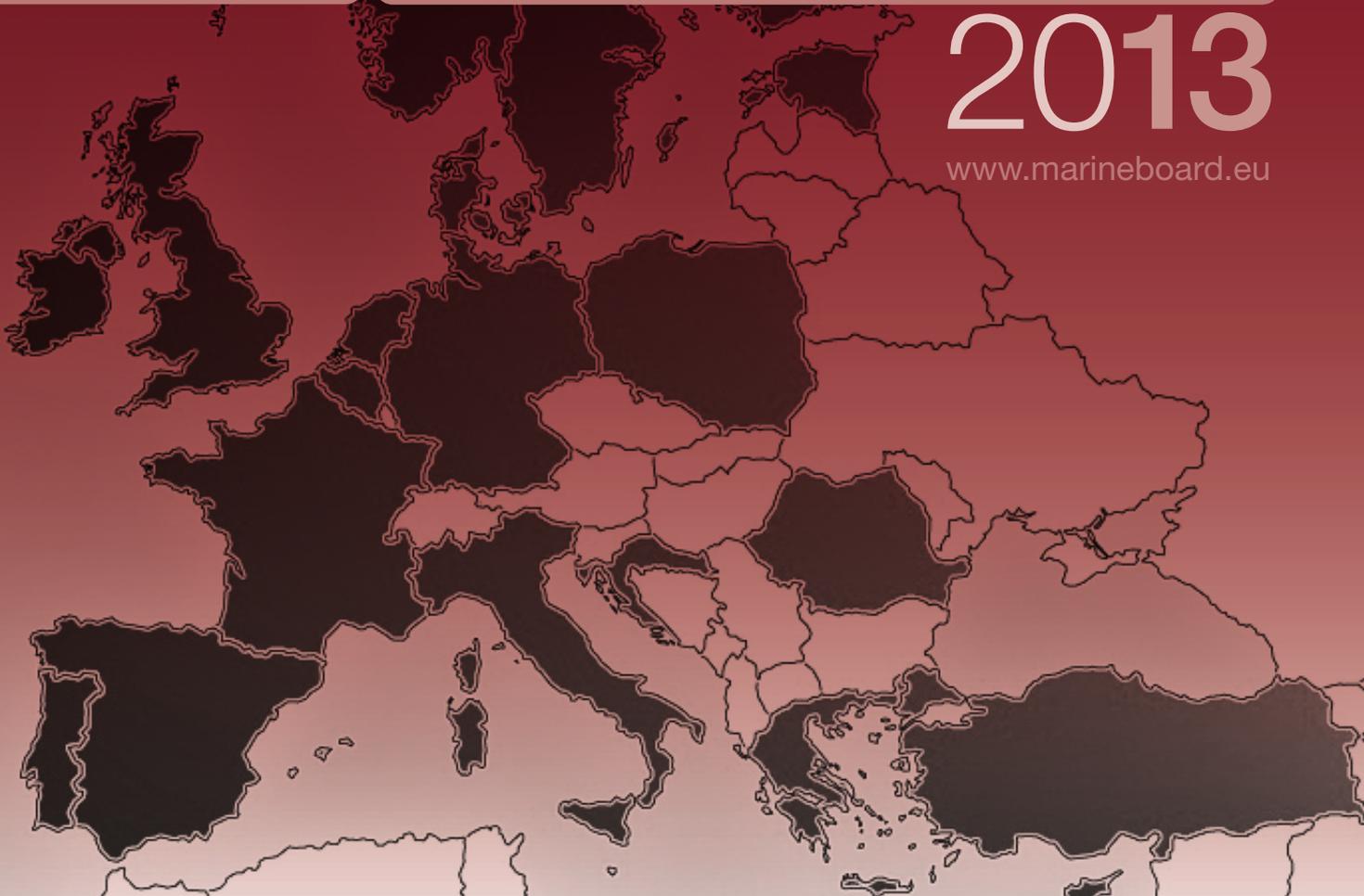


# ANNUAL REPORT



# 2013

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

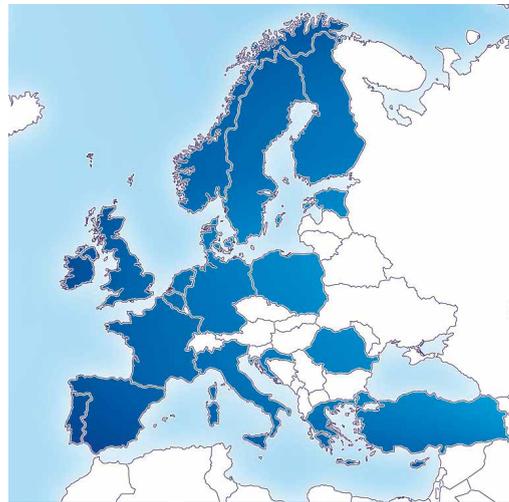


***The European Marine Board provides a pan-European platform for its member organizations to develop common priorities, to advance marine research and to bridge the gap between science and policy, in order to meet future marine science challenges and opportunities***

### **European Marine Board**

The European Marine Board was established in 1995 to facilitate enhanced cooperation between European organizations involved in marine science. Today, EMB represents 36 member organizations (research funding bodies, research institutes and nationally-based consortia of third-level institutes) working together towards a common European vision on the research priorities and strategies for marine science.

The European Marine Board provides the essential components for transferring knowledge from the scientific community to decision makers, promoting Europe's leadership in marine research and technology. Adopting a strategic role, the EMB provides a unique forum within which marine research policy advice to national agencies and to the European institutions is developed, with the objective of promoting the establishment of the European *Marine* Research Area.



European Marine Board operates in association with the European Science Foundation ([www.esf.org](http://www.esf.org)).

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

ANNUAL REPORT

2013



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## A Selection of Key Events and



**EU FP7 SEAS-ERA 2<sup>nd</sup> Strategic Forum, *Research Challenges and Priorities in European Sea Basins***

06 February 2013, Brussels  
(page 23)

©VLIZ



**EU FP7 CSA MarineBiotech final conference, *Challenges and Opportunities for Marine Biotechnology in Europe***

11-12 March 2013, Brussels  
(pages 22 and 36)



**EU FP7 STAGES Steering Committee meeting**

13-14 March 2013, Brussels  
(page 25)



**EMB Spring 2013 Plenary Meeting**

24-25 April 2013, Bergen  
(page 14)



**European Maritime Day Stakeholder Conference 2013 features three workshops with EMB involvement**

22 May 2013, Malta  
(pages 37)

# Milestones from the 2013 Calendar

## High-level launch of EMB Navigating the Future IV (Position Paper 20)

20 June 2013, Brussels  
(page 30)



## Ocean Literacy Workshop, *Defining an Ocean Literacy agenda for Horizon 2020 and transatlantic cooperation*

25-26 June 2013, Ostend  
(page 21)



## Kick-off meeting of the EMB Working Group on Submerged Landscapes (WG SUBLAND)

26 September 2013, Szczecin  
(page 34)



## 2<sup>nd</sup> meeting of the EMB Working Group on Valuing Marine Ecosystems (WG VALMARE)

01 October 2013, Dublin  
(page 34)



## EMB Autumn 2013 Plenary Meeting

23-24 October 2013, Lisbon  
(page 16)



### Message from the Chair



It gives me great pleasure to introduce the 2013 European Marine Board Annual Report. The many activities and achievements of the Board during the year are documented in this report. Key events in any year for the Board are its plenary meetings, when delegates come together to exchange information and decide upon future strategic directions and activities for the

Board. I would firstly like to thank the delegates of our Norwegian member organizations, University of Bergen, Institute of Marine Research and the Research Council of Norway, who jointly hosted our spring plenary in April 2013. Particular thanks goes to Marine Board vice-Chair, Peter Haugan, for his practical support in ensuring that the meeting was a great success. Likewise, my sincere thanks to another EMB vice-Chair, Ricardo Santos, representing FCT, and the team from the Portuguese Intersectoral Oceanographic Commission, for their excellent hosting the autumn plenary at the spectacular Ministry of Education and Science facilities in Lisbon.

My main message this year will focus on just one of the many achievements for the EMB in 2013: the publication of *Navigating the Future IV*. The Board's evolution since its establishment in 1999 can be marked out by the periodic publication of its *Navigating the Future* papers. This series has become a highly influential in identifying the key European seas and oceans research challenges and priorities at approximately five-year intervals. With an almost seven year gap since publication of *Navigating the Future III* in 2006, the fourth version was well overdue. Its publication was also timely, given that the preparation of the first calls for the new Horizon 2020 programme was just getting underway.

*Navigating the Future IV* scans the horizon to anticipate emerging societal challenges and corresponding future research priorities concerning the seas and oceans. The paper demonstrates the key role of marine science in addressing societal challenges and supporting blue growth. It outlines the tools and technologies that will be needed to realize these opportunities including the next generation of ocean observation infrastructure. It also examines the training and skills that will be required by tomorrow's marine experts, and the importance of creating better interactions between marine scientists, policymakers and the general public.

As described in detail on pages 30 and 31 of this report, *Navigating the Future IV* was launched at a dedicated event held in Brussels on 20 June 2013. The event was attended by the EU Commissioner for Research, Innovation and Science, Máire Geoghegan-Quinn, and

the European Parliament Rapporteur for the Horizon 2020 programme, Maria da Graça Carvalho. In each of their addresses they emphasized the important role that *Navigating the Future IV* will play in supporting the EU efforts to promote blue growth and to achieve a sustainable management of Europe's seas and oceans, underpinned by excellent science and driven by innovation. I extend my thanks to both for their support and encouragement for the European Marine Board's work.

I also take the opportunity to thank the very large number of experts who contributed to the production of *Navigating the Future IV*. These are too many to mention here but are listed in full inside the document itself. The participation of such a large number of scientists, science networks and stakeholders means that *Navigating the Future IV* represents the collective voice of a large marine community in Europe.

As always, I take the opportunity to pay tribute to the staff of the Marine Board Secretariat, who not only coordinated the entire *Navigating the Future IV* process, but oversaw the many other activities and outputs of the Boards work in 2013 with professionalism and enthusiasm. I thank each of them for their dedication and hard work on behalf of the Board's members.

2014 will be my final year as Chair of the European Marine Board as I will step down at the plenary meeting in May. I have thoroughly enjoyed by time as EMB Chair and hope that I have been able to help steer the Board through some interesting times and important discussions for its future and for the future of marine science in Europe. It has been a privilege to work with my ExCom colleagues, the EMB delegates and Secretariat during my three year term and I look forward to continuing to contribute to the Board's work as a delegate and also in creating closer links with the EuroGOOS network for which I am now Secretary General. The EMB has a bright future as a leading community for marine science in Europe and I anticipate many more interesting and important challenges in 2014 and beyond.

