist=PLXKTm\\_QGiR-jWYqBcvhHwxw-sVDvdSo5t6&index=1&t=374s](https://www.youtube.com/watch?v=L-9gWilaGQc&iist=PLXKTm_QGiR-jWYqBcvhHwxw-sVDvdSo5t6&index=1&t=374s), video clip starts at 50:30.

## Panel Discussion

Ms. Harrison was joined for the panel discussion by the four EMB Young Ambassadors: Dr. Alessandro Cresci, Dr. Natalija Dunić, Dr. Rebecca Zitoun and Ms. Anjali Gopakumar. The panelists were asked a series of questions by the moderator (Prof. Sheila Heymans), followed by a Q&A session with the audience.

**Question:** *Do you feel like you are able to engage with the Ocean Decade and make it yours?*

The EMB Young Ambassadors agreed that they are by default engaged with the Ocean Decade in their role as scientists. By doing research and filling scientific gaps, they are contributing to the Ocean Decade. They also highlighted the need to keep the Ocean Decade outcomes in mind when designing research. Moreover, they felt that they are already making a significant contribution to the Ocean Decade by talking to and educating the wider public about the Ocean and its importance in both their private and professional lives. The biggest challenge the EMB Young Ambassadors identified was how to get people that are not researching or in some way connected to the Ocean to engage with the Ocean Decade, particularly people that live further away from the coast, and those that do not have access to the internet and/or knowledge about the Ocean.



**Dr. Alessandro Cresci,**  
*Postdoctoral researcher*  
*IMR, Norway*



**Dr. Natalija Dunić**  
*Postdoctoral researcher*  
*IOF, Croatia*



**Dr. Rebecca Zitoun**  
*Postdoctoral researcher*  
*GEOMAR, Germany*



**Ms. Anjali Gopakumar**  
*PhD Student*  
*University of Bologna, Italy*

***“We need to start working in a more transdisciplinary manner, and co-design and co-produce science with various stakeholders to produce meaningful and impactful science that will do something good for our society. The Ocean Decade forces us to be broader to be able to make a change.”***

– Dr. Rebecca Zitoun

**Question: *How can Ocean scientists engage with non-scientists?***

**Ms. Harrison** pointed out that the smallest things can have the biggest impact. For example, she explained that when the ban on plastic bags was implemented in the UK, people started to think about the reasoning behind it, which created awareness about Ocean matters. Furthermore, when scientists are delivering messages about the Ocean Decade, these messages should be direct and personal, with simple words and concepts so that people will understand the messages better and be more likely to engage. She noted that people do not like to listen to scientists, therefore the message should not be overly complicated. It is also beneficial to have local action and local evidence. People will often have to see and experience climate change and Ocean issues for themselves to have the biggest engagement.

**Question: *What do you think needs to change for Ocean science to be more integrated in decision-making?***

**Ms. Gopakumar** stated that it is important for ECOPs to first know how policy-making works, in order to have a better understanding of how their research can contribute to policy-making. At the moment she felt that this knowledge is lacking, and that they need an understanding of how scientific knowledge is transferred into policy actions.

**Dr. Cresci** added that there must be a top-down approach. According to Dr. Cresci, decision-makers have to keep ECOPs' ideas and priorities in mind. To facilitate decision-makers, he said that ECOPs must put in effort to create a network and generate one voice. Such a network is currently being built amongst the ECOPs of the EMB member organizations. This could be a way to reach the people at the top, although there must also be people who want to listen. Thereto, Prof. Heymans suggested to also develop the concept of Early Career Policy-Makers. They could grow in their careers alongside young scientists and this would naturally lead to a closer working relationship and mutual understanding between scientists and policy-makers. She mentioned that as making law and policy takes several years, it would be good to involve younger policy-makers since it is important to make connections with the next generation from the get-go.

***“We, as early career scientists, need an understanding of how scientific knowledge is transformed into policy actions.”***

– Ms. Anjali Gopakumar



Prof. Sheila Heymans, Ms. Jasmine Harrison, Dr. Natalija Dunić (sitting), Dr. Rebecca Zitoun, Ms. Anjali Gopakumar and Dr. Alessandro Cresci (on screen).

## Audience Questions & Answers

**Mr. Gert Verreet** (Flanders Department of Economy, Science & Innovation, Belgium): *How do we generate impact? Is there an opportunity to talk to colleagues about this under the Ocean Decade umbrella?*

**Dr. Zitoun:** ECOPs are very visible and active, they publish a lot and are active on social media. Moreover, ECOPs generally have the most up-to-date knowledge about what is going on in the field. However, despite their potential, ECOPs are often not heard in the actions and initiatives in which they participate, because they do not have a vote. Although late and mid-career researchers listen to what we have to say, this does not translate into a say of our own in the decisions that are made.

**Dr. Gilles Lericolais:** *In comparison to my early research stage, late- and mid-career scientists listen more to ECOPs than 40 years ago. So, we can see some progress in that direction. The messages from the ECOPs are getting stronger. It leads me to the question: where does marine science need to be when you are my age?*

**Dr. Zitoun:** It is really important for us to become more transdisciplinary and to realise that if we really want to drive change, we cannot just focus on our own science. We have to work with others to co-produce and co-design meaningful and impactful science that will actually do something good for our planet and our society. We are too focused on our niche field but the Ocean Decade forces us to be broader.

**Dr. Cresci:** In the future, we need to design our research with the Ocean Decade goals in mind.

**Dr. Dunić:** I wish that awareness about climate change and conservation could become part of human consciousness. Often, you hear that we have to raise awareness and put this in people's minds. So, I hope that at some point this awareness is already a given.

**Mr. Rob Smets** (uWare Robotics, Belgium): *What can we do as individuals to do something good for the Ocean?*

**Dr. Dunić:** There are a lot of people asking the same question. Try to lower your consumption of energy by turning your lights off when you are not in a room or by turning your car off when you are on a ferry.

**Prof. Heymans:** There should be more campaigns about these kinds of easy actions to make people aware of what they can do to help.

**Ms. Fiona-Elaine Strasser** (All-Atlantic Youth Ambassador, Germany) *mentioned that she was very disappointed with the start of the Ocean Decade, because only scientists knew about it. She tried to talk to her parents and other family members to create a chain of story-telling about the Ocean Decade. She asked the panel how to improve communication about the Ocean Decade?*

**Dr. Cresci:** When we reach out, we have to keep in mind what kind of society we live in and who our target group is. We know that everyone is active on social media, and we have to try to reach people via these platforms. When communicating science, we have to create a message that everyone can understand, considering the target group and delivery platform.

