



European Marine Science and the Mission: Restore our Ocean and Waters by 2030

Sheila Heymans



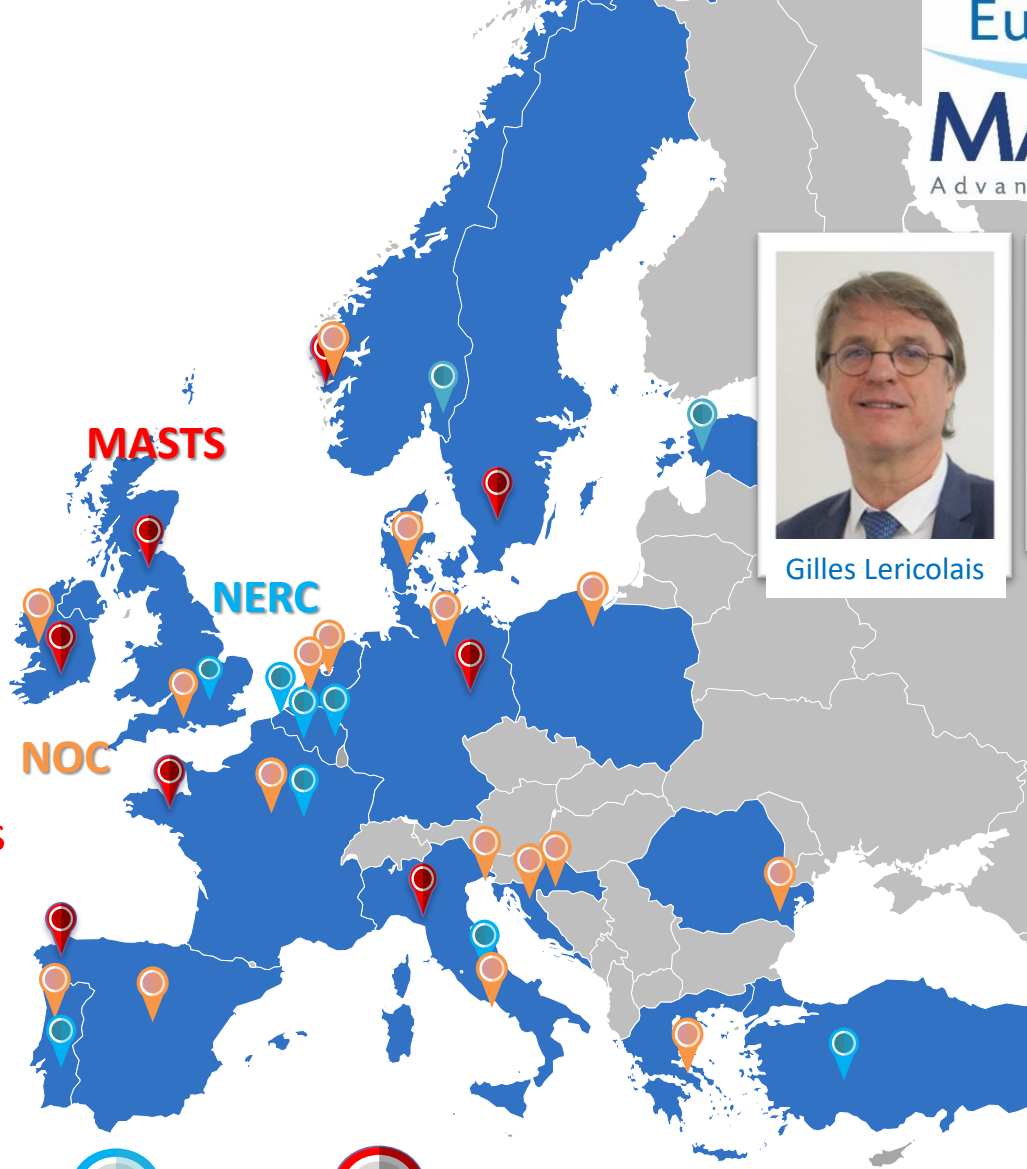
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A unique European partnership of major marine and oceanographic institutes, research funding agencies and national networks of universities