Dr Kostas Nittis  
(Hellenic Centre for Marine Research, Greece)

Chair, Marine Board

## Executive Scientific Secretary's Report



On behalf of the Secretariat, I am pleased to present this report as a record of the Board's achievements and outputs during 2013. In 2013, the EMB published three position papers and one science commentary. Two position papers were launched at the European Maritime Days in Malta in May. An advanced draft of *Linking Oceans and Human Health: A Strategic Research Priority for Europe* was presented at a dedicated workshop organized in partnership with JPI Oceans. The workshop was highly successful in raising the profile of this research area to EU stakeholders and policymakers. Position Paper 18, *Achieving Ecologically Coherent Networks of MPAs in Europe: Science Needs and Priorities*, was launched at another EMD workshop, presented by Dr. Kate Larkin of the Secretariat and the working group Chair, Dr. Esben Molen Olsen of IMR, Norway. In each case, these papers represent more than two years of work by the working group members and the Secretariat. It is very rewarding to see them come to fruition.

In April 2013, EMB published its first Science Commentary, *Getting ready for an ice-free Arctic*. Science commentaries are a new instrument for the Board, designed to present a high-level message or agreed position of the members in the form of a short article. For this reason, they can be produced and disseminated more rapidly than larger papers. Following publication, the Arctic paper was disseminated actively at several major international events (see page 34). Science commentaries may also be published as perspectives in major science journals and for future editions this should be a priority. They are an important new addition to the Board's range of instruments.

The major output of 2013 was Navigating the Future IV, described in detail in this report and addressed in the Chair's message. I would like to pay tribute to my colleagues in the Secretariat, past and present, who have worked over several years to make Navigating the Future IV a reality. Of course, the document depended upon the contributions, generously provided, by many experts across many different fields. However, stitching all of the often disparate and fragmented texts together to form a coherent narrative was highly challenging and I thank my Secretariat colleagues and EMB delegates for their invaluable editorial contributions. The feedback from the Board members and from external stakeholders has been very positive (pages 30-31).

In 2013, the Secretariat continued to coordinate the EMB's contribution to several FP7 projects. In February, the 2<sup>nd</sup> SEAS-ERA Forum, organized by EMB Science Officer, Dr. Nan-Chin Chu, presented strategic research agendas for the Atlantic, the Mediterranean and the Black Sea basins which had been produced as part of the SEAS-ERA project (pages 23-24). This was one of the most important events of the four-year SEAS-ERA project.

The end of the CSA MarineBiotech project was marked in March with a highly successful final conference, co-organized by EMB through Science Officer, Jan-Bart Calewaert. This project has laid a strong foundation for a follow-up ERA-NET on marine biotechnology which was already in preparation at the time of the conference. In September 2013, Jan-Bart took the decision to leave the Secretariat to move on to a new challenge as head of the newly established EMODNet Secretariat, also located in the InnovOcean site in Ostend. During his six years as a Marine Board Science Officer, Jan-Bart contributed enormously to the work of the Secretariat and to the mission of the Board. I wish him the very best of luck in his new role.

The Secretariat was also fortunate with the arrival in September, on a six-month secondment, of Dr. Doris Abele from AWI in Germany. Doris played an important role in supporting the EMB work on the FP7 STAGES project and in putting together the programme for the 4<sup>th</sup> EMB Forum, planned for March 2014. I am very grateful to Doris, not just for her valuable work, but for her enthusiasm and lateral thinking during her time with us. By the end of 2013, a recruitment process was almost complete to add two new Science Officers to the Secretariat, following a decision to increase the team to six persons.

I would like to thank my Secretariat colleagues, Kate Larkin, Nan-Chin Chu, Jan-Bart Calewaert and Dina Eparkhina for their diligent work and dedication during 2013. I also thank our Chair, Kostas Nittis, and the members of the EMB ExCom for their sound advice and support on all aspects of the EMB work programme. I very much look forward to working with all of these colleagues to drive the EMB agenda in what will, no doubt, be another busy year in 2014.

Dr Niall McDonough

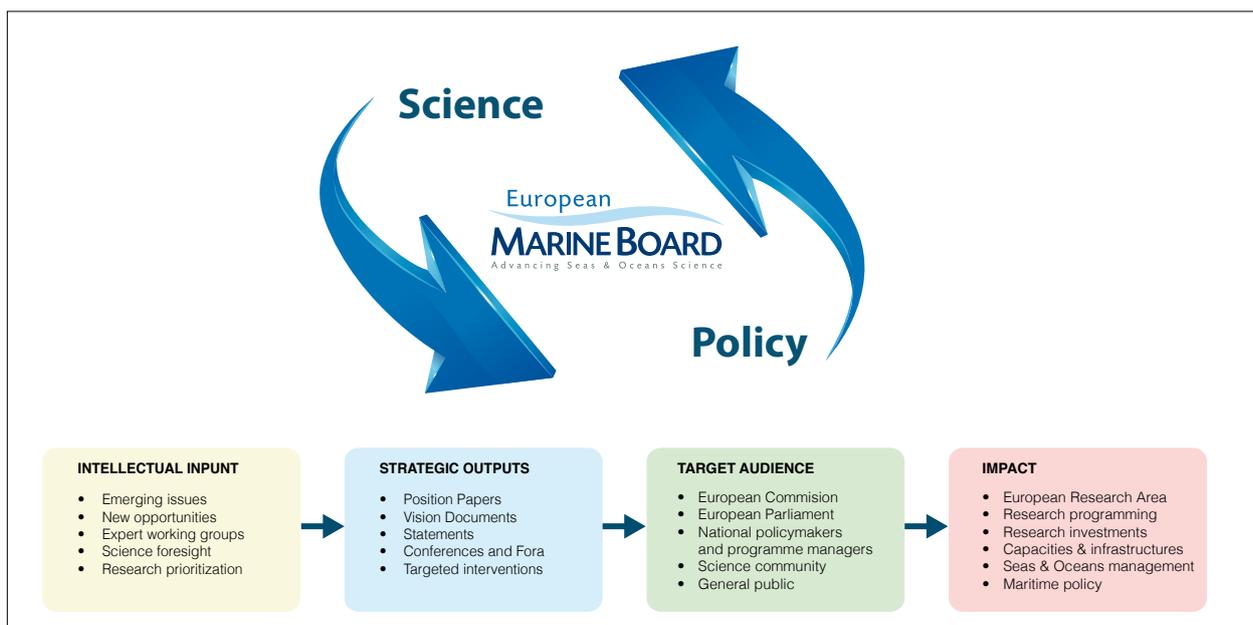
Executive Scientific Secretary, Marine Board

## ABOUT THE MARINE BOARD

### Objectives

The European Marine Board (EMB or Marine Board) provides an independent platform for organizations involved in supporting, delivering and using marine research and technology to develop common positions on research priorities and strategies in Europe. EMB acts as a science-policy interface, transferring and translating scientific knowledge to policymakers. EMB stakeholders include the Board's members, partner European and international networks, policymakers, strategy developers and programme managers at national and European level as well as the marine and maritime science community.

EMB is a unique marine science forum which develops scientific foresight by initiating state-of-the-art analysis and studies and translating them into clear policy recommendations to national agencies and governments as well as to European institutions.



Since its establishment in 1995, the European Marine Board has become an important science-policy interface for marine science and technology, translating and transferring scientific expert advice to policymakers, and policy needs to the scientific community

### Instruments

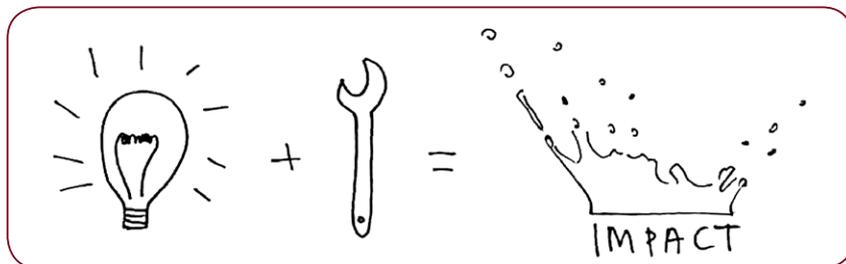
Where the EMB identifies a topic of strategic interest as the basis for a new activity, it applies one of a range of instruments to deliver a tailored impact. Targeted at European and national research programme managers, strategy developers, policymakers and the marine research community, EMB outputs drive future European and national marine research agendas, programmes and supporting strategies and policies.

### Publications

EMB publishes a wide range of science-policy documents written by leading European experts working as part of a dedicated working group. The activities of working groups are led by a chair and facilitated by the EMB Secretariat. Prior to publication, EMB

reports are subjected to international peer review and final approval by the EMB member organizations.

**Position Papers** are the principle foresight and priority-setting instrument of the European Marine Board. Position papers deliver a thorough analysis of the state-of-the-art relevant to the topic at hand, and a roadmap with concrete recommendations for improving the European research effort in this area (see page 29).



**Future Science Briefs** have a scope similar to position papers but are specifically targeted at a non-specialist audience and are much shorter in length. As with position papers, FSBs set high-level future research priorities for an area of identified strategic importance at European level.

**Vision Documents** give impetus to an important topic in a rapidly changing policy landscape. They are short and highly visual, written and designed with the primary aim of raising the profile and awareness of a topic.

### Biennial Open Forum

The Open Forum brings together a wide range of marine research and development stakeholders to discuss and develop a common position on a topic selected by the Marine Board members. The forum bridges the gap between the scientific community and policymakers and prepares a joint vision and recommendations to advance the issue at hand (see pages 15 and 34).

### EMB Panels

EMB panels are networks of national experts focusing on a particular research support tool. They provide a platform for the panel members to exchange best practices, network, and have a common voice at European level. EMB panels organize thematic workshops, produce reports and issue joint statements. The panels are periodically reviewed by the European Marine Board (see page 18).

### Conferences

EMB is guardian of the EurOCEAN conference series. EurOCEAN conferences are jointly organized with the European Commission and normally take place as official events of the Presidency of the Council of the European Union. EurOCEAN conferences (held since 1993) are now established as “a major forum for the European Commission’s partnership with the marine scientific community” (Máire Geoghegan-Quinn, Commissioner for Research, Science and Innovation, EurOCEAN 2010, Ostend).

In addition to the above-mentioned instruments, the European Marine Board employs a number of other flexible mechanisms, implemented on an *ad hoc* basis to bridge the gap between science and policy, e.g. policy statements, workshops, briefings, etc. EMB also provides common responses to EU consultations on issues of relevance for seas and oceans science in Europe.

## Structure and Governance

The European Marine Board is a pan-European partnership of national organizations which are either research funding organizations, RFOs (e.g. research councils or ministries), research performing organizations, RPOs (e.g. national marine research institutes) or nationally-based consortia of third-level institutes (normally universities). EMB activities and the operation of its secretariat are funded through annual member contributions and external contracts.

In 2013, EMB represented 36 organizations from 20 European countries (a list of EMB member organizations and delegates is provided in Annex 1).