**Dr. Zitoun & Dr. Dunić:** We need to collaborate with communication experts, with policy-makers, educators and journalists. In our role as scientists, our primary job is to generate good science and produce high quality data that other people can use. We provide the information and evidence of what is expected to happen in the future in certain conditions. It is then the job of the policy-makers to use this knowledge and decide which type of future they want and what action to implement. And it is the job of journalists and educators to disseminate these messages to the wider public to drive Ocean action and behavioral change. Through this collaboration with journalists and educators, our science can be better communicated and spread to a wider audience.

**Ms. Harrison:** It is important to educate children at school. It is the children that can teach the parents. Look at how they show their parents how to use their iPhone. Then, at the end of the Ocean Decade, we would have generations of young adults that are engaged with the Ocean.

**Mr. Jeremy Gault (University College Cork, Ireland)** *Why are people less likely to listen to science than to what the media says?*

**Dr. Zitoun:** This could be explained by the perception that science is a bit dry and that the emotions the media portrays about topics are more appealing.

**Ms. Harrison:** People are lazy. When scientists talk, you have to use your brain, but watching a video is easy.

***“I hope that awareness about climate change and conservation can become part of human consciousness.”***

– Dr. Natalija Dunić



Credit: Michael Chia and EMB

Ocean Decade stakeholders at the 8<sup>th</sup> EMB Forum

## SESSION 2

## EMB activities towards the Ocean we want

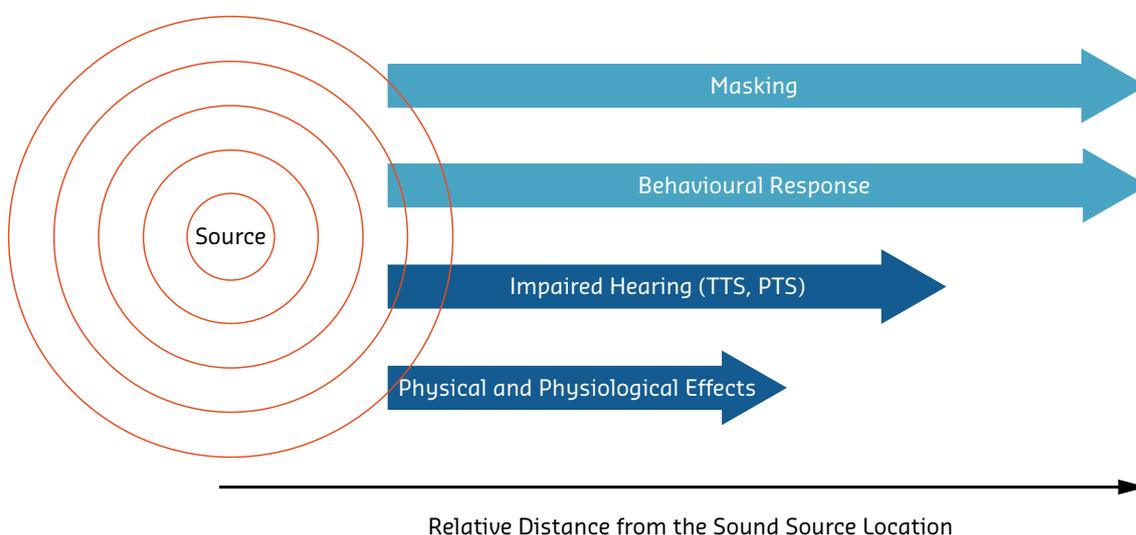
17

## Underwater Noise

**Dr. Frank Thomsen**, Senior Scientist and Director of Market Development for Sound and Marine Life, DHI, Denmark

**Dr. Thomsen** presented the new EMB Future Science Brief N°. 7 *Addressing underwater noise in Europe: Current state of knowledge and future priorities*<sup>13</sup>, and highlighted its relevance for the Ocean Decade.

He reported that underwater noise impacts have become an important issue worldwide. In the last 20 years especially, it has increasingly gained attention, for example in the EU through the underwater noise indicators of Good Environmental Status within the Marine Strategy Framework Directive, and at the United Nations (UN) in a dedicated Secretary-General report. He explained that sound is transported more efficiently underwater than through air, and human-generated underwater noise has steadily increased. The impacts of this can be quite profound.



Potential effects of noise at different distances from a sound source (based on Richardson *et al.*, (1995) and adapted from Hawkins & Popper (2016)) where TTS = Temporary Threshold Shift and PTS = Permanent Threshold Shift. From Thomsen *et al.*, 2021 (see footnote 13).

<sup>13</sup> <https://www.marineboard.eu/publications/addressing-underwater-noise-europe-current-state-knowledge-and-future-priorities>

The Future Science Brief was written with the aim to provide an update on the progress made in underwater noise research and policy since EMB's Position Paper in 2008 on *The Effects of anthropogenic sound on marine mammals: A draft research strategy*<sup>14</sup>. It widens the scope of the impacts of noise considered to all organisms and raises awareness about the current knowledge and research gaps. What should be done in the coming years is at the heart of the document. Its recommendations contribute to several Ocean Decade Challenges and Outcomes. As underwater noise is considered as a pollutant for the marine environment, the document contributes to addressing Challenge 1: *Understand and beat marine pollution*. The recommendations for mitigation measures targeting anthropogenic noise contribute to protecting marine organisms and habitats. Thus, the recommendations contribute to Challenge 2: *Protect and restore ecosystems and biodiversity*. One of the document's recommendations is to conduct comprehensive monitoring of underwater noise combined with spatial ecological modelling to establish baselines. Therefore, this also contributes to Challenge 7: *Expand the Global Ocean Observing System*. The recommendations are targeted towards identifying and mitigating underwater noise, therefore contributing to Outcomes 1: *A clean ocean, through identifying and removing sources of pollution*. Lastly, by recommending to identify and monitor underwater noise sources, the Future Science Brief contributes to mapped and protected marine ecosystems, and hence contributes to Outcome 2: *A healthy and resilient ocean, with mapped and protected marine ecosystems*.

Dr. Thomsen gave an overview of the Ocean soundscape, showing the natural and anthropogenic sound sources. He gave a brief review on the knowledge we have on the impacts of noise, namely masking, behavioural response, threshold shift, and injury and death. He pointed towards the development of regulation, highlighting the adoption of the Marine Strategy Framework Directive. He highlighted that to examine the impacts of noise, researchers can make use of equipment such as drones and sensors. This enables modelling of impacts for Environmental Impact Assessments.