RESEARCH PERFORMING
INSTITUTES



RESEARCH FUNDING
ORGANIZATIONS



NETWORKS AND
UNIVERSITY CONSORTIA

35 MEMBERS FROM

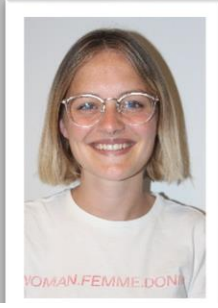
18 COUNTRIES



Gilles Lericolais



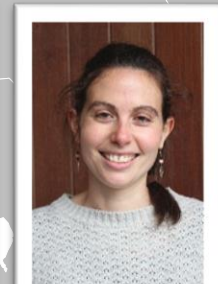
Sheila Heymans



Jana Van Elslander



Paula Kellett



Ana Rodriguez



Britt Alexander



Ángel Muñiz
Piniella



Bridge the gap between science and policy by providing high-quality advice



Transfer knowledge to the core of marine research policy

Providing Advice:

9 EurOCEAN Conferences:

1993 Brussels; 1995 Sorrento;
1998 Lisbon; 2000 Hamburg;
2004 Galway; 2007 Aberdeen;
2010 Ostend; 2014 Rome;
2019 Paris; **2023 Vigo.**

8 EMB Forums (Brussels):

2008: Marine Data;
2010: EOOS;
2012 New Technology;
2014: Arctic 2050;
2015: Ocean-climate nexus;
2017: UN 2030 Agenda;
2020: Big Data;
2021: Ocean Decade.

46 Strategic Publications:

26 Position Papers;
8 Future Science Briefs;
10 Policy Briefs;
2 Science Commentaries.

6 Brown bag lunches (Brussels):

Oct 2018: Food from the Ocean;
Feb 2019: Marine Spatial Planning;
Oct 2019: Marine Stations;
Feb 2020: Blue Carbon;
June 2022: Offshore Groundwater;
Feb 2023: Carbon Capture & Storage.

Targeted Interventions:

EOOS;
Ocean Decade;
Mission Ocean.



EMB and the Ocean Decade:

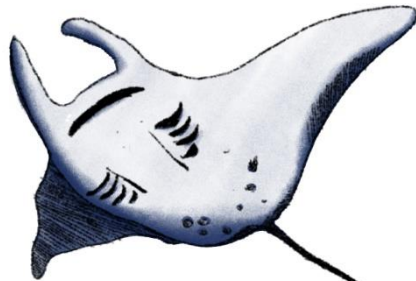


First Ocean Decade Implementing Partner – December 2021;
Supporting via **foresight, coordination and communication**;
0.5 FTE Secretariat effort in support of the Ocean Decade;
Ocean Decade newsletter series;
Supporting events and webinars, e.g. 8th EMB Forum.



EMBracing the Ocean

EMB's Artist-in-Residence Programme



Accepting applications globally from all creative disciplines until 21 February 2022

EMBracing the Ocean

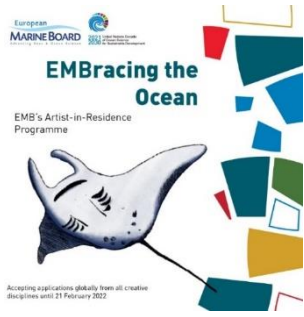
Artist in residence programme;
2 artists, 1 year, 10,000 EUR;
Inspire Ocean engagement;
International programme;
Link artists and scientists;
EMB selection committee.



EMBracing the Ocean: Artist in residence



2021
2030 United Nations Decade
of Ocean Science
for Sustainable Development



2022: Artists in residence



Mike Begg



Emily Lartillot



Lera Litvinova



2023: 204 applications, results in April

<https://www.marineboard.eu/emb-artist-residence-programme>



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Mission: Restore our Ocean and Waters

Objectives:

1. Protect and restore marine and freshwater biodiversity and ecosystems.
2. Prevent and eliminate pollution of our Ocean.
3. Make the blue economy carbon neutral and circular.

Cross Cutting themes/enablers:

- Digital Twin of the Ocean
- Public mobilisation

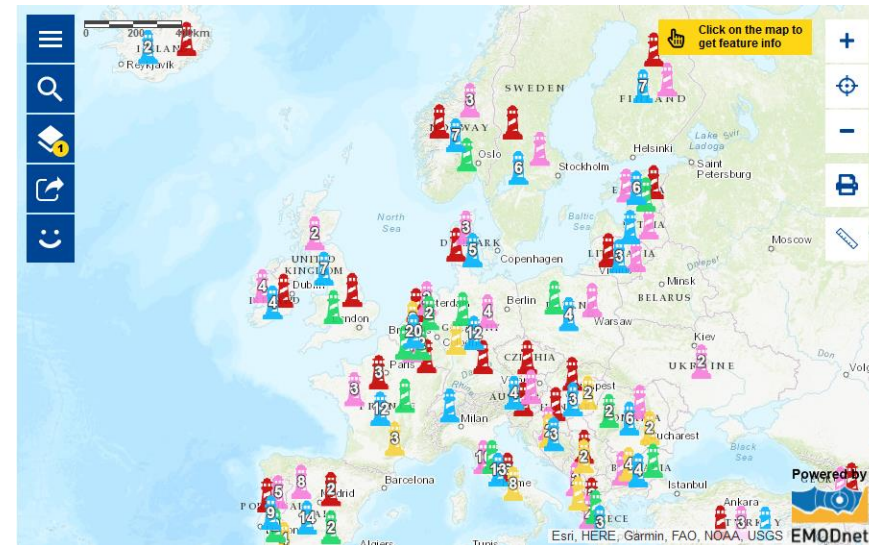
Lighthouses:

- Danube river – protect and restore
- Atlantic-Arctic – protect and restore
- Mediterranean – prevent, eliminate pollution
- Baltic – carbon neutral blue economy

This year EU Funding: EUR 320 million

- Digital Twin,
- All Atlantic Ocean R&I Alliance,
- Mission Ocean

https://ec.europa.eu/commission/presscorner/detail/en/IP_23_1290



<https://webgate.ec.europa.eu/maritimeforum/en/frontpage/1650>



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<http://www.marineboard.eu/>



EurOCEAN

ONE OCEAN ONE VOICE 2023

Vigo Spain - Auditorio y Palacio de Congresos

Mar de Vigo

10-11 October 2023

150-250 participants

Highlight synergies between different EU strategies (EU biodiversity, Green Deal, Nature restoration, Adaptation to climate change, MSFD, CFP, WFD, Farm to Fork), the Ocean Decade and the Mission Restore our Ocean and Waters.

ECOP event organized by EMB Young Ambassadors: 8-9 October 2023

Organizers:

- CETMAR, IEO, IIM-CSIC
- Spanish Presidency of the Council of EU
- DG RTD
- JPI Oceans
- EuroMarine
- EurOcean network

<http://www.euroceanconferences.eu/>



2021
2030
United Nations Decade
of Ocean Science
for Sustainable Development



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<http://www.marineboard.eu/eurocean>

Recent Strategic Publications:

Marine Science Communication: Future Science Brief No. 8, 2022



Marine Geohazards: Policy Brief No. 10, 2022

Marine Geohazards: Position Paper No. 26, 2021



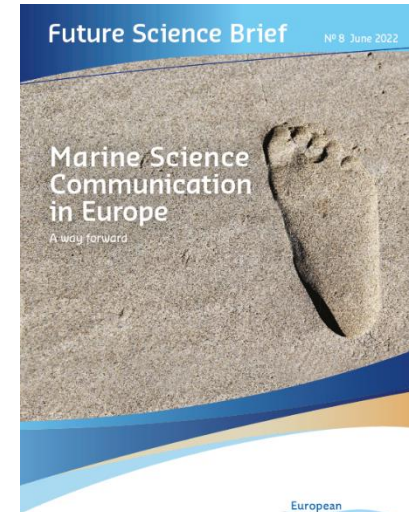
Addressing Underwater Noise in Europe: Future Science Brief 7, 2021



Sustaining *in situ* Ocean Observations: Policy Brief No. 9, 2021

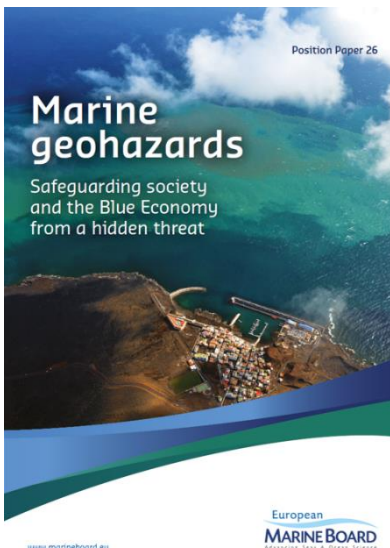
Policy Needs for Oceans and Human Health: Policy Brief No. 8, 2020