## Member Organizations and Delegates

The EMB's mixed membership of RPOs, RFOs and national university consortia, ensures its unique capacity to deliver science policy advice on issues of identified strategic importance and to influence European marine research agendas. Representing the major organizations involved in marine research in Europe, the Board's member organization delegates (i) provide a high-level overview of national science policy priorities, (ii) guarantee a multidisciplinary and high-quality scientific expertise for the Board's activities, and (iii) ensure a high-level uptake of the Board's strategic recommendations at national and European levels.

EMB delegates meet twice a year at plenary meetings to share knowledge, to define common priorities, and to agree on activities and outputs. The European Commission and the UNESCO's Intergovernmental Oceanographic Commission are permanent observers to EMB plenary meetings.

A full list of EMB member organizations and delegates is available on the website: [www.marineboard.eu/about/members](http://www.marineboard.eu/about/members), and in Annex 1 of this report.



European Marine Board delegates and invited speakers and guests at the Autumn 2013 Plenary Meeting (23-24 October 2013, Lisbon)

## Executive Committee

EMB operations are overseen by the Executive Committee (ExCom), composed of a Chair, six vice-Chairs and the Executive Scientific Secretary who, as the head of the Secretariat, is an *ex-officio* ExCom member. ExCom members are elected by the EMB members for a three-year period, renewable once for two years upon re-election. The ExCom meets three times per year to follow up on the implementation of the actions agreed by the Board at plenary meetings, make operational and financial decisions and give strategic guidance to the Board and Secretariat.

ExCom members and their mandates as of December 2013:



**Kostas Nittis – Chair**  
Hellenic Centre for Marine  
Research (HCMR), Greece  
May 2011 - May 2014



**Ricardo Santos**  
Science and Technology  
Foundation (FCT), Portugal  
May 2012 - May 2015



**Alessandro Crise**  
National Institute of  
Oceanography and Experimental  
Geophysics (OGS), Italy  
May 2012 - May 2015



**Tarmo Soomere**  
Estonian Academy of Sciences,  
Estonia  
May 2012 - May 2015



**Peter Haugan**  
University of Bergen / Marine  
Strategic Board, Norway  
May 2011- May 2014



**Jacky Wood**  
National Environment Research  
Council (NERC), United Kingdom  
May 2012 - May 2015



**Gilles Lericolais**  
French Research Institute for the  
Exploration of the Sea (Ifremer);  
France  
October 2013-October 2016



**Niall McDonough**  
Marine Board Executive  
Scientific Secretary and Head  
of Marine Board Secretariat,  
*ex-officio* member

### Secretariat

The strategic and operational decisions and activities proposed by the Board and ExCom are implemented by the Secretariat. Based at the EMB offices in Ostend, Belgium, the Secretariat is headed by the Marine Board Executive Scientific Secretary, who is also a member of the ExCom.

Some changes in the composition of the Secretariat took place in 2013. In September, Jan-Bart Calewaert left his position as an EMB Science Officer to take up a new role as Head of the new EU-funded EMODnet Secretariat. Early in 2013, a call was issued to the EMB members for expressions of interest for suitable candidates to join the Secretariat on a six-month secondment. As a result of this, Dr. Doris Abele, a biologist based at the Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research (AWI) in Germany, temporarily relocated to Ostend and joined the Secretariat for the period from September 2013 to February 2014.



EMB Secretariat 2013, from left: Niall McDonough (Executive Scientific Secretary), Dina Eparkhina (Administration and Coordination Officer), Nan-Chin Chu, Jan-Bart Calewaert and Kate Larkin (Science Officers)



Doris Abele (AWI, Germany), joined the EMB Secretariat in September 2013 on a six-month secondment

A full list of the current EMB Secretariat officers is available on the website:  
[www.marineboard.eu/about/secretariat](http://www.marineboard.eu/about/secretariat).

## 2013 IN A NUTSHELL

### EMB Impact in 2013

- Two new member organizations join EMB: Croatian Ruder Bošković Institute (IRB) and German Marine Research Consortium (KDM)
- EU Commissioner for Research, Innovation and Science, Maire Geoghegan-Quinn, welcomes Navigating the Future IV (Position Paper 20) as an important blueprint to guide marine science and technology in Europe (p. 30)
- Position Paper 18 on Marine Protected Areas launched at the European Maritime Day in Malta informs several national, regional and pan-European networks (p.33)
- A dedicated workshop on Oceans and Human Health is organized at European Maritime Day in Malta where an advanced draft of EMB Position Paper 19 on this topic is released (p.32)
- Three new expert working groups are launched: WG SUBLAND (Submerged Landscapes), WG VALMARE (Valuing Marine Ecosystems) and WG Deep-Sea (p.34)

### EMB 2013 in Figures

Member organizations (p. 40)	<b>36</b>
Countries represented (p. 40)	<b>20</b>
Secretariat staff (p. 61)	<b>5</b>
Working groups and panels running (pp. 18, 32)	<b>7</b>
Experts involved in working groups and panels (p. 48)	<b>84</b>
New working groups in preparation (p. 16)	<b>1</b>
Meetings organized, including jointly (p. 52)	<b>22</b>
Presentations at meetings (p. 53)	<b>19</b>
Represented at meetings (total incl. all participation)	<b>64</b>
EU Framework Programme (FP) projects running (p. 22)	<b>3</b>
Total partner organizations in Marine Board EU FP projects, excluding EMB	<b>39</b>
Represented at stakeholder projects and panels (p. 28)	<b>9</b>
Publications prepared and published (excluding FP7 deliverables)	<b>4</b>
Publications disseminated (approximately)	<b>5,200</b>
Conferences where Marine Board publications were disseminated (p. 54)	<b>16</b>

## FORUM

The European Marine Board brings together marine research stakeholders, representatives of the marine science community, funding agencies and national and pan-European science institutions and platforms, to promote and advance seas and oceans research in Europe and globally.

### Plenary Meetings

European Marine Board plenary meetings, held twice a year in spring and autumn, gather EMB member organizations to reflect and agree on topical marine science and technology issues, and propose future strategic actions. During these meetings, EMB delegates also benefit from interactions with invited speakers and guests and with plenary observers from the European Commission and the UNESCO's Intergovernmental Oceanographic Commission.

#### Spring Plenary Meeting (24-25 April, Bergen, Norway)

The Spring Plenary Meeting was hosted by the Norwegian EMB members, University of Bergen, Institute of Marine Research and the Research Council of Norway, with the University of Bergen providing the venue.



European Marine Board Spring 2013 Plenary Meeting (24-25 April 2013, Bergen)

The meeting was attended by 26 EMB delegates, four invited speakers and seven guests (see participants list in Annex 2).

Key decisions and highlights of the Spring Plenary included:

#### Governance

- The application from the Croatian Ruder Bošković Institute (IRB) was approved.
- The concept of the new EMB logo was approved.

### Activities

- The topic of the 4<sup>th</sup> EMB Forum on the Arctic was approved.
- Two new working groups were approved: WG SUBLAND (Submerged Landscapes) and WG Deep-Sea.

### Open Session

The open session of the meeting welcomed representatives of EMB stakeholders, observers and partners. The following presentations were given:

- *Science Europe activities and perspectives*, by Amanda Crowfoot, Director;
- *Updates on the Horizon 2020*, by Arnoldas Milukas, Head of Unit, Directorate for Environment, EC DG R&I;
- *Activities of the EMB European Scientific Diving Panel*, Martin Sayer, Panel Chair, NERC/SAMS, UK.

The open session also included a moderated open floor brainstorming on topics of interest for future EMB activities. During this session, the meeting agreed on the importance of a better cooperation between natural and social sciences. In all EMB running working groups (WG) this aspect is taken into account, the WG members expertise spanning not only marine but also social sciences, archaeology, law and socio-economics.



Open session of the EMB Spring 2013 Plenary meeting chaired by Kostas Nittis, EMB chair (24 April 2013, Bergen)

### **Autumn Plenary Meeting (23-24 October 2013, Lisbon, Portugal)**

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The Autumn Plenary Meeting was hosted by the Fundação para a Ciência e a Tecnologia (FCT).



European Marine Board Autumn 2013 Plenary Meeting (23-24 October 2013, Lisbon)

The meeting was attended by 26 EMB delegates, nine invited speakers and six invited guests (see participants list in Annex 2).

Key decisions and highlights of the Autumn Plenary included:

#### **Governance**

- The Board approved membership application from the German Marine Research Consortium (KDM).
- Gilles Lericolais (Ifremer, France) was elected as EMB vice-chair for a three-year term.

#### **Strategic activities**

- The Board approved the terms of reference for a new working group on marine graduate training to be launched in 2014.
- EurOCEAN 2014, co-organized by the EMB, European Commission and the Italian EMB members, CNR, CoNISMa and OGS, was discussed. EurOCEAN will take place from 7 to 9 October 2014 in Rome as an official event of the Italian EU Presidency.
- Luis Valdes of UNESCO IOC updated the meeting on the organization of the 2<sup>nd</sup> International Ocean Research Conference in Barcelona (17-21 November 2014).



EMB Autumn 2013 Plenary Open Session, from left: Miguel Seabra (FCT President), Niall McDonough (EMB Executive Secretary), Jacky Wood (EMB vice-Chair, NERC, UK), Paula Elyseu Mesquita (Director of the FCT Dept. of Foreign Affairs), Nicholas Flemming (chair of EMB working group on Submerged Landscapes, NOC, UK) and Gonçalo Vieira (European Polar Board / FCT, Portugal)

### **Open Session**

The open session of the meeting welcomed European Marine Board partners and plenary observers. The following presentations were given:

- *Welcome address*, by Prof. Miguel Seabra, President of Science and Technology Foundation (FCT), Portugal;
- *Marine Sciences and the Portuguese Universities: A position paper*, by Prof. João Guerreiro, Rector of the University of Algarve, Portugal;
- *The Azores current: recent contributions to understand its dynamics*, by Dr Álvaro Peliz, Instituto Dom Luiz & Faculty of Sciences of the University of Lisbon, Portugal;
- *New Marine Board working group, Climate Change, Submerged Landscapes of the Continental Shelf, and the Underwater Cultural Heritage, WG SUBLAND*, by Dr Nicholas Flemming, WG Chair, NOC, UK;
- *Updates on the Horizon 2020*, by Ana-Teresa Caetano, EC DG R&I;
- *The European Marine Board – at the interface of science and policy*, by Niall McDonough, EMB Executive Secretary;
- *JPI Oceans updates on activities*, by Wendy Bonne and Teodoro Ramirez, JPI Oceans Secretariat;
- *EFARO updates on activities*, by Josien Steenbergen, EFARO Secretariat.

## EMB Panels

European Marine Board Panels are established on an open-end basis to address operational issues in areas where the panel members, and by extension their institutions, benefit from interacting with each other and with the Marine Board. Panels are facilitated by the EMB Secretariat. In 2013, EMB panels included:

- European Scientific Diving Panel (ESDP) and
- EMB Communications Panel (EMBCP).