Lastly, he presented the document's recommendations. There is a need for standards for all steps of the risk assessment framework to help compare studies and it is important that baselines are established. Currently, there is not enough data to do that. Furthermore, there is a need to research combinations of stressors and not only studies on noise impacts in isolation. Regarding noise management, he suggested to study the effectiveness of noise mitigation measures. For example, the bubble curtains that are used for pile driving activities should be examined to enable tailoring of mitigation measures to specific species. In general, it is important to take into account the impact of underwater noise on animals. This means to research how an animal reacts and perceives sound. Based on this information, mitigation measures should be developed.

## Audience Questions & Answers

**Prof. Sheila Heymans:** *Is there any known impact of noise on plants?*

**Dr. Thomsen:** There are recent studies conducted on the effect of continuous noise on seagrasses. Those studies show impact of noise on the seagrass species. In general, studies about the impact of noise on plants are just starting.

<sup>14</sup> [The effects of anthropogenic sound on marine mammals: A draft research strategy](#).

## Marine Geohazards

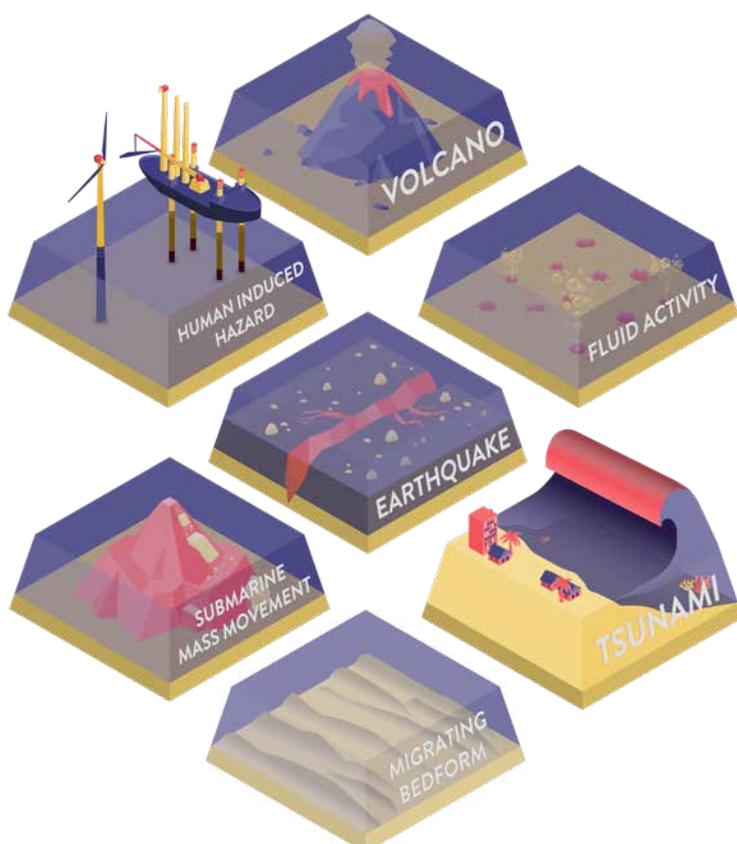
**Prof. Heidrun Kopp**, *Scientist and Head of Department Dynamics of the Ocean Floor, GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany*

**Prof. Kopp** launched the new EMB Position Paper N°. 26 *Marine Geohazard: Safeguarding society and the Blue Economy from a hidden threat*<sup>15</sup>, highlighting its relevance for the Ocean Decade.

She stated that geohazard-related risks are rising in Europe. As our coasts become more populated and our Blue Economy is developing, we are more exposed and vulnerable to marine geohazards. She explained that risk is the product of the hazard, the exposure and the vulnerability. She highlighted that marine geohazard-induced catastrophes are not solely a disaster that happened in the past. The Messina-Calabria region is still coping with the consequences of the Messina earthquake in 1908.



Credit: Amber Moreels, Amber Deureker, Ellis Deleek and Margaux Vandevelde - Artevelde University of Applied Sciences



Types of marine geohazards as described in EMB Position Paper N° 26 (see footnote 15)

<sup>15</sup> <https://www.marineboard.eu/publications/marine-geohazards-safeguarding-society-and-blue-economy-hidden-threat>

Moreover, the recent volcanic eruption in La Palma (2021) is a good example of international, European, national and regional impacts<sup>16</sup>. In addition, we have insufficient knowledge about the risks volcanoes present underwater. She showed the bathymetry of Mount Etna and highlighted its instability. She also mentioned that events such as mass movements can trigger tsunamis. Apart from the more well-known marine geohazards, she highlighted hazards such as fluid activity and migrating bedforms. The latter can be very destructive to the Blue Economy as e.g. communication cables on the seafloor can be affected. Lastly, she introduced human-induced hazards, such as gas injections into the Ocean's subsurface to create one of the largest strategic hydrocarbon reservoirs in Spain<sup>17</sup>. This resulted in seismic activity and the project had to be stopped. Prof. Kopp explained that these events can also trigger each other, with geohazards resulting in cascading and/or cumulative events, where the consequences add or multiply.

She then elaborated on what we can do to mitigate these risks. She stated that the seafloor holds all relevant information on where and how geohazards will occur. Currently, we do have the technology to harvest all the necessary information. For example, to map the seafloor, marine drones could be used, which show fault zones at very high resolution. She then presented tools to drill into the seafloor and take samples that provide us with the physical properties of the seafloor. With this information, conclusions can be drawn regarding the stability of the seabed and/or fluid activity. Lastly, she explained *in situ* monitoring, where sensors can be placed on the seafloor and Blue Economy installations such as cables can be converted into smart sensors. These monitoring networks are key to early warning systems and to forecasting marine geohazards.

**“The seafloor holds all relevant information on where and how geohazards will occur.”**

– Prof. Heidrun Kopp

In terms of recommendations, she highlighted the inclusion of geohazards in all risk mitigation strategies at regional, national and international level. Moreover, she pointed towards the importance of raising awareness amongst public authorities and communities. She also elaborated on the need for an enhanced understanding of the impacts on coastal societies and economies. She concluded that we need to harvest all seafloor information to contribute to a safe and predictable Ocean, which is Outcome 4 of the Ocean Decade: *A safe Ocean, protecting people from Ocean hazards*.

## Audience Questions & Answers

**Mr. Gert Verreet** (Flanders Department of Economy, Science & Innovation, Belgium): *Did you consider geoengineering solutions such as carbon capture and storage in risk management frameworks? Do you think that policy risk management frameworks are sufficiently strong to capture those solutions in the future?*

**Prof. Kopp:** Carbon capture and storage is very different. As member of the expert group, I would suggest to put it into basalt, there it is safe.