Big Data in Marine Science: Future Science Brief No. 6, 2020



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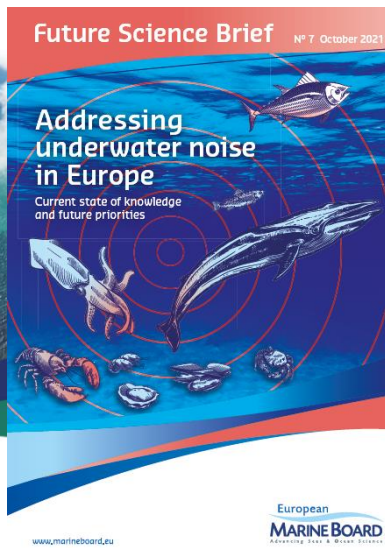
Position Paper 26

Marine geohazards

Safeguarding society and the Blue Economy from a hidden threat

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Future Science Brief N° 7, October 2021

Addressing underwater noise in Europe

Current state of knowledge and future priorities

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EMB POLICY BRIEF N°9 June 2021

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

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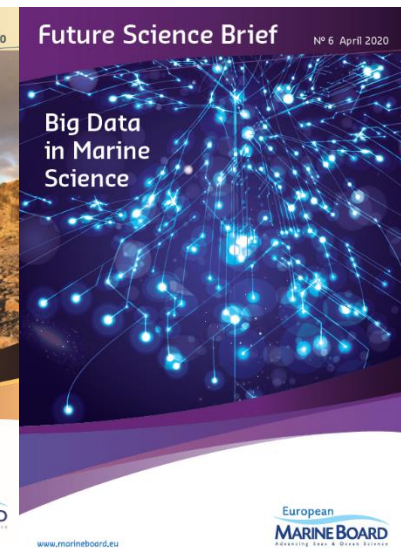


EMB POLICY BRIEF N°8 May 2020

Policy Needs for Oceans and Human Health

Seas, Oceans & Public Health in Europe
Linking oceans and health research

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Future Science Brief N° 6 April 2020

Big Data in Marine Science

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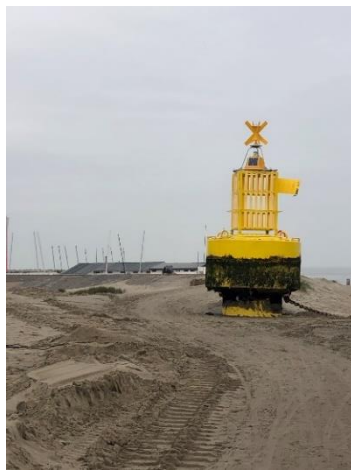
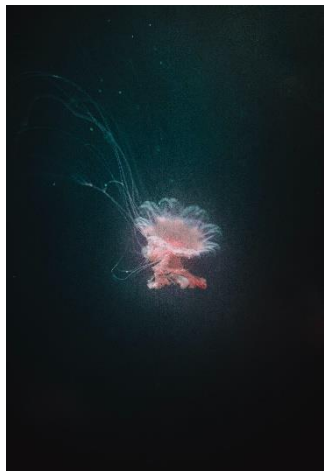
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Current Activities:

7 Working Groups:

Coastal Resilience;
Marine Renewable Energy;
Marine Habitat Mapping;
Ocean Oxygen;
Deep Sea and Ocean Health;
Blue Carbon;
Navigating the Future VI.



5 EU-funded projects/tenders:

EMODnet;
H2020 EuroSea;
H2020 Bridge-BS;
H2020 EcoScope;
ERASMUS+ FLORES



BRIDGE-BS
Blue Growth Incubator | Service Dynamic | Empowered Citizens

EuroSea

2 Plenary meetings annually:

Spring (April / May - online)
Autumn (October / November)



EMODnet



EcoScope



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Coastal Resilience:

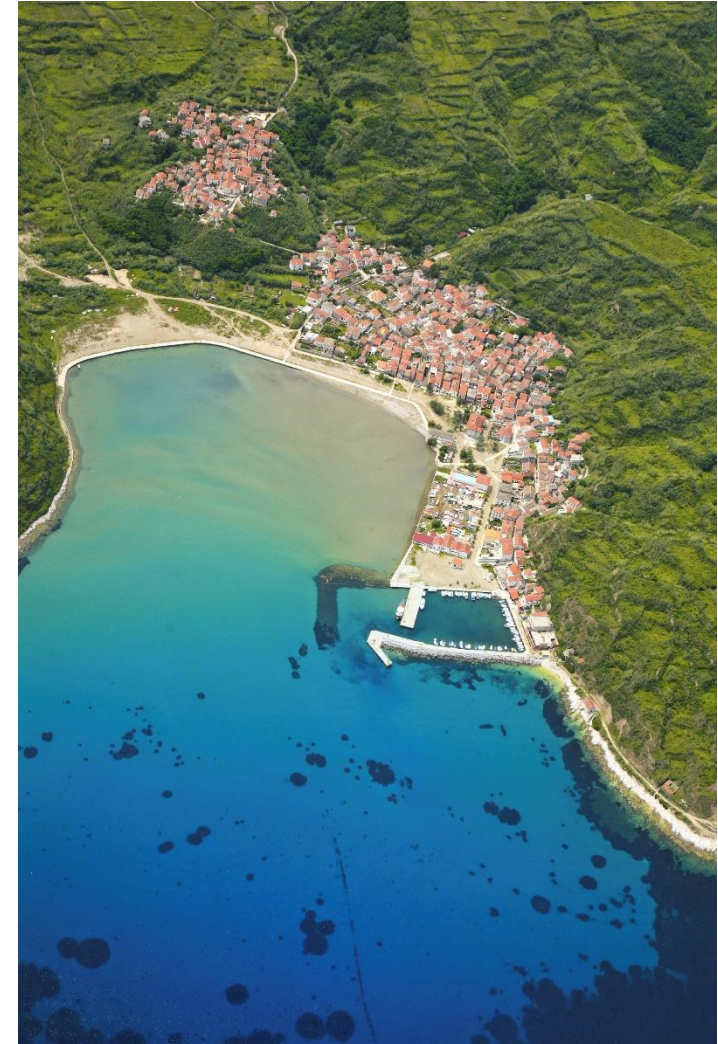
WG launch January 2021

Publication to be launched at EurOCEAN 2023

Position Paper 27

- What is coastal resilience?
- Why do we need resilient coasts?
- Coastal pressures
- Barriers to achieving coastal resilience
- Enablers of coastal resilience (technical and political tools)
- Conclusions and recommendations

Working Group: Sebastian Villasante (University of Santiago de Compostela, Spain - Chair) & Kristin Richter (NORCE, Norway - Co-Chair); Eugene Farrell (NUI Galway, Ireland); Isabel Sousa Pinto (CIMAR, Portugal); Remi Mongrue (Ifremer, France); Thorsten Blenckner (Stockholm Resilience Centre, Sweden); Frederic Bouchette (CNRS, France); Margaret Chen, Vrij Universiteit Brussels, Belgium); Donata Melaku Canu (OGS, Italy); **Andres Payo (MASTS, UK); Liam Lachs (Newcastle University; UK).**



Offshore Renewable Energy:

WG started : June 2021

Online launch : 4 April 2023



Future Science Brief 9

Update 2010 EMB Vision Document 2:

- Highlight the current knowledge and research gaps on the impact of offshore renewable energy systems on marine ecosystems; and
- Consider future implications as this sector continues to mature.

Working Group: Takvor Soukissian (HCMR, Greece – Chair), Anne Marie O'Hagan (UCC, Ireland – Co-Chair), Arianna Azzellino (Polytechnic University of Milan, Italy), Ferdinando Boero (University of Naples, Italy), Ana Brito e Melo (WavEC, Portugal), Patricia Comiskey (SEAI, Ireland), Zhen Gao (Norwegian University of Science and Technology, Norway), **Dickon Howell (Howell Marine Consulting, UK)**, Marc Le Boulluec (Ifremer, France), Christophe Maisondieu (Ifremer, France), **Beth Scott (University of Aberdeen, UK)**, Elisabetta Tedeschi (NTNU, Norway and University of Trento, Italy)



2021
2030
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Objectives 2, 3



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Marine Habitat Mapping:

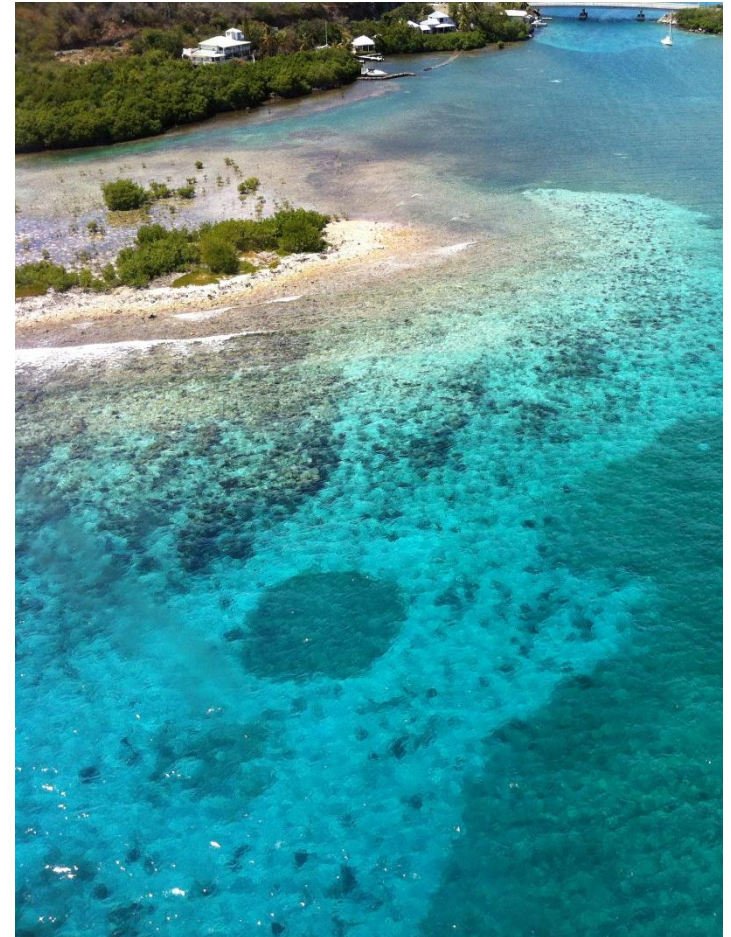
WG launch April 2022

Publication planned end 2023

Future Science Brief 10

- Highlight research state of the art on habitat mapping;
- Emerging and future technology for mapping;
- Standardizing methodology;
- Recommendations on filling mapping gaps;
- Linking to habitat-relevant policy;
- Evaluating current classification systems; and
- Recommendations to improve access to data and infrastructure.

Working Group: Simonetta Fraschetti (University of Naples Federico II & SZN, Italy - Chair), **James Strong (NOC, UK – Co-Chair)**, Eimear O’Keeffe (MI, Ireland), Maria Salomidi (HCMR, Greece), Timm Schoenig (GEOMAR, Germany), Federica Foglini (CNR-ISMAR, Italy), **Helen Lillis (JNCC, UK)**, Jorge Goncalves (CCMAR, Portugal), Georg Martin (University of Tartu, Estonia), Mats Lindegarth (University of Gothenburg, Sweden), Lene Buhl Mortensen (IMR, Norway), Lenaick Menot (IFREMER, France), Jose Manuel Gonzalez-Irusta (IEO, Spain), Antonio Pascoal (IST, Portugal)



Ocean Oxygen:

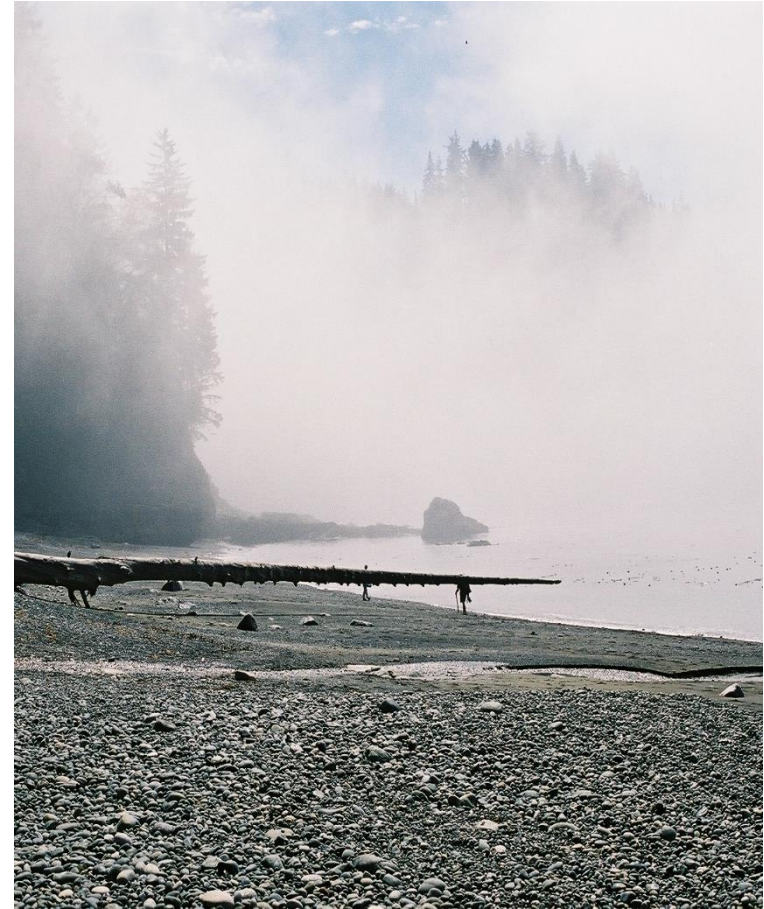
WG launch June 2022

Publication will be launched at ASLO 2023

Future Science Brief 11

- Explain the science behind the statement ‘every second breath comes from the Ocean’;
- Communicate and raise awareness of the problem of Ocean deoxygenation;
- Provide state of the art on research;
- Highlight interconnectedness of life through biochemical cycles; and
- Provide recommendations for future research priorities.

Working Group: Marilaure Gregoire (University of Liege, Belgium - Chair), Andreas Oschlies (GEOMAR, Germany – Co-Chair), Donald Canfield (University of Southern Denmark), Carmen Castro (IIM-CSIC, Spain), Irena Ciglencecki-Jusic (IRB, Croatia), Peter Croot (NUI Galway, Ireland), Karine Salin (IFREMER, France), Birgit Schneider (University of Kiel, Germany), Pablo Serret (University of Vigo, Spain), Caroline Slomp (Utrecht University, Netherlands), Tommaso Tesi (CNR, Italy), Mustafa Yucel (METU, Turkey)



Deep Sea and Ocean Health:

WG started February 2023

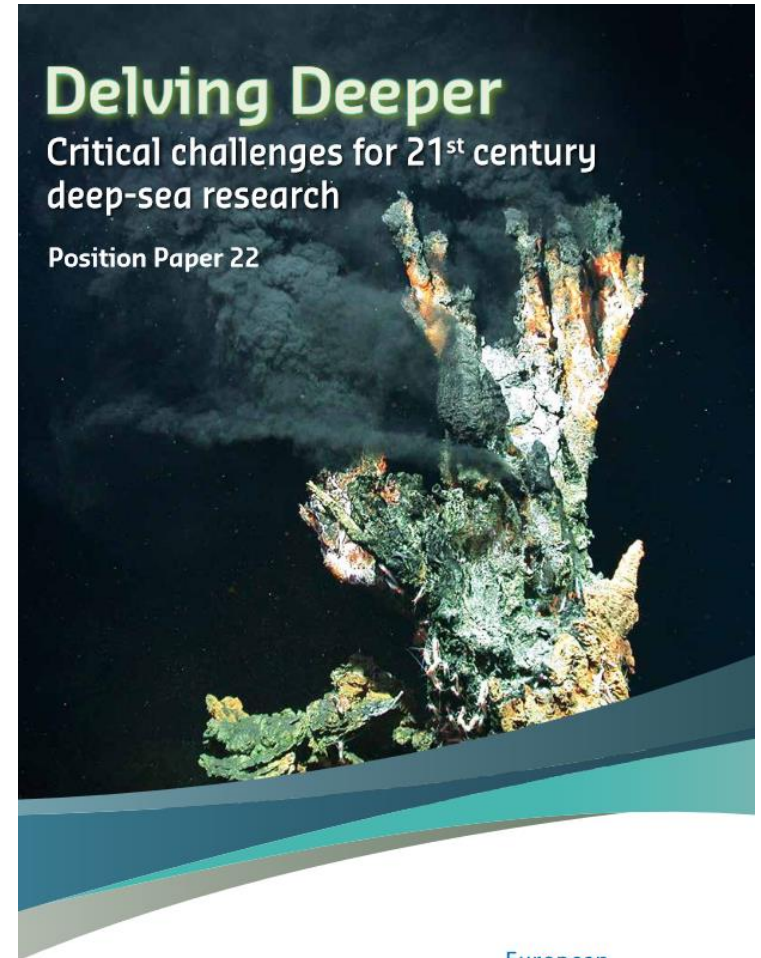
Publication planned spring 2024

Future Science Brief

Update Position Paper 22: Delving Deeper: Critical challenges for 21st century deep sea research

- Outline current policy- and research funding status and recommendations wrt deep sea
- Provide updated state-of-the-art on deep sea natural and social science research...