### European Scientific Diving Panel (ESDP)



The European Scientific Diving Panel (ESDP) acts as a European platform to improve networking and exchange of knowledge and best practice in the field of scientific diving, promoting diving as an important marine research tool. In 2013, the panel included eight core members from eight countries (see membership list in Annex 4).

ESDP aims to:

- Promote best practice in scientific diving in Europe for improved observation and monitoring of the coastal environment;
- Initiate and develop synergies with other operational scientific networks, exchanging knowledge and facilitating a pan-European dialogue;
- Promote links with interdisciplinary research and industry;
- Promote international collaboration.

### ESDP in 2013: Overview of meetings and key activities

- ESDP terms of reference revised further to the EMB 2012 review recommendation.
- Successful application for funding for an ESF Exploratory Workshop to take place at the Hellenic Centre for Marine Research on 18-20 March 2014.



ESDP network at the 10<sup>th</sup> ESDP meeting (20-21 March 2013, ICUA, Zadar, Croatia)

- 20-21 March 2013: 10<sup>th</sup> ESDP meeting in Zadar, Croatia, hosted at the International Centre for Underwater Archaeology. National delegates gave overviews of the situation in their countries regarding scientific diving: Croatia, Bulgaria, Estonia, Belgium, France, Greece, Finland, UK, Slovenia, Sweden, Italy, Germany, Turkey and Norway.
- 24 April 2013: Presentation of ESDP progress by chair Martin Sayer (NERC/SAMS, UK) at the EMB Spring 2013 Plenary Meeting in Bergen, Norway.
- 08 October 2013: at the 11<sup>th</sup> ESDP meeting in Brussels ESDP's contribution to a medical questionnaire for scientific diving was discussed. The panel also welcomed a new member from the Coordination of Scientific Divers of Croatia.
- 21-28 October 2013: International Scientific Diving Symposium, Curaçao, Dutch Antilles, co-organized by the ESDP and the American Academy of Underwater Science (AAUS).

Further information on the panel is available on the EMB website:

[www.marineboard.eu/ESDP](http://www.marineboard.eu/ESDP); and on the dedicated ESDP website [www.scientific-diving.eu](http://www.scientific-diving.eu)

### European Marine Board Communications Panel (EMBCP)

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Initiated in 2002 and re-established in 2006, EMBCP brings together professional science communicators from a number of European marine institutes. In 2013, the panel is composed of 16 members from 13 countries. EMB Communications Panel has five E-M-B-C-P objectives:

- **E**xchange ideas on events, communication methods and best practices;
- **M**utually assist its members in promoting and communicating marine science across Europe;
- **B**e (re)present(ed) at major European (marine) science events;
- **C**ommunicate Marine Board products at the national level through press-releases and twinning activities;
- **P**opularize marine science by advocating more ocean literacy.

### EMBCP in 2013:

- 20 March 2013: Members from EMBCP, European Marine Science Educators Association (EMSEA) and World Ocean Network (WON) attended a workshop initiated by EC DG R&I on the transatlantic cooperation in the Horizon 2020 agenda. This discussion led to the Ocean Literacy Workshop (25-26 June, Ostend), jointly organized by the EMB Secretariat and VLIZ (also see Ocean Literacy Section, p.21).
- 22-23 April 2013: The EMBCP spring meeting back to back with the EMB plenary (Institute of Marine Research, Bergen, Norway), welcomed four new members from Belgium, Denmark, Portugal and France. Chair of the EMB working group on Marine Protected Areas, Esben Olsen (IMR, Norway), presented the newly-published position paper and exchanged ideas on the communications and dissemination aspects with the panel members.

- 23-24 May 2013: EMBCP chair, Jan Seys, gave a presentation on ocean literacy at the Irish EU Presidency meeting on transatlantic cooperation at the Marine Institute, Galway.
- 3-5 September 2013: EMBCP chair gave a presentation at the 2<sup>nd</sup> Conference on Ocean Literacy in Europe (Plymouth, UK).
- 4-5 November 2013: at the EMBCP autumn meeting (Hamburg, Germany), further to the EMB 2012 panel review recommendation, the panel approved its terms of reference. Jan Seys was re-elected as chair for a new term until spring 2015.



Members of EMB Communications Panel at their meeting in Bergen on 22-23 April 2013, from left Albert Gerdes (MARUM, Germany), Kim Marshall-Brown (NOC, UK), Joana Saiote (CIMAR, Portugal), Jan Seys (VLIZ, Belgium), Sigrid Maebe (RBINS, Belgium), Thomas Isaak (Ifremer, France), Nan-Chin Chu (EMB Secretariat), Line Reeh (DTU Aqua, Denmark) and Kjartan Maestad (IMR, Norway)

Further information on the EMBCP is available on the Marine Board website:  
[www.marineboard.eu/EMBCP](http://www.marineboard.eu/EMBCP)

## EMB activities in ocean literacy

Following the success of the First Conference on Ocean Literacy in Europe (12 October 2012, Bruges, Belgium), an expert workshop was organized to deliver recommendations on mechanisms and initiatives to better support marine science outreach and education in the Horizon 2020 Programme. The proposal for the workshop was made by the chair of the EMBCP panel, Dr. Jan Seys (Flanders Marine Institute, Belgium) and the EMB Secretariat led the organization of the workshop. Twenty experts attended the two-day workshop at the EMB offices in Ostend, Belgium.



Participants of the expert workshop, *Defining an ocean literacy agenda for Horizon 2020 and transatlantic cooperation* (25-26 June 2013, EMB offices, Ostend, Belgium)

The workshop objectives included: (i) identify topics for ocean literacy calls in Horizon 2020 ; (ii) identify issues relevant to ocean literacy which will require EU-North American (US and Canada) collaboration; and (iii) provide recommendations to the Commission on evaluation criteria for communication, education and outreach elements of Horizon 2020 marine project proposals.

A full report of the workshop is available for download at:  
[http://www.marineboard.eu/images/publications/Ocean\\_Literacy\\_Report\\_Ostend2013\\_fnl.pdf](http://www.marineboard.eu/images/publications/Ocean_Literacy_Report_Ostend2013_fnl.pdf).



## SYNERGY

The European Marine Board works to enhance interactions and collaborations among European marine and maritime research stakeholders, exchange knowledge and expertise, promote joint identification of priorities and shared use of infrastructures, and avoid duplication of efforts.

## Framework Programme Projects

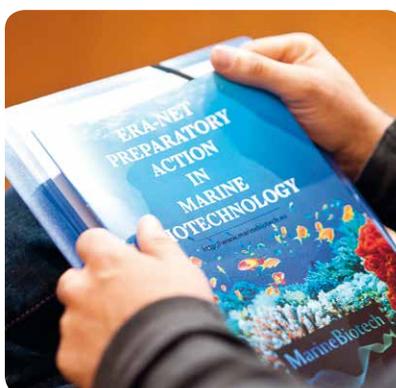
### MarineBiotech: ERA-NET Preparatory Action in Marine Biotechnology

Type: EC FP7 SA (Coordinating)  
Duration: 18 months (Oct. 2011–March 2013)  
Budget: €1M  
Consortium: 11 partners from 9 countries  
Coordinator: RCN, Norway  
Website: [www.marinebiotech.eu](http://www.marinebiotech.eu)  
EMB role: Work Package Leader



Marine ecosystems are a unique environment with an enormous potential to contribute to environmental and human health and to the sustainable supply of food, energy and biomaterials. Marine biotechnology is increasingly becoming central to delivering these benefits from the sea. In the European context, marine biotechnology can and should make an important contribution towards meeting the grand societal challenges and the development of greener and smarter economies - central components of the Europe 2020 Strategy. A sound strategy and concerted coordination of relevant national and regional RTDI programmes are necessary to allow this potential to be realized.

The main goal of the EU MarineBiotech Coordination Support Action (CSA) was to reduce fragmentation and duplication within the European marine biotechnology research landscape and pave the way for common programmes and cooperation. This included the provision and utilization of common research infrastructures through a future ERA-NET in marine biotechnology.



One of the major successes of the project activities led by the EMB Secretariat was the organization of the final CSA MarineBiotech conference which took place in Brussels on 11 and 12 March 2013. The EMB Secretariat developed the conference programme and delivered presentations at the conference. Featured: Niall McDonough (panel discussion moderator - left) and Jan-Bart Calewaert (session chair - middle); MarineBiotech brochure prepared by the EMB Secretariat (second right). The conference is featured on page 35 of this report.

CSA MarineBiotech successfully was completed in March 2013. The main tasks and deliverables under the responsibilities of the EMB Secretariat were:

- Finalization of an *Inventory Report on the European marine biotechnology science policy landscape* (D3.5);
- Transfer of the above inventory report into country, sea-basin and pan-European profiles and uploading those on the [www.marinebiotech.eu](http://www.marinebiotech.eu) portal;
- Finalization of a report providing a strategic analysis of marine biotechnology RTDI in Europe (D3.6);
- Development of a discussion paper to guide the development of a Marine Biotechnology ERA-NET (D4.2);
- Organization of the final CSA MarineBiotech conference, *Marine Biotechnology in the European Research Area: Challenges and Opportunities for Europe* (11-12 March 2013) – see page 35; and
- Development and publication of the final CSA MarineBiotech public brochure.

All the project deliverables are available on [www.marinebiotech.eu](http://www.marinebiotech.eu).

### **SEAS-ERA: Towards Integrated Marine Research Strategy and Programmes**

Type: EC FP7 ERA-NET  
Duration: 48 months (May 2010-April 2014)  
Budget: €2M  
Consortium: 21 partners in 18 countries  
Coordinator: MINECO, Spain  
Website: [www.seas-era.eu](http://www.seas-era.eu)  
EMB role: Work Package Leader



The SEAS-ERA project fosters cooperation and integration between national marine research funding agencies to promote the European Research Area for marine science and technology. The main objectives of the project are to:

- Contribute to the common European Marine and Maritime Research Agenda;
- Reduce imbalances among regions through human capacity building;
- Foster synergies at both regional and pan-European levels;
- Propose a plan for a better and sustainable use of the existing marine research infrastructures; and
- Enhance public awareness of marine and maritime scientific and policy issues in Europe.

EMB is leading and supporting a range of strategic activities in SEAS-ERA, notably related to the development of regional and pan-European research strategies.