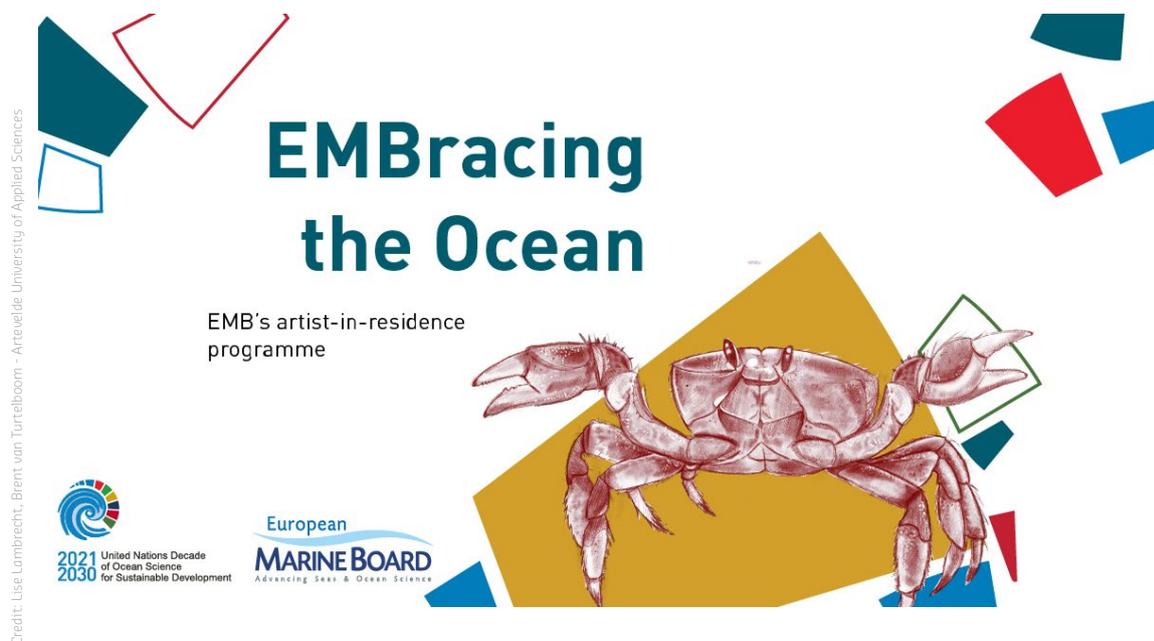
<sup>16</sup> The Cumbre Vieja volcanic eruption on La Palma, Spain, took place from September 2021 and caused significant damage: [https://en.wikipedia.org/wiki/2021\\_Cumbre\\_Vieja\\_volcanic\\_eruption](https://en.wikipedia.org/wiki/2021_Cumbre_Vieja_volcanic_eruption)

<sup>17</sup> For more information see Cesca, S., Stich, D., Grigoli, F. et al. (2021). Seismicity at the Castor gas reservoir driven by pore pressure diffusion and asperities loading. *Nature Communications* 12(4783). <https://doi.org/10.1038/s41467-021-24949-1>

## Launch of EMB programme for an Inspiring and Engaging Ocean

**Dr. Gilles Lericolais**, *Chair of the European Marine Board & CEO Advisor for Ifremer, France*

**Dr. Lericolais** reported that EMB will contribute to the Ocean Decade with financial support and therefore is launching the *EMBracing the Ocean* programme<sup>18</sup> as a way to engage with citizens. This programme aims to make information about the Ocean more assessable through art. EMB offers grants to artists from any creative discipline and from any geographic location to inspire behavioural change for Ocean sustainability. **Prof. Heymans** added that finding new ways to communicate about the Ocean Decade is extremely important as we have seen from the outcomes during the first panel.



Promotional image for the EMBracing the Ocean artist-in-residence programme

<sup>18</sup> <https://www.marineboard.eu/embracing-ocean>

## SESSION 3

# An inspiring and engaging Ocean Decade

22

### Panel Discussion

The panelists (Dr. María del Carmen García-Martínez, Mr. Romulus-Marian Paiu, Mr. Peer Fietzek, and Dr. Elisabetta Balzi) were asked a series of questions by the moderator (Prof. Sheila Heymans), followed by a Q&A session with the audience.



Prof. Sheila Heymans, Dr. María del Carmen García-Martínez (sitting), Mr. Romulus-Marian Paiu, Mr. Peer Fietzek and Dr. Elisabetta Balzi (on screen).

**Dr. María del Carmen García-Martínez**, *Director, Malaga Oceanographic Centre, Instituto Español de Oceanografía, Spain & Chair of the European Marine Board Communications Panel*

**Question:** *How can we reach a wider audience when communicating about the Ocean and the Ocean Decade?*

**Dr. García-Martínez** reflected that the reason we as a society need an Ocean Decade is because it is an environment we are less familiar with. We do not live in the Ocean and therefore we have less understanding of it. However the Ocean is critical to our daily lives and therefore we need to understand it. The Ocean Decade is needed to direct interest towards the Ocean. She stated that the marine science community has been communicating about the Ocean for a long time, but now we have the opportunity to do that together, on a global scale. She said that when we talk about the Ocean within the context of the Ocean Decade, perhaps we also need to change our way of speaking to make even our basic scientific terminology clear to those outside the field. We also need to consider using new tools to reach people, and in that sense, we are very lucky to be working with the Ocean because it can provide amazing and inspiring images, footage and visuals. We can use these to help spread messages about the importance of the Ocean.



***“The Ocean does not begin at the shore, it begins where you are. All the actions you do affect the Ocean. We have to find a way to let everybody know we are part of the same thing and everything is connected.”***

*– Dr. María del Carmen García-Martínez*

**Question:** *How can we make our science more accessible?*

**Dr. García-Martínez** started by agreeing in principle with the discussions from Session One where it was noted that the main role of scientists is of course to generate and publish science. However, we can work in teams which include scientists and communication experts to also help make this science more widely accessible, and provide the tools to achieve this. In this wider dissemination, we have to be creative. She presented the example of the Oceanicas<sup>19</sup> project being conducted in Spain where they set out to enhance the role of women in marine science by bringing the lost stories of their work back to life. Their initial aim was to promote scientific careers amongst women, however they have found that this has become a powerful way to have broader discussions with the public about Ocean topics, such as what is happening in the Ocean, what are the impacts of climate change on the Ocean, and about fisheries. She suggested that we need to be creative in our approaches, and find ways of reaching beyond those who are already interested in the Ocean to those who may not have expressed such an interest. She wondered whether perhaps we should go to new places to spread our messages, such as hospitals and jails.