Working Group: Sylvia Sander (GEOMAR, Germany - Chair), Christian Tamburioni (CNRS and MIO, France - Co-Chair, Roberto Danovaro (SZN, Italy), Sabine Gollner (NIOZ, Netherlands), Beuenn Guilloux (UM, France), Henk-Jan Hoving (GEOMAR, Germany), Igor Isajlovic (IOF, Croatia), **Bhavani Narayanswamy (MASTS, UK)**, Ellen Pape (FWO, Belgium), Marzia Rovere (CNR, Italy), Miguel Semedo (CIIMAR, Portugal), Pedro Velez Belchi (IEO, Spain)



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Blue Carbon:

WG started January 2023

Publication planned summer 2023

Policy Brief

Short document to highlight:

- Why do we need Blue carbon
- The Ocean carbon budget and the Biological Carbon pump
- Some examples of Blue Carbon
- Uncertainties and questions about Blue Carbon and climate change

Working Group: Sheila Heymans (EMB - Chair), Griet Neukermans (Ugent, Belgium), Hans-Otto Pörtner (AWI, Germany), Jean-Pierre Gattuso (CNRS, France), **Nathalie Hicks U Essex, UK**, Peter Landschützer (VLIZ, Belgium)



Navigating the Future VI:

WG launch October 2022

Publication planned 2024

Flagship EMB Position Paper

- Foresight document highlighting the future direction of marine science research;
- Influence and guide International, European and national funding programmes;
- Presenting the role of the Ocean in the wider Earth system;
- Four main chapters:
 - Ocean and People;
 - Ocean and Climate;
 - Ocean and Fresh Water;
 - Ocean and Biodiversity.

Working Group: Gilles Lericolais (Chair of EMB and working group), Sheila Heymans (Executive Director and working group co-Chair) plus representation from all EMB member organizations.



Nicola Beaumont (PML); Ekaterina Popova, (NOC), Christine Edwards, Robert Gordon University (MASTS)

Objective 1, 2, 3



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Conclusions:

- The EMB have found ways to link our work to the Mission Ocean.
- We have signed up to the Mission Ocean Charter.
- We are part of a Mediterranean Lighthouse project on pollution, and planning to apply to other funding calls – i.e. call on artists etc.
- You can see all our activities here:
<https://www.marineboard.eu/emb-and-eu-mission>
- The Mission is managed by Prep4Blue: <https://prep4blue.eu/>
- There are a lot of calls out currently, but these are not for strict science projects.
- You can sign up to the Mission Ocean charter here:
<https://ec.europa.eu/eusurvey/runner/MissionOceanWatersCharter>








Thank you

Sign up to EMB newsletter (weekly or big announcements);
<https://www.marineboard.eu/emb-newsletter>

Submit news of European interest (e.g. events, jobs, etc.) for EMB to share in newsletter and/or on social media;

Request hard copies of EMB publications;

Follow and engage with EMB on social media;

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-  @EMarineBoard
-  European Marine Board IVZW
-  emarineboard
-  European Marine Board



Science Webinars:

EMB #ThirdThursdayScience Webinar Series

Showcasing the science behind EMB publications

Dive into the science which
underpins the EMB
publications with the scientists
behind it!

Third Thursday of every month

13:00 - 14:00 CEST

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

Register now!

Science Webinars

Aug 2020: Marine Ecosystem Modelling;
Sep 2020: Holistic Marine Spaces;
Oct 2020: Submerged Archeology;
Nov 2020: Marine Citizen Science;
Jan 2021: Valuing Marine Ecosystems;
Feb 2021: Marine Ecosystem Modelling;
Mar 2021: EMB Young Ambassadors;
Apr 2021: Marine Citizen Science;
May 2021: Big Ocean Data;
June 2021: Sustained Ocean Observations;
July 2021: Biological Ocean Observations;
August 2021: Navigating the Future V;
September 2021: Co-creating research;
October 2021: The Deep Sea;
November 2021: Underwater Noise;
December 2021: Geohazards;
February 2022: Oceans and Human Health;
March 2022: Decommissioning of Offshore Structures;
April 2022: EMB Young Ambassadors;
May 2022: Deep Sea;
June 2022: Research Vessels;
August 2022: Marine Biotechnology and Bioeconomy;
September 2022: Marine Genetic Resources;
October 2022: Marine Protected Areas;
December 2022: Machine learning and plankton;
January 2023: Uncertainty and risk;
February 2023: Sea ice ocean interactions in the Arctic.

Find all past webinars on our YouTube Channel:

<https://www.youtube.com/channel/UCcBGY9IckBVRijeW-0a1CsQ/videos>

<http://www.marineboard.eu/science-webinars>



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