## SEAS-ERA in 2013: main EMB inputs

- 06 February 2013: EMB organized the 2<sup>nd</sup> SEAS-ERA Strategic Forum, entitled *Challenges and Priorities in European Sea Basins*. Attended by 60 marine science and policy representatives, the forum included presentations and an open discussion on the three Strategic Research Agendas (SRAs) developed within the SEAS-ERA project for the Atlantic, Mediterranean and Black Sea. At the forum, SEAS-ERA partners and representatives of other stakeholders, including BONUS, European Commission (DG R&I, DG MARE and DG ENV) and JPI Oceans, discussed future applications of the proposed SRAs and improved networking and interaction between the national research funding organizations. The forum report is available for download on the EMB website: [www.marineboard.eu/external-projects/seas-era](http://www.marineboard.eu/external-projects/seas-era)
- 17-18 September 2013: SEAS-ERA workshop, *Towards a Marine Knowledge Transfer Strategy*, discussed how to improve the uptake of EU project results by target stakeholders. Niall McDonough presented the EMB's experience from involvement in successful activities in the topics of knowledge transfer and public outreach, including FP7 CLAMER project and the First Conference on Ocean Literacy in Europe (October 2012, Brugge).
- 04-05 November 2013: The SEAS-ERA *Marine Research Plan for the European Atlantic Sea Basin* was launched at the Lisbon Atlantic Conference organized by the Portuguese government to report progress on the implementation of the EU Strategy for the Atlantic (2011) and Atlantic Action Plan (2013). The report proposed a vision for priority research areas and critical support infrastructures to progress the Blue Growth Strategy in the European Atlantic Sea Basin. The EMB Secretariat supported the Irish Marine Institute in the development of the Atlantic SRA.



Niall McDonough, EMB Executive Secretary, presenting the discussion panel at the 2<sup>nd</sup> SEAS-ERA Strategic Forum (06/02/2013, Brussels), from left: Beatriz Morales-Nin (MINECO, Spain), Jean-Francois Masset (Ifremer, France), Kostas Nittis (HCMR, Greece), Andris Andrusaitis (BONUS EEIG), Geoffrey O'Sullivan (Marine Institute, Ireland).



Launch of the SEAS-ERA Atlantic Strategic Research Agenda, from left: Dina M<sup>a</sup> Pereira Carrilho (FCT, Portugal), Sieglinde Gruber (EC DG R&I) and Geoffrey O'Sullivan (Marine Institute, Ireland)

## **STAGES: Science and Technology Advancing Governance of Good Environmental Status**

Type: EC FP7 CSA  
Duration: 24 months (Sept. 2012 – Aug. 2014)  
Budget: €1M  
Consortium: 8 national and pan-European partners  
Coordinator: CETMAR, Spain  
Website: [www.stagesproject.eu](http://www.stagesproject.eu)  
EMB role: Work Package Leader



The STAGES project aims to connect science to policy and decision making in support of the Marine Strategy Framework Directive (MSFD). The European Marine Board is leading a work package on building a science-policy Interface to support MSFD implementation with a primary objective of developing a proposal for a pan-European science-policy interface platform to channel knowledge from European science and technology to relevant stakeholders in support of the MSFD implementation. This work is being conducted through analysis of best practice and substantial stakeholder consultation.

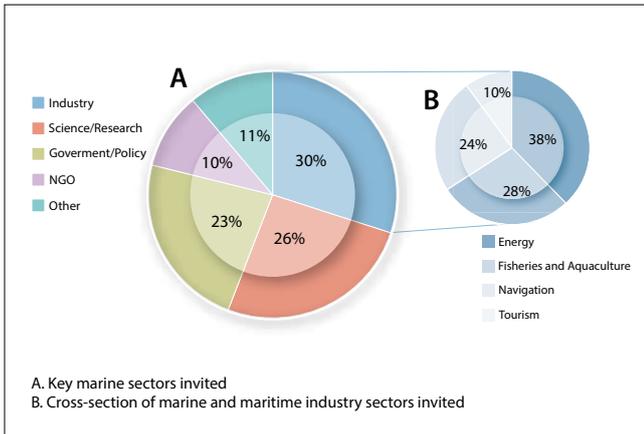
### **STAGES in 2013: Major EMB outputs**

#### **MSFD Science-Policy Interface**

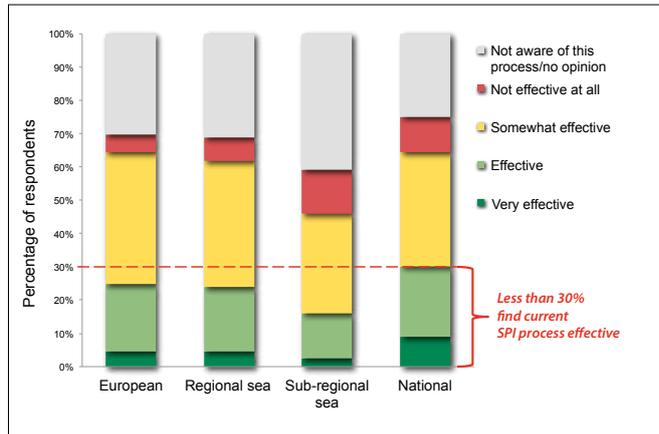
In 2013, as part of its project tasks, the EMB led a stakeholder consultation to assess the views and expectations of marine stakeholders for enhancing the science-policy interface supporting MSFD implementation. This was conducted in three stages, namely stakeholder identification, online survey and a stakeholder workshop:

1. Stakeholder identification (finalized in March 2013): Over 600 marine stakeholders were identified from across marine and maritime sectors spanning national, regional and European levels. These included organizations and networks from industry, research performing organizations, research funding agencies, government administration (e.g. competent authorities) and non-governmental organizations. A database was created building on an inventory of MSFD stakeholder organizations and communication outputs developed by the STAGES consortium (WP1 and WP2). Stakeholder contacts were also provided by the FP7 ODEMM project and sourced from MSFD European stakeholder lists and working groups (European Commission).
2. Online survey (May-July 2013): The questionnaire, designed by the EMB Secretariat, contained 14 questions aimed at gathering stakeholder opinions and perceptions on three key areas of the MSFD science-policy interface:
  - MSFD knowledge production, availability and access;
  - Stakeholder involvement in the current MSFD science-policy interface; and
  - Tools and mechanisms for enhancing the existing science-policy interface.

As a result of the six-week survey, 113 responses were received from 23 countries with a response rate of 26% of the approached stakeholders (see key facts below). In-depth interviews were also conducted with key MSFD actors (e.g. Regional Sea Commissions) which also supported the identification of potential case studies of SPI best practice (e.g. at the national level)w.



Cross-section of marine and maritime stakeholders invited to participate in the STAGES MSFD science-policy interface survey (n=436). Stakeholders were targeted from the public and private sectors, across national, regional, European and international scales.



Stakeholder perception of the effectiveness of the current MSFD science-policy interface at different geographical levels. The figure shows that of the stakeholders who responded, less than 30% perceive the current MSFD science-policy interface to be effective at any geographical scale. It also highlights the sub-regional scale as a potentially under-utilized geographical scale with over 40% of stakeholders having no opinion or not being aware of an SPI at this scale.

3. Stakeholder workshop: In 2013, EMB started the preparations for a workshop to further assess stakeholder views to optimize a future MSFD science-policy interface. The workshop took place on 12 February 2014 (during the preparation of this report), organized in collaboration with the FP7 DEVOTES project.

The full results of the Stakeholder Consultation will be published as a STAGES Deliverable (D4.1) in April 2014.

**Other STAGES activities**

In autumn 2013 the EMB led the production of a state-of-the-art report on hydrographic conditions (WP 2), involving the analysis and classification of over 140 European projects for their relevance to MSFD and in particular to MSFD Descriptor 7 'Hydrographical Conditions'.

**Related science-policy interface activities**

In Chapter 13 'Towards effective European marine science-policy interfaces' of the foresight report Navigating the Future IV (June 2013, also see p. 30) EMB included a review of European science-policy interfaces and sets out recommendations for developing long-term and effective science-policy interfaces at multiple levels.

The EMB Secretariat also fostered interactions with related European initiatives, including the FP7 projects PERSEUS, ODEMM and SPIRAL. A dialogue is ongoing with European Commission's DG Environment as key clients of the SPI proposal, and with the JPI Oceans CSA project where STAGES have identified potential areas for collaboration regarding science-policy best practice, survey design and stakeholder identification.



STAGES partners at the steering committee meeting (13-14 March 2013, Vigo, Spain)

## Other Initiatives and Networks

The European Marine Board is represented on scientific panels or acts as an observer in a number of related European initiatives and networks. Furthermore, in addition to being partner in the EU-funded projects mentioned above, the EMB participates in the activities of selected other FP7 projects as a non-partner, increasing the synergy among related pan-European initiatives.

In 2013, EMB contributed to the following initiatives and networks:



European Consortium for Ocean Drilling Research (ECORD Council) – as observer  
[www.ecord.org](http://www.ecord.org)



Joint Programming Initiative *Healthy and Productive Seas and Oceans* (JPI Oceans) - Niall McDonough is an elected member of the Strategic Advisory Board  
[www.jpi-oceans.eu](http://www.jpi-oceans.eu)



European Fisheries and Aquaculture Research Organisation (EFARO) – as observer  
[www.efaro.eu](http://www.efaro.eu)



Waterborne Technology Platform – as observer  
[www.waterborne-tp.org](http://www.waterborne-tp.org)

In 2013, Marine Board contributed to the following European Commission projects in an advisory capacity:



OPEC, *Marine Ecosystem forecasting to enhance marine GMES applications*, EU FP7 – as member of the Advisory Board <http://marine-opec.eu/>



EuroMarine, *Integration of European Research Networks of Excellence*, EU FP7 CSA (Feb. 2011-Jan. 2013) – Niall McDonough is a member of the Advisory Board  
[www.euromarineconsortium.eu](http://www.euromarineconsortium.eu)



EMBRC, *European Marine Biological Resource Centre* (Preparatory Phase, Feb. 2011-Jan. 2014) – as member of the Reference User Group  
[www.embrc.eu](http://www.embrc.eu)



MERIL, *Mapping of European Research Infrastructure Landscape*, EU FP7 SA (Oct. 2010-Sept. 2012), providing input on marine research infrastructures via the project coordinator – European Science Foundation. [www.meril.eu](http://www.meril.eu)



PERSEUS, *Policy-orientated marine Environmental Research for the Southern European Seas*, EU FP7 SICA (Jan. 2012-Dec. 2015) – Niall McDonough is a member of the Advisory Board [www.perseus-net.eu](http://www.perseus-net.eu)



MARLISCO, *MARine Litter in European Seas: Social Awareness and CO-Responsibility*, EU FP7 SIS (June 2012-May 2015) – as member of the Advisory Board [www.marlisco.eu](http://www.marlisco.eu)

## STRATEGY

The European Marine Board delivers its strategic vision and science foresight through high-level publications and statements, targeted both at the research community and policymakers.