<sup>19</sup> <https://oceanicas.ieo.es/>



**Mr. Romulus-Marian Paiu**, Executive Director, Mare Nostrum, Romania

**Question: *Through your work at Mare Nostrum, what kinds of messages have you found to work in inspiring people?***

**Mr. Paiu** explained that as an NGO, Mare Nostrum works mainly by bringing awareness campaigns to citizens, students and teachers on a variety of subjects. They have used a variety of tools to do this including newsletters, topic-related initiatives and social media posts. The initial goal of these activities is to educate people about the Ocean and the terminology used in research, so that they are better informed about the important concepts. Once they have a clearer understanding of the concepts at play and are inspired to take action, the NGO can provide support for these actions. They also work on issues such as equitability and physical access to the Ocean at the local level. He explained that they have found that press releases, social media posts and especially short videos can have significant impact on outreach. They can also

use these tools to provide detailed information to journalists as another way to increase the Ocean Literacy of the population, while ensuring that the message they put out is actually the one that reaches citizens. He finished by highlighting the true power of an impactful image, noting the example of a turbot that was found in Romanian waters with a bottle cap in its stomach, which generated significant attention. He also highlighted the important role of the EU4Ocean<sup>20</sup> Ocean Literacy initiative which is supporting organizations such as themselves to collaborate with and reach out to other like-minded organizations in Europe.

**Question: *How has Mare Nostrum engaged with, and reached out to, European citizens on Ocean matters?***

**Mr. Paiu** reflected that we are living in amazing times, where it has never been so fast or easy to share our messages around the world. This means that the channels we use to reach people are diverse but also specialized for specific target audiences. We have to consider whether a wider audience with lower involvement is better than a smaller more targeted audience that can produce real change. For him, the latter is more impactful and he highlighted the need to identify target audiences and to tailor messaging accordingly to maximize reach and impact within that group. He suggested that it could also be interesting to consider the different ways in which different people take in information, and to combine e.g. visual, textual and numerical information in communication outputs. We want to be moving from knowledge to action, and from action to impact, and tools such as citizen science can contribute to a feeling of engagement and experience. He highlighted ongoing important initiatives for their work at Mare Nostrum including the current DOORS<sup>21</sup> and BRIDGE<sup>22</sup> projects which are looking to build links in the Black Sea region.

<sup>20</sup> <https://webgate.ec.europa.eu/maritimeforum/en/frontpage/1483>

<sup>21</sup> <https://www.doorsblacksea.eu/>

<sup>22</sup> <http://bridgeblacksea.org/>

**Mr. Peer Fietzek**, Senior Business Development Manager Ocean Science, Kongsberg Maritime, Germany

**Question:** *What role can industry play in communicating about the Ocean Decade?*

**Mr. Fietzek** noted that industry could carry Ocean topics into business life and in return add an industry perspective to discussions. Industry could promote sustainable thinking, and could help to highlight the importance of the marine realm for the global economy. However, instead of just communicating about the Ocean Decade, the focus should be on actions. The private sector is a major stakeholder in maritime affairs and therefore major changes will not be achieved without partnering with them. He stressed that the Ocean Decade has great potential to combine: 1) generation and sharing of scientific knowledge, 2) commercial sector activities, mindsets and skills, and 3) dissemination, involvement and the need for sustainability at societal level together into longer duration, ambitious projects to achieve significant impact. He suggested that we should make the most of having a 10-year lifespan of the Ocean Decade as opposed to the shorter three to four year lifespans of typical funding and political cycles.



**Question:** *What is Kongsberg Maritime doing to support the Ocean Decade and communication about wider Ocean matters?*

**Mr. Fietzek** agreed with other speakers that not every piece of information is suitable or intended for everybody. Industry targets its customers and tailors its messages and outputs to suit them. This approach is transferable to science outreach and policy activities, i.e. adjusting communications to who you want to get engaged. In terms of the Ocean Decade, Kongsberg Maritime is engaging in events such as these to bring the voice and perspective of the industry to discussions. As a company, they consider maritime technology as a sustainability enabler and e.g. have high-level ambitions to reduce emissions from maritime transport and these aims align well with those of the Ocean Decade. However, they also engage at a knowledge generation level, working with scientists through three Ocean Decade endorsed activities, promoting messages as well as providing supporting technology. These activities are the *One Ocean Expedition*<sup>23</sup>, *Marine Life 2030*<sup>24</sup>, and the *Ocean Decade Odyssey*<sup>25</sup>.

<sup>23</sup> <https://oneoceanexpedition.com/>

<sup>24</sup> <https://marinelife2030.org/>

<sup>25</sup> <https://www.oceandecade.org/actions/ocean-decade-odyssey/>



**Dr. Elisabetta Balzi**, *Head of Unit Healthy Ocean and Seas, DG Research and Innovation, European Commission*

**Question: *How will the Mission Restore our Ocean and Waters inspire non-scientists to engage with the Ocean?***

**Dr. Balzi** opened by stressing that the Mission Restore our Ocean and Waters is by definition a large-scale citizen engagement and mobilization initiative. Although research is a core element, it goes far beyond that and it will only be possible to implement the research with the engagement of society at large. The Mission has three main priorities which align very well with those of the Ocean Decade, namely: 1) to protect and restore marine ecosystems and biodiversity, 2) to prevent and eliminate pollution, and 3) to make the blue economy carbon neutral and circular. Within the Mission, the concept of “lighthouses” will be used as hubs to develop, demonstrate and deploy new solutions in line with these priorities. These lighthouses will call for very broad engagement to find solutions via dedicated tools and platforms, including from society at

large. In addition, one of the two key enablers of the Mission is public mobilization and engagement, and one of the founding ideas for the Mission was recognition of the need to strengthen the engagement of the public in Ocean and aquatic affairs.

**Question: *Are there aspects of the Mission Restore our Ocean and Waters that could also support or inspire Ocean Literacy and the Ocean Decade?***

**Dr. Balzi** reiterated that Ocean Literacy is a key element of the Mission and the aim is to strengthen the link between science, policy and citizens to empower them to take ownership of actions to protect and restore the Ocean and other waters. In this way the Mission can certainly serve to inspire and contribute to actions within the Ocean Decade. There are mutual benefits to be gained in exchanging between the Mission and the Ocean Decade, as they have a common overarching goal. Decade actions can amplify ideas and feed into the Mission, and conversely the Ocean Decade can raise the global profile of activities taking place in Europe. She closed by noting that the Mission is not seeking to re-invent the wheel, but to synergize and catalyze between already existing activities and initiatives, including the Ocean Decade.

## Audience Questions & Answers

**Dr. Maria De La Fuente** (Free University of Brussels, Belgium): *What about language as a barrier to communication? Anyone who doesn't speak English wouldn't be able to get the great take-home messages from this Forum.*

**Prof. Heymans:** The Ocean Decade team are taking steps to ensure that their outputs and communications are available in a variety of languages to make it more accessible. The EMB also recently published a video and is taking steps to translate the subtitles into other European languages. We cannot keep just communicating in a few select languages because it will not help our goal of sharing Ocean messages widely.

**Dr. Balzi:** The main documents of the Mission will also be translated into European languages. In addition, the main activities will happen at the local level, and the "lighthouses" will be implemented in each sea basin and will have a platform supporting local initiatives in the relevant local languages.



Credit: Michael Chia and EMB

The in-person participants at the 8<sup>th</sup> EMB Forum

## SESSION 4

# Harmonising Ocean Decade activities in Europe

28



## Ambitions for the Ocean Decade

**Dr. Vladimir Ryabinin**, *Executive Secretary of the Intergovernmental Oceanographic Commission (IOC) of UNESCO and Assistant Director-General of UNESCO*

**Dr. Ryabinin** presented an overview of the process that led to the proclamation, by the UN General Assembly in December 2017, of the UN Decade of Ocean Science for Sustainable Development for 2021-2030. He presented the overarching vision, outcomes<sup>26</sup> and challenges<sup>27</sup> that the Ocean Decade is working towards, as outlined in the Implementation Plan<sup>28</sup>. He discussed the activities that have already taken place, including the first Call for Actions in early 2021. He also highlighted the high level of engagement with the Ocean Decade globally and thanked everyone who had submitted actions, projects and activities for endorsement. He noted the breadth of topics for which programmes have already been endorsed, and highlighted those that go beyond more traditional research and move towards new ways of

thinking about science, with new collaborations. Through the programmes that have been proposed, around 24% of the total resources needed to deliver the Ocean Decade are already in place. There is also a second call for actions currently open.

He then discussed the community-based nature of the Ocean Decade. He emphasized the Global Stakeholder Forum as the core of the updated Ocean Decade website and the place for the global Ocean Decade community to meet. He explained how the governance and coordination of the Ocean Decade was evolving. The Ocean Decade Advisory Board would be announced shortly, and the process of establishing informal thematic working groups was ongoing. He congratulated EMB on becoming the first Ocean Decade Implementing Partner. He explained that the majority of coordination activities are currently at national and regional level, and noted the need for this coordination to become more balanced in terms of representation.

He ended by saying that the Ocean Decade has the power to start a renaissance in Ocean science and technology, but that moving forward requires co-design to look at the different elements from different viewpoints. We need to evaluate the success, monitor what is available, and highlight where the gaps are. The major global political-level events coming up in 2022 will make the Ocean more visible and will play an important part in moving the Ocean Decade forward.

***“The goal and vision is to achieve harmony in human relations with the Ocean based on a new level of science.”***

*– Dr. Vladimir Ryabinin*

<sup>26</sup> <https://www.oceandecade.org/vision-mission/>

<sup>27</sup> <https://www.oceandecade.org/challenges/>

<sup>28</sup> <https://www.oceandecade.org/wp-content/uploads/2021/09/337567-Ocean%20Decade%20Implementation%20Plan%20-%20Full%20Document>

## Panel Discussion

The panelists (Dr. Zoi Konstantinou, Ms. Gesine Meißner, Prof. Colin Stedmon, Dr. Niall McDonough and Ms. Annemie Rose Janssen) were asked a series of questions by the moderator (Prof. Sheila Heymans).



Credit: Michael Chia and EMB

Prof. Sheila Heymans, Ms. Annemie Rose Janssen (sitting), Dr. Zoi Konstantinou, Ms. Gesine Meißner, Prof. Colin Stedmon and Dr. Niall McDonough (on screen).



**Dr. Zoi Konstantinou**, *Policy Officer, DG Maritime Affairs and Fisheries, European Commission*

**Question: *How can we bridge science and policy at European and national level to support the Ocean Decade?***

**Dr. Konstantinou** expressed her belief that the Ocean Decade is an ideal opportunity to bring together and highlight activities and actions that are already happening at the European Commission (EC). Many of these activities have complimentary ambitions of bridging science and policy, and bringing together wider Ocean stakeholders. The EC already operates using knowledge-based advice to guide policies and initiatives, and with the actions of the Ocean Decade, these efforts will be further underlined. She explained that the International Ocean Governance Forum<sup>29</sup>, currently being supported by the EC, acts as an umbrella that engages stakeholders on a European and international level. One of the important discussions arising from that work in this context has been on transdisciplinary science, and how this can be supported and

implemented. The European Commission is also looking at how the results and wealth of knowledge from wide sources can be used to underpin European policy-making. She closed by stating that she feels, at least on a European level, that policy-makers are much more open to engaging in discussions with scientists and this is a positive step towards this bridging process.

**Question: *How will the ongoing initiatives that DG MARE is running be supported by the Ocean Decade?***

**Dr. Konstantinou** stated that activities and initiatives within DG MARE are aligned with the goals and challenges of the Ocean Decade. Therefore, it is a consolidating opportunity, linking their activities on for example the Common Fisheries Policy, EMODnet, blue skills, and Ocean Literacy. The Ocean Decade will help DG MARE to bring in more stakeholders, underline the importance of the work being done in Europe for the Ocean, and build international collaborations to help stakeholders move beyond the EU horizon on which they already operate. Her own work focuses particularly on marine observations and knowledge, and she believes that significant progress will be possible in this area using the momentum that the Ocean Decade will create. The European Commission is already planning to both put their activities into the service of the Ocean Decade and to benefit from the momentum it creates to advance their own work.

<sup>29</sup> <https://webgate.ec.europa.eu/maritimeforum/en/frontpage/1469>

**Dr. Niall McDonough**, *Director of Policy, Innovation and Research Services with the Marine Institute in Galway, Ireland & Chair of JPI Oceans*

**Question:** *How can we bridge science and national policy to support the Ocean Decade, and what role does JPI Oceans play?*

**Dr. McDonough** noted that JPI Oceans is also on a trajectory to become an Ocean Decade Implementing Partner, enabling them to act in a more formal way to communicate the needs of the Ocean Decade. Through this role, they are already seeking to align their joint action goals with the Ocean Decade agenda and its outcomes and challenges. An example of this is the upcoming joint call on underwater noise<sup>30</sup>. JPI Oceans are engaged in co-creating joint calls, and can use these approaches to react quickly to new emerging topics and issues. As JPI Oceans' members are linked to national ministries and funding bodies, they have direct interaction with them on the call proposals developed by scientists, leading to natural bridges brought together by co-creation. They are now moving towards not only co-creation, but also co-delivery and co-implementation, working closely with those who need and use scientific outputs. He ended by noting that science-policy interfaces are complex multi-way processes and there is more that we as a scientific community can do to understand the dynamics of those processes and ensure they serve their purpose. This can be further supported by putting in place appropriate incentives and guidance for scientists to engage in these interfaces.