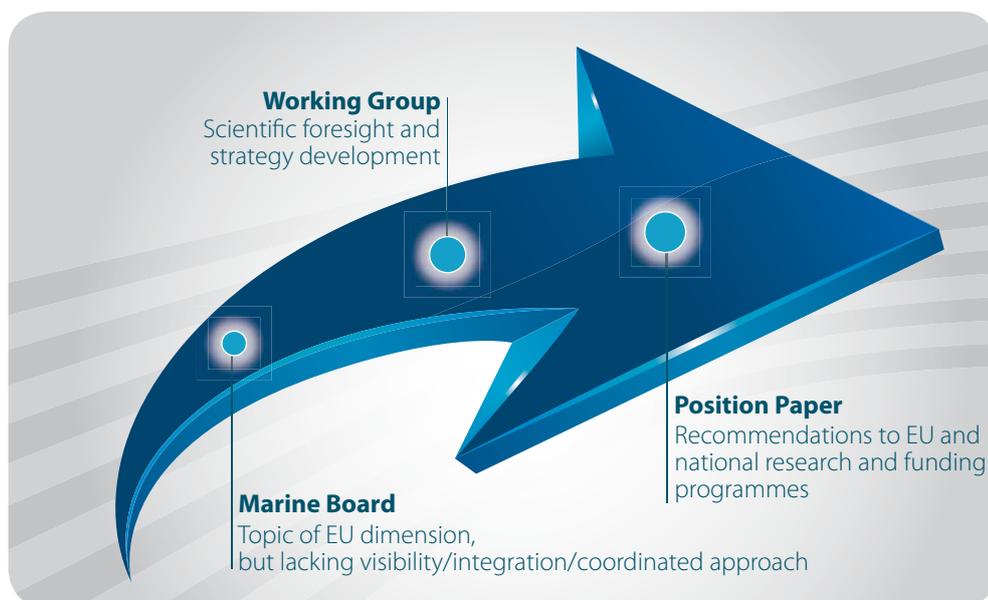
EMB publications bridge science and policy by:

- Highlighting important challenges and opportunities related to the seas and oceans and identifying the corresponding research priorities and policy needs necessary to address them;
- Providing high-level research recommendations ready to be taken up by programme developers and policymakers;
- Proposing a vision and strategy for the topic at hand to guide the scientific community and EU decision makers towards delivering the goals of the European Research Area through increased excellence, coordination and competitiveness in European science.

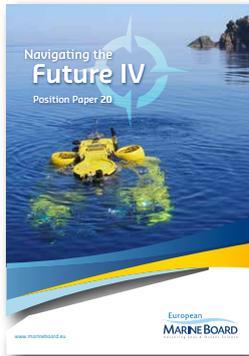
A full list of EMB publications is provided in Annex 9. All publications are available for download at: [www.marineboard.eu/publications](http://www.marineboard.eu/publications)

## Position Papers

Position papers are the Marine Board's primary science foresight and priority-setting instrument. They are prepared by working groups of international experts convened by the Marine Board to address critical matters of strategic importance for marine science and technology as well as society at large.



Marine Board position papers directly impact European research agendas, bridging the gap between scientific priorities and policy requirements. Through its position papers, the Marine Board has a track record of direct impact on Framework Programme work programmes and calls as well as national marine research programmes and initiatives.



### Navigating the Future IV, June 2013

European policymakers grapple with many grand challenges, including climate change, food and energy security, human health, and a loss of economic momentum resulting from the financial crisis. The seas and oceans, with their vast resources, can supply goods and services to address most of these societal challenges: sustainable supply of food, energy from wind, wave and tide, new drugs through marine biotechnology, valuable raw materials from the ocean floor, and much more. According to the EC Communication on Blue Growth, the EU blue economy delivers a gross added value of €500 billion per year and supports 5.4 million jobs. But it is clear that only sustainable maritime activities would allow further investing in and exploiting marine resources.

EMB's Navigating the Future IV (NFIV) scans the horizon to anticipate future marine research priorities. The paper demonstrates that marine science has a key role to play in addressing societal challenges and supporting blue growth. NFIV makes a link

between applied, market-driven research which can deliver early economic gains, and fundamental research, necessary to improve our understanding of the natural ocean system which provides us with so many benefits. It outlines the tools and technologies that will be needed to realize these opportunities including the next generation of ocean observation infrastructure. It also examines the training and skills that will be required by tomorrow's marine experts, and the importance of creating better interactions between marine scientists, policymakers and the general public.



Niall McDonough, EMB Executive Secretary, Maria da Graça Carvalho, MEP & European Parliament Rapporteur for the Horizon 2020 Programme, Máire Geoghegan-Quinn, EU Commissioner for Research, Innovation and Science, and Kostas Nittis, European Marine Board Chair



Representatives of 44 stakeholder organizations and networks attended the Navigating the Future IV launch in Brussels on 20 June 2013; featured: Kostas Nittis, EMB chair, opening the event

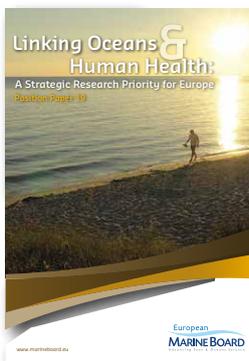
Navigating the Future IV (EMB Position Paper 20) was officially launched at a special launch event in Brussels on 20 June 2013, attended by representatives of 44 stakeholder organizations with keynotes by Máire Geoghegan-Quinn, EU Commissioner for Research, Innovation and Science, and Maria da Graça Carvalho, Member of the European Parliament and Rapporteur for the EU Horizon 2020 Programme. Speaking at the launch event, Máire Geoghegan-Quinn said, *“The European Marine Board plays a major role in promoting marine science and technology in Europe which is vital for achieving sustainable ocean science and management. The launch of Navigating the Future IV is particularly timely as we prepare for the first Horizon 2020 Programme. Navigating the Future IV will be a valuable source of ideas and common priorities in the area of marine sciences, providing a vision for science and technology in Europe.”*



Máire Geoghegan-Quinn, EU Commissioner for Research, Innovation and Science



Maria da Graça Carvalho, Member of the European Parliament and Rapporteur for the EU Horizon 2020 Programme



**Position Paper 19: *Linking Oceans and Human Health: A Strategic Research Priority for Europe, December 2013***

There is growing recognition within the scientific community that a more holistic approach is required to understand how human health and well-being are connected to the seas and oceans. Extreme weather events such as coastal storms and flooding, and human exposure to marine-borne pathogens and chemical pollution, pose significant threats to human health. At the same time, seas and oceans provide numerous benefits, including the supply of food and raw materials as well as growing opportunities to exploit marine genetic resources for new drugs and nutraceuticals. Research is also beginning to identify the mental health benefits of interacting with the coastal environment. Understanding this complexity can only be achieved with an interdisciplinary approach, drawing from expertise across a diverse range of disciplines within natural, social and economic sciences, including public health and medicine.



Recognizing that Europe does not have a coherent oceans and human health research framework, EMB published its Position Paper 19, *Linking Oceans and Human Health: A Strategic Research Priority for Europe*. The paper identifies the key research needs and priorities to support the development of a holistic and coherent transnational oceans and human health research effort in Europe.

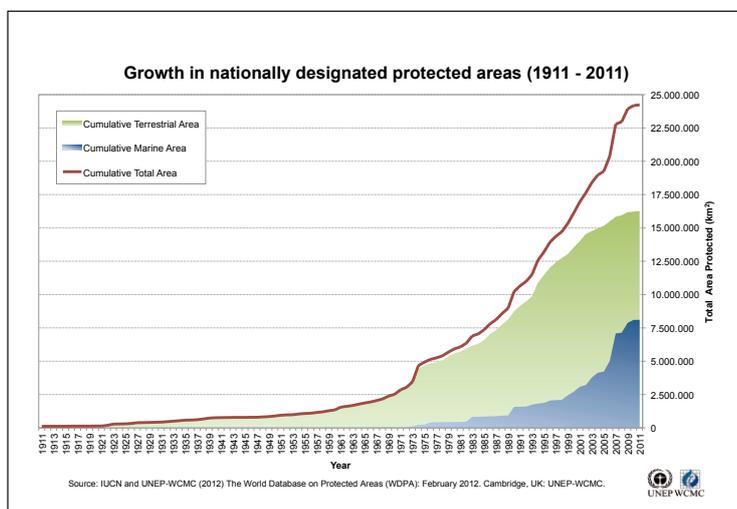
This position paper was prepared by the EMB Working Group on Oceans and Human Health chaired by Prof. Michael Moore of the Plymouth Marine Laboratory (PML) and European Centre for Environment and Human Health at the University of Exeter, UK. The paper was pre-released at the dedicated workshop on Oceans and Human Health co-organized by the EMB and JPI Oceans during the European Maritime Day (EMD) Stakeholder Conference 2013 in Malta (see also p. 37). Since its presentation at the EMD, the report has generated several follow-up activities, including a dedicated multi-disciplinary expert workshop on Oceans and Human Health to take place in Cornwall, UK, in March 2014.

**Position Paper 18: Achieving Ecologically Coherent MPA Network in Europe: Science Needs and Priorities, April 2013**

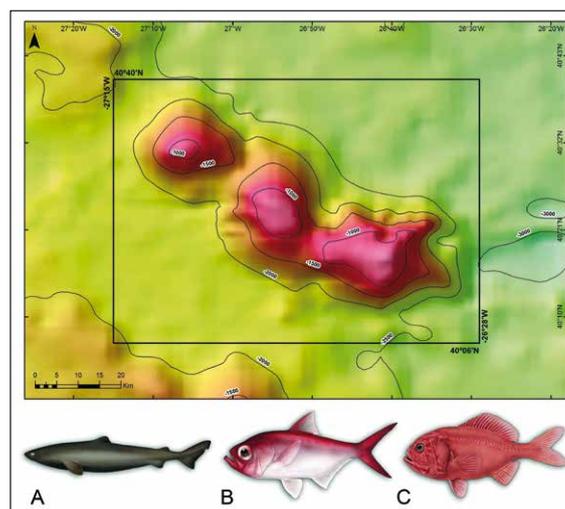


Political drivers to halt the loss of marine biodiversity have led to an increase in Marine Protected Areas with global coverage estimated to be 8.3 million km<sup>2</sup> in 2012 and rising (The Nature Conservancy Policy Brief, Oct. 2011). However, the establishment of MPAs in Europe has lagged behind terrestrial equivalents and has taken place in an *ad hoc* and uncoordinated way. In its Position Paper 18, *Achieving Ecologically Coherent MPA Network in Europe: Science Needs and Priorities*, the European Marine Board presents 10 scientific priorities for MPA management, calling for urgent action to inform, engage and empower stakeholders in planning connected networks of MPAs.

The paper highlights connectivity between MPA reserves as an essential biodiversity management tool, promoting genetic diversity that improves the health and overall resilience of an ecosystem. MPA management in a changing world will also require adaptive approaches, moving away from ‘static’ nature conservation to a new era of MPA design and implementation that can respond to ecosystem shifts and protect emerging biodiversity assets (e.g. sea-grasses which sequester carbon). Furthermore, integrated ocean observation will be crucial as well as closer links with the maritime surveillance community to achieve successful enforcement of MPAs. This will become increasingly necessary as human activities such as fishing and transport continue to rise and exploitation of the oceans turn to remote high-seas areas where MPA legislation is often more complex and regulation much more difficult and costly.