***“We can do all the science we want, but if it’s not answering the question, the policy-makers can’t use it. Working closely with the policy-makers to know what is needed is critical.”***

*– Dr. Niall McDonough*

**Question:** *What new opportunities could the Ocean Decade offer for Ireland?*

**Dr. McDonough** recognized that although Ireland is a small nation, it is a large Ocean state and it is in fact one of the only countries to have largely mapped its seabed. When the Ocean Decade was endorsed at UN level, this supported and gave gravitas to raise Ocean issues on the political agenda and at the international level, and it makes it easier to gain access to decision-makers and funding, and to enact change. In Ireland, a new National Marine Research and Innovation Strategy is being developed and the Ocean Decade will be an integral part of that Strategy. The strategy will define policy-relevant research needs and will be used to direct and coordinate research funding and guide policy-making. Ireland will also establish a national Ocean Decade committee, which will be a science-driven initially, and will help to coordinate action in Ireland and link to policy in a strategic way. He closed by noting that together with the Sustainable Development Goals, the Ocean Decade has given Ireland the opportunity to reach out beyond Europe, including to Small Island Developing States, to develop capacity and technology in Ocean science, through a planned new national funding programme to be launched in 2022.

<sup>30</sup> <https://www.jpi-oceans.eu/en/joint-call-proposals-underwater-noise-marine-environment>



**Ms. Gesine Meißner**, *Chair of the German National Committee for the UN Decade of Ocean Science for Sustainable Development*<sup>31</sup>

**Question:** *How can we bridge science and policy at European and national level to support the Ocean Decade?*

**Ms. Meißner** pointed out that the Mission Restore our Ocean and Waters and the Ocean Decade have the same aim: they want to dedicate the next decade to the Ocean and to have everyone in society understanding the importance of, and caring for, the Ocean by 2030. In this regard, we as a community should work together towards this common aim. In Germany, the national Ocean Decade Committee brings together people from a wide range of backgrounds to collaborate in thematic working groups, including politics, economy and society. Linking to politics, she highlighted that in the new German government coalition treaty, an Ocean strategy is mentioned for the first time, together with a Special Envoy for the Ocean. This is a very important and promising step forward. To link to economy, the German National

Ocean Decade Committee seeks to reach out to industry, including those not naturally linked to maritime affairs, to partner with them in jointly working towards Ocean actions and solutions at national level. To link to society, they are reaching out to groups such as NGO's who already have important relevant activities that can be linked to. She also noted initiatives such as the "House of Little Researchers"<sup>32</sup> which aims to reach out at an education level to build bridges between Ocean stakeholders. Another very good initiative she highlighted is the international project EndPlasticSoup<sup>33</sup> initiated by the Rotary Clubs movement. She emphasized that we should not be conducting business as usual, but should be thinking about new ways to engage.

**Question:** *What new opportunities could the Ocean Decade offer for Germany?*

**Ms. Meißner** said that the Ocean Decade provides both the opportunity and the mission to make everybody love the Ocean. It is an opportunity to inform society about the importance of the Ocean in a joint effort, and this is something new. We can all use this opportunity to tell people about the importance of the Ocean, including for climate and for oxygen, and change existing mindsets where the Ocean is not in people's awareness. She is thrilled by the opportunity to expand people's appreciation of the Ocean, beyond holiday destinations and recreation, to the Blue Economy, blue energy and other Ocean resources. She concluded that we can work jointly to create a community of Ocean friends.

<sup>31</sup> <https://ozeandekade.de/>

<sup>32</sup> <https://www.haus-der-kleinen-forscher.de/en/about-us>

<sup>33</sup> <https://endplasticsoup.nl/>

**Prof. Colin Stedmon**, *Professor in Chemical Oceanography  
Technical University of Denmark & Ocean Decade Arctic Action Plan*<sup>34</sup>

**Question:** *How do you plan to bridge the gap between science and policy in relation to the Arctic at the international scale?*

**Prof. Stedmon** started by noting that the Danish Center for Marine Research had facilitated the process of developing the Arctic Action Plan, but that as national-level scientists, they were perhaps not the right group to take forward coordination of activities. It would instead be more appropriate to have an international body, possibly one outside pure science, taking on a representative role. In terms of the Action Plan, they are now looking to have the Ocean Decade and eventually the Action Plan itself recognized at an international governance level in the Arctic, namely by the Arctic Council. It is through this recognition at higher levels of governance that they will be able to reach broader stakeholders and gain endorsement for these plans at international level.



**Question:** *What new opportunities could the Ocean Decade offer for the Arctic?*

**Prof. Stedmon** reiterated that the most important things the Ocean Decade can offer the Arctic are momentum and alignment. The Ocean Decade means that people are focusing on the same target at the same time, and this means that internationally and across sectors it will be possible to achieve a lot more. It is providing a common set of goals across many different fields, across national boundaries, and for different oceanographic regions. In addition, he highlighted the “classroom to Parliament” approach of bringing Ocean topics into educational settings, helping us to establish a generation who is more familiar with the Ocean, making conversations about the Ocean a more natural part of life, including in policy.

<sup>34</sup> <https://www.oceandecade.dk/decade-actions/arctic-action-plan>



**Ms. Annemie Rose Janssen**, *Science Officer at the Royal Belgian Institute for Natural Sciences & Coordinator of the Ocean Decade Southern Ocean Task Force*<sup>35</sup>

**Question:** *How do you plan to bridge the gap between science and policy at the international scale in relation to the Southern Ocean?*

**Ms. Janssen** opened by saying that throughout the initiation of their process in the Southern Ocean, they have been successful in reaching out to a broad range of stakeholders from academia, governments, management bodies, as well as the business and industry sector. This has been facilitated by the fact that the Southern Ocean community is already a close-knit functioning unit. The Southern Ocean Task Force has representatives from a wide range of backgrounds, including science, policy, and business. It is the diversity of this Task Force that makes it so rich and has enabled them to develop an Action Plan with many different voices reflected. She also noted that the Southern Ocean

community has been able to build on existing collaborations in Antarctic and Polar science for this Task Force. In this way, the Southern Ocean is a good example of how you can bridge between stakeholders at the international level; by having a diversity of voices represented through an open and transparent process, and by building on existing and known initiatives.

**Question:** *What new opportunities could the Ocean Decade offer for the Southern Ocean?*

**Ms. Janssen** explained that the Ocean Decade is an opportunity to underline the importance of the Southern Ocean. Because people do not live there, the region is underrepresented at a global scale. Some world maps do not even show Antarctica. The Ocean Decade acts as a platform to spread the word that the Southern Ocean plays a disproportionate role in for example climate regulation, and carbon and heat storage. It will also be an important Forum for people to meet, because all those diverse voices are needed to be able to outline what they need and to overcome the challenges.

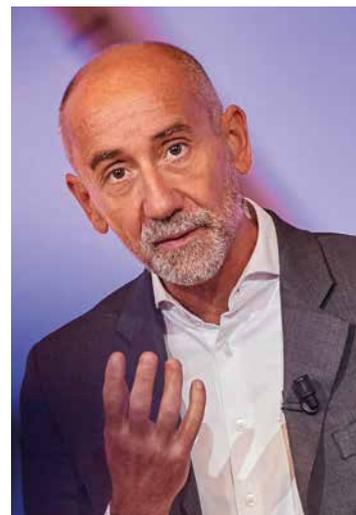
<sup>35</sup> <https://www.sodecade.org/about/>

## Closing Session

35

**Mr. Jean-Eric Paquet**, *Director General, DG Research and Innovation, European Commission*

**Mr. Paquet** gave the closing remarks for the 8<sup>th</sup> EMB Forum and emphasized the central role of marine research and innovation in driving the green transformation in Europe, and the contribution and commitment of EC's Directorate-General Research and Innovation to the UN Decade of Ocean Science for Sustainable Development. He noted the importance of marine research in supporting the implementation of the European Green Deal, and in particular for the EU Biodiversity Strategy for 2030 with its commitment of having 30% of European waters protected by 2030, as well as for the Zero Pollution Action Plan with its targets of reducing plastics litter at sea by 50% and microplastics released into the environment by 30%, and nutrient losses and use of chemical pesticides by 50% by 2030. Science and innovation is propelling public action in these fields, for instance through the work of the Intergovernmental Panel on Climate Change (IPCC) and the preparation of the science basis for COP15 on the Convention of Biological Diversity. Scientific data, e.g. on sea level rise and ocean acidification, has brought (European) leaders at COP26 in Glasgow to set dates for climate-neutrality, including the 2050 target of the EU. Research and innovation need to accelerate the transitions that are needed and show impact and results in CO<sub>2</sub> reductions by 2030, contributing tangibly and visibly to the EU's 55% emissions reduction target by 2030.



As well as scientific research, Mr. Paquet explained that the active mobilization of research and social innovation are needed to help achieve climate change targets and ambitions. Over 1,500 marine projects funded by the EU's framework programme for research and Innovation Horizon 2020 provide a valuable resource, and we now have a collective responsibility to look back and harvest the results and innovations coming from those projects. Under the European Green Deal call, a pilot call to build an ambitious European Digital Ocean Twin with its wide-ranging data will also be a valuable resource in support of future planning at all levels in Europe, and will contribute to the UN Decade of Ocean Science. The Horizon Europe work programme will continue to support developments in knowledge and action, both within the main funding programme as well as via the Missions. He explained that teaming up across disciplines and with stakeholders to create impact is particularly important, and this will be reflected both in the Mission Restore our Ocean and Waters and the European Partnerships such as A climate-neutral, sustainable and productive blue economy<sup>36</sup>, which will align and make marine research more integrated and impactful across Member States. The Mission will co-design research solutions with society, and increase their deployment together with citizens, society and stakeholders. It will be critical to have this wide-ranging buy-in and increased ownership of solutions and their implementation. He also explained that the research and innovation activities will be coupled with support from other EU programmes lighthouses in different sea-basins, and will require other actors to step in to support regions as they take ambitious steps to adapt to a more sustainable and green future.

Mr Paquet closed by encouraging everyone, wherever they are, to look at the Mission Restore our Ocean and Waters, to own the Mission, and to contribute to its delivery by 2030. The Mission will be a key EU contribution to the UN Decade of Ocean Science, together with the multilateral partnerships for Ocean research and innovation such as the All-Atlantic Ocean Research Alliance, the BlueMed cooperation and the implementation of the Black Sea Strategic Research and Innovation Agenda.

<sup>36</sup> [https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/european-partnerships-horizon-europe\\_en](https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/european-partnerships-horizon-europe_en)

## ABBREVIATIONS

<b>COVID-19</b>	Coronavirus disease of 2019
<b>COP</b>	Conference of the Parties
<b>DG MARE</b>	Directorate General for Maritime Affairs and Fisheries
<b>DG RTD</b>	Directorate General Research and Innovation
<b>DHI</b>	Danish Hydraulic Institute
<b>EC</b>	European Commission
<b>ECOP</b>	Early Career Ocean Professional
<b>EMB</b>	European Marine Board
<b>EMBCP</b>	European Marine Board Communications Panel
<b>EMODnet</b>	European Marine Observation and Data Network
<b>EU</b>	European Union
<b>GEOMAR</b>	Helmholtz Centre for Ocean Research Kiel, Germany
<b>IEO</b>	Instituto Español de Oceanografía, Spain
<b>IFREMER</b>	The French Research Institute for the Exploitation of the Sea
<b>IMR</b>	Institute of Marine Research, Norway
<b>IOC-UNESCO</b>	International Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization
<b>IOF</b>	Institute of Oceanography and Fisheries, Croatia
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>JPI Oceans</b>	Joint Programming Initiative Oceans
<b>Mission Ocean</b>	EU Mission: <i>Restore our Ocean and Waters</i>
<b>NGO</b>	Non-Governmental Organization
<b>Ocean Decade</b>	United Nations Decade of Ocean Science for Sustainable Development (2021-2030)

<b>OSPAR</b>	Oslo/Paris Convention for the Protection of the Marine Environment of the North-East Atlantic
<b>RBINS</b>	Royal Belgian Institute for Natural Sciences
<b>SDGs</b>	Sustainable Development Goals
<b>UN</b>	United Nations



#### **European Marine Board IVZW**

Wandelaarkaai 7 | 8400 Ostend | Belgium | Tel.: +32 (0)59 34 01 63 | E-mail: [info@marineboard.eu](mailto:info@marineboard.eu) | Web: [www.marineboard.eu](http://www.marineboard.eu) |  
Twitter: @EMarineBoard | Instagram: [emarineboard](https://www.instagram.com/emarineboard) | Facebook: [@EMarineBoard](https://www.facebook.com/EMarineBoard) | LinkedIn: European Marine Board IVZW |  
YouTube: European Marine Board

Belgian register of legal entities: 0650.608.890