Growth in nationally designated protected areas (1911-2011). Graph excludes 43,674 protected areas with unknown year of establishment. Source: IUCN and UNEP-WCMC (2012) *The World Database on Protected Areas (WDPA)*: February 2012. Cambridge, UK: UNEP-WCMC. Extract from EMB Position Paper 18 on Marine Protected Areas



Map of the Sedlo Marine Protected Area (adapted from Ribeiro & Santos 2011), illustrating three species of fishes which occur in Sedlo and whose conservation is considered a priority: (A) *Centroscymnus coelolepis*/Portuguese dogfish; (B) *Beryx splendens*/alfonsino; and (C) *Hoplostethus atlanticus*/orange roughy. Extract from EMB Position Paper 18 on Marine Protected Areas

The position paper was developed by EMB Working Group on Marine Protected Areas (WG MPAs), chaired by Dr Esben Olsen of the Norwegian Institute of Marine Research. The publication was launched at the European Maritime Day Stakeholder Conference in Malta on 22 May 2013 as part of a stakeholder workshop on “MPAs and Tourism”.



© European Commission  
Launch of EMB Position Paper 18 on Marine Protected Areas at the European Maritime Day 2013, Malta. From left: Kate Larkin, EMB Secretariat, Lowri Evans, EC DG MARE Director-General and Niall McDonough, EMB Executive Secretary

Further promotion of the position paper in 2013 included a presentation by WG MPAs member, Phil Weaver (Seascope Consultants, UK), at the 3<sup>rd</sup> International Marine Protected Areas Congress (IMPAC3) in Marseille and Corsica from in October 2013. The paper has also been recommended as an important reference document by the European CoCoNet project, a key ongoing European initiative tackling the need for interconnected MPAs in the Mediterranean and the Black Sea regions developed under the EU FP7 Oceans of Tomorrow scheme.

## Running Working Groups

In 2013, three new expert working groups were established, focusing on the following topics:

- Valuing Marine Ecosystems;
- Submerged Landscapes, and
- Deep-Sea Research.

List of the working group members is provided in Annex 3.

## Science Commentaries

EMB science commentaries are short science policy briefings addressing strategic issues of identified scientific and societal importance and which require a rapid and coordinated policy response.

### **Getting Ready for an Ice-free Arctic (April 2013)**



In this science commentary the European Marine Board makes a case for the enormous societal and environmental implications of the rapid melting of Arctic sea ice. EMB highlights that changes in the Arctic Ocean ecosystem have fundamental effect on the global earth and climate systems as well as the global economy. While the retreating ice sheets open new economic opportunities for oil and gas exploitation, fisheries and trade, the climate and human impacts on the Arctic's fragile environments are yet to be fully understood. Therefore, a consolidated effort involving multiple national and sectoral stakeholders is urgently needed to establish a comprehensive and sustained marine observation and data-exchange system covering the full extent of the Arctic Ocean.

The EMB Arctic science commentary, coordinated by Peter Haugan (EMB vice-chair, University of Bergen, Norway) with support from the EMB Secretariat, was endorsed by the European Polar Board. The publication was launched at the Arctic Science Summit Week in Kraków, Poland, on 13-19 April, and further disseminated to a wide range of relevant stakeholders including through the Arctic Observing Summit in Vancouver, Canada on 29 April – 3 May 2013. The ideas highlighted in this publication were taken forward in the 4th EMB Open Forum, Arctic 2050, to take place in Brussels on 12 March 2014 (see [www.marineboard.eu/4thforum](http://www.marineboard.eu/4thforum)).

## VOICE

One of the Marine Board's core objectives is to forge a collective vision on the future direction of European marine science and technology. The Marine Board facilitates its members and external stakeholders to voice their common vision via science policy conferences, joint statements and high-impact communication strategies.

### EMB activities in marine biotechnology

EMB has a long-established involvement in European science-policy efforts in the area of marine biotechnology research and technology development. These activities include publication of two position papers (2001 and 2010), and stakeholder engagement at national and European level. In 2013, EMB coordinated the final conference of the CSA MarineBiotech CSA project outlined below, as part of its role in this project.

#### **Final CSA MarineBiotech Conference, *Challenges and Opportunities for Europe* (11-12 March 2013, Brussels)**

The CSA MarineBiotech (also see p. 22) final conference was held in March 2013 and served as one of the final activities of this 18-month FP7 project. The event was co-organized by EMB and the Flanders Marine Institute (VLIZ), with EMB leading the development of the conference programme. More than 150 delegates from industry, academic institutions, public authorities and funding agencies attended.



The conference brought together more than 150 representatives of science, industry and policy



EU Commissioner for Research, Innovation and Science, Maire Geoghegan-Quinn, in a video message to the conference

The conference provided further insights into European marine biotechnology research, industrial developments, policy and coordination initiatives, while simultaneously illustrating recent progress in the European capacity to support the development of "blue biotechnology", one of the five priority areas identified in the EU Blue Growth Strategy. The event also offered an excellent opportunity to highlight the main outcomes of the CSA activities and to look forward to a future ERA-NET in marine biotechnology. It contributed valuable input to support the ERA-NET vision to capture new opportunities, bridge gaps and eliminate barriers to progress, enabling the transfer of experiences between countries and regions and pan-European coordination of RTDI and science policy.



Image on the left: speakers and chair of the opening and first sessions of the CSA MarineBiotech final conference (Brussels, 11-12 March 2013). From left: Peter N. Golyshin (Bangor University, UK), Joel Querellou (Ifremer, France/former Chair of Marine Board WG BIOTECH), Charlotte Salpin (Division for Ocean Affairs and the Law of the Sea, United Nations, USA), Jan-Bart Calewaert (European Marine Board), Jesús M. Arrieta (IMEDEA, Spain) and Steinar Bergseth (RCN, Norway/CSA coordinator)

The four-year Marine Biotechnology ERA-NET officially started in December 2013. This EU FP7-funded consortium of 19 national research funding bodies from 14 countries will identify and develop synergies between national activities and pool resources to undertake joint funding of transnational projects in the area of marine biotechnology.

All conference materials (presentations, book of abstracts, report, etc.) are available on: [www.marinebiotech.eu/conference](http://www.marinebiotech.eu/conference).

### **Navigating the Future IV and EurOCEAN conference series**

Since publication of the first Navigating the Future position paper in 2001, the Navigating the Future series has been widely recognized, both by researchers and science policymakers, as providing critical periodic foresight and recommendations on emerging marine science challenges and needs.

Publication of Navigating the Future IV (EMB Position Paper 20), the latest in this series, was marked at a dedicated launch event held in Brussels on 20 June 2013. Representatives of 44 stakeholder organizations attended and keynote speakers included Máire Geoghegan-Quinn, EU Commissioner for Research, Innovation and Science, and Maria da Graça Carvalho, Member of the European Parliament and Rapporteur for the EU Horizon 2020 Programme.

Navigating the Future IV truly represents a voice of the European marine scientific community. It was developed by the Marine Board with contributions from 56 individual experts, six pan-European networks, additional inputs from 18 other experts, and approved by the EMB's 36 member organizations.



EU Commissioner Maire Geoghegan-Quinn at the launch of Navigating the Future IV and EuroOCEAN 2014



Enrico Brugnoli, Director of CNR Department of Earth and Environment, presents EuroOCEAN 2014 on behalf of the Italian organizers: CNR, CoNISMa and OGS

Work on the publication was initiated at a European Marine Board Brainstorming Workshop in 2010. The outcomes of the workshop and the high-level societal challenge-oriented structure of NFIV served as a basis for the influential EuroOCEAN 2010 conference (Ostend). NFIV will also inform the programme of the upcoming EuroOCEAN 2014 conference (7-9 October, Rome).

### European Maritime Day

The European Marine Board participated in three parallel stakeholder workshops at the European Maritime Day on 22 May 2013, spanning themes from Oceans and Human Health to Marine Protected Areas and stakeholder engagement in implementing the ecosystem approach to management of marine resources. The workshops were used as a platform to launch two new European Marine Board position papers: Position Paper 18 on Marine Protected Areas and a preliminary version of Position Paper 19 on Oceans and Human Health.



At the joint EMB-JPI Oceans workshop on Oceans and Human Health, EMB Position Paper 19 on this topic was presented by the chair of the EMB WG OHH Professor Michael Moore of the Plymouth Marine Laboratory and European Centre for Environment and Human Health at the University of Exeter, UK (on the left)



EMB Position Paper 18 on Marine Protected Areas was presented by the chair of the EMB WG MPA Dr Esben Olsen of the Institute of Marine Research, Norway, at the workshop dedicated to MPAs and Tourism (featured from left: Kate Larkin, EMB Secretariat, Esben Olsen, IMR, Norway, Foteini-Nikoletta Vernardaki, EC DG MARE, and Kostas Nittis, EMB Chair)

## Communication and Impact



European Marine Board poster

Achieving EMB objectives ultimately relies on successful communication. The Secretariat continuously works to enhance the impact of EMB strategic advice with the help of targeted communication activities. Different tools are employed to monitor and assess EMB impact and to ensure that the lessons learnt from completed activities are brought forward to inform new ones.

The uptake and impact of each EMB publication is closely monitored for a set period following its publication. At the end of this period, an impact assessment report is produced and presented to the EMB delegates at a plenary meeting.

It is of utmost importance that the EMB strategic outputs (position papers, policy briefings, vision documents, etc) reach their audience in a timely and efficient manner. The Secretariat actively disseminates the EMB publications both electronically, by post and via conference booths. In 2013, over 5,200 hard copies of reports were disseminated. EMB publications were presented at 16 conferences and events (see Annex 7).

In 2013, the dissemination of Navigating the Future IV set a new EMB record with the entire 1,500-copy print-run distributed within four months following publication. A second print run was ordered at the end of 2013. Other EMB reports with the high dissemination figures resulting in more than one print run have included: Navigating the Future III (2006), Marine Microbial Diversity (2012), CLAMER Special Report on Impacts of Climate Change (2010), Marine Biotechnology: A New Vision and Strategy for Europe (2010), Marine Renewable Energy (2010), Ecosystem Approach to Management (2010), EMODnet Vision Document (2008), Climate Change Impacts (2007) and the Ocean Research Fleets (2007). All of these reports have a track record of directly influencing EU framework project work programmes and calls as well as national research strategies.



EMB publication stands at stakeholder events

The publications webpage features all EMB publications since 2000 available for download: [www.marineboard.eu/publications](http://www.marineboard.eu/publications). Hard copies can be requested by email to the Secretariat: [info@marineboard.eu](mailto:info@marineboard.eu).

## MARINE BOARD FINANCES 2013

The Marine Board annual budget is based on:

- Member Organization contributions;
- Special contributions (towards specific Marine Board activities); and
- External contracts, e.g. EU FP7 projects.

The Flemish Government of Belgium provides an in-kind contribution to the Board through the provision of office space and running costs and equipment at the InnovOcean site in Ostend, as well as the employment cost of the Marine Board Administration and Coordination Officer.

Member organizations also provide in-kind contribution through support for participation of national experts in Marine Board activities, i.e. travel and subsistence to attend meetings.

The figures used to prepare the financial report provided below were supplied by the ESF Department of Administration and Finance and at the time of publishing are subject to final audit and closure of 2013 accounts.

### Available Funds 2013

All figures in Euro '000s

<b>Member Contributions</b>	421.2
<b>FP drawdown on employment costs (estimate)</b> Secretariat staff time allocated to external projects	211.4
<b>Special contribution</b> NOC contribution towards printing costs of NFIV	5
Interest on cash reserve	3.2
<b>Total available funds 2013</b>	<b>640.8</b>

### Expenditure 2013

<b>Secretariat employment costs (estimate)</b>	311.1
<b>Meetings costs</b> Staff travel and meeting logistics	30.3
<b>Publications</b> Design and printing of EMB publications	34.6
<b>Dissemination</b> Dissemination of EMB outputs (incl. postage)	12
<b>Communication</b> Rebranding and profiling materials	6.7
<b>Office consumables and equipment</b>	12.5
<b>Overhead to the ESF</b>	21
<b>Other</b> Bank transfer costs, other fees, depreciation of fixed assets	0.8
<b>Total expenditure 2013</b>	<b>429</b>

### Marine Board Reserve Fund<sup>1</sup>

Available funds 2013	640.8
Expenditure 2013	429
<b>Total 2013 balance</b>	<b>211.8</b>
<b>2012 carry over</b>	<b>366.2</b>
<b>Total reserve fund as of 31/12/2013 (estimate)</b>	<b>578</b>

<sup>1</sup> In 2010, the Marine Board approved a proposal to create a reserve fund by setting aside any annual balance of income over expenditure. This reserve fund is designed to provide a contingency against any future reduction of income.

## ANNEXES

**Annex 1. Marine Board member organizations, delegates and alternates, as of 31 December 2013****BELGIUM**

- **Belgian Science Policy Office (BELSPO)**  
*David Cox*
- **Fonds National de la Recherche Scientifique (FNRS)**  
National Fund for Scientific Research  
*Jean-Marie Beckers*
- **Fonds voor Wetenschappelijk Onderzoek - Vlaanderen (FWO)**  
Fund for Scientific Research - Flanders  
*Jan Mees*  
*Tina Mertens*

**CROATIA**

- **Institut za oceanografiju i ribarstvo (IZOR)**  
Institute of Oceanography and Fisheries  
*Ivica Vilibic*
- **Institut Ruđer Bošković (IRB)**  
*Ruđer Bošković Institute*  
*Sandi Orlić*

**CYPRUS**

- **Ωκεανογραφικού Κέντρου Κύπρου**  
Cyprus Oceanography Centre  
*Georgios Georgiou*  
*George Zodiatis*

**DENMARK**

- **Institute for Akvatiske Ressourcer (DTU Aqua)**  
National Institute for Aquatic Resources  
*Fritz Köster*

**ESTONIA**

- **Eesti Teaduste Akadeemia**  
Estonian Academy of Sciences  
*Tarmo Soomere* (Marine Board vice-Chair, May 2012-May 2015)

**FRANCE**

- **Centre National de la Recherche Scientifique (CNRS)**  
National Centre for Scientific Research  
*Jean-Marie Flaud*
- **Institut Français de Recherche pour l'Exploitation de la Mer (Ifremer)**  
French Research Institute for Exploration of the Sea  
*Gilles Lericolais* (vice-Chair, October 2013-October 2016)
- **Marine Universities of France**  
*Yves-Marie Paulet*  
*Jean-Alain Pocard*

**GERMANY**

- **Deutsche Forschungsgemeinschaft (DFG)**  
German Research Foundation  
*Michael Schulz*
- **Helmholtz-Gemeinschaft (HGF)**  
Helmholtz Association  
*Peter Herzig*
- **Konsortium Deutsche Meeresforschung (KDM)**  
German Marine Research Consortium  
*Jan-Stefan Fritz*

**GREECE**

- **Ελληνικό Κέντρο Θαλάσσιων Ερευνών**  
Hellenic Centre for Marine Research (HCMR)  
*Kostas Nittis* (Marine Board Chair, May 2011 – May 2014)

**IRELAND**

- **Foras na Mara**  
Marine Institute  
*Geoffrey O'Sullivan*
- **Irish Marine Universities Consortium**  
*Anthony Grehan*

## ITALY

- **Consiglio Nazionale delle Ricerche (CNR)**  
National Research Council  
*Enrico Brugnoli*
- **Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (OGS)**  
National Institute of Oceanography and Experimental Geophysics  
*Alessandro Crise* (Marine Board vice-Chair, May 2012-May 2015)
- **Consorzio Nazionale Interuniversitario per le Scienze del Mare (CoNISMa)**  
National Inter-University Consortium for Scientific Research  
*Ferdinando Boero*

## NETHERLANDS

- **Royal Netherlands Institute for Sea Research (NIOZ)**  
*Henk Brinkhuis*
- **Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO)**  
Netherlands Organization for Scientific Research  
*Josef F. Stuefer*

## NORWAY

- **Havforskningsinstituttet**  
Institute of Marine Research  
*Tore Nepstad*  
*Erlend Moksness*
- **Norges forskningsradet**  
The Research Council of Norway  
*Lars Horn*
- **Universitetet i Bergen (UiB)**  
University of Bergen / Marine Strategic Board  
*Peter Haugan* (Marine Board vice-Chair, May 2011-May 2014)

## POLAND

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

## PORTUGAL

- **Centro de Investigação Marinha e Ambiental (CIMAR)**  
Centre of Marine and Environmental Research-  
*Vitor Vasconcelos*
- **Fundação para a Ciência e a Tecnologia (FCT)**  
Science and Technology Foundation  
*Ricardo Santos* (Marine Board vice-Chair, May 2012-May 2015)  
*Mario Ruivo*

## ROMANIA

- **Institutul National de Cercetare - Dezvoltare Marina "Grigore Antipa"**  
National Institute for Marine Research and Development "Grigore Antipa"  
*Vasile Patrascu*

## SPAIN

- **Consejo Superior de Investigaciones Científicas (CSIC)**  
Council for Scientific Research
- **Instituto Español de Oceanografía (IEO)**  
Spanish Institute of Oceanography  
*Demetrio de Armas*

## SWEDEN

- **Havsmiljöinstitutet**  
Swedish Institute for the Marine Environment  
*Åke Hagström*

## TURKEY

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

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## UNITED KINGDOM

- **Marine Alliance for Science and Technology Scotland (MASTS)**

*Mark James*

*David Paterson*

- **Natural Environment Research Council (NERC)**

*Jacky Wood* (Marine Board vice-Chair, May 2012-May 2015)

*Mike Webb*

- **National Oceanography Centre (NOC)**

*Edward Hill*

Up-to-date information on the European Marine Board members is available at:  
[www.marineboard.eu/about/members](http://www.marineboard.eu/about/members)

## Annex 2: Marine Board plenary meetings 2013

### Spring 2013 Plenary Meeting, 24-25 April, Bergen, Norway

#### List of Participants

##### Marine Board Delegates

Name	Organization
<b>Kostas Nittis –Chair</b> Chair of the open session	Hellenic Centre for Marine Research (HCMR), Greece
<b>Ferdinando Boero</b>	National Inter-University Consortium for Marine Sciences (CoNISMa), Italy
<b>Enrico Brugnoli</b>	National Research Council (CNR), Italy
<b>Henk Brinkhuis</b>	Royal Netherlands Institute for Sea Research (NIOZ), Netherlands
<b>Alessandro Crise</b>	National Institute of Oceanography and Experimental Geophysics (OGS), Italy
<b>Alexandra Drossou-Berendes</b> Attended Day 1, 24/04/213	GEOMAR Helmholtz-Zentrum für Ozeanforschung Kiel, Germany / for Helmholtz Association (HGF)
<b>Jean-Marie Flaud</b>	National Center for Scientific Research (CNRS), France
<b>Jan-Stefan Fritz</b>	Helmholtz Association (HGF), Germany
<b>Anthony Grehan</b>	Irish Marine Universities Consortium, Ireland
<b>Åke Hagström</b>	Swedish Institute for The Marine Environment, Sweden
<b>Peter Haugan</b>	Marine Strategic Board - University of Bergen (UIB), Norway
<b>Lars Horn</b>	Research Council of Norway (RCN), Norway
<b>Fritz Köster</b>	National Institute of Aquatic Resources (DTU Aqua), Denmark
<b>Gilles Lericolais</b>	French Research Institute for Exploration of the Sea (Ifremer), France
<b>Jan Mees</b> Attended Day 1, 24/04/213	Fund for Scientific Research – Flanders (FWO), Belgium
<b>Erlend Moksness</b>	Institute of Marine Research (IMR), Norway
<b>Sandi Orlić</b> IRB accepted as EMB member on 24/04/2014	Center for Marine Research / Institute Ruđer Bošković, Croatia
<b>Geoffrey O'Sullivan</b>	Marine Institute, Ireland
<b>Yves-Marie Paulet</b>	Marine Universities of France
<b>Slawomir Sagan</b>	Institute of Oceanology, Polish Academy Of Sciences (IO-PAN), Poland
<b>Ricardo Santos</b>	Science and Technology Foundation (FCT), Portugal
<b>Michael Schulz</b>	German Research Foundation (DFG), Germany
<b>Tarmo Soomere</b>	Estonian Academy of Sciences, Estonia

## ANNEXES

Name	Organization
<b>Leyla Tolun</b>	Scientific and Technological Research Council of Turkey (TUBITAK), Turkey
<b>Ivica Vilibic</b>	Institute of Oceanography and Fisheries (IZOR), Croatia
<b>Jacky Wood</b>	Natural Environment Research Council (NERC), UK

### Invited Speakers

Name	Organization
<b>Amanda Crowfoot</b>	Science Europe
<b>Harald Loeng</b> Speaker to the session on Day 2	European Polar Board / IMR, Norway
<b>Martin Sayer</b>	NERC National Facility for Scientific Diving & Dunstaffnage Hyperbaric Unit / Scottish Association For Marine Science

### Observers and Guests

Name	Organization
<b>Bernard Avril</b>	Integrated Marine Biogeochemistry and Ecosystem Research (IMBER), Norway
<b>Ana-Teresa Caetano</b>	European Commission DG R&I
<b>Svenn-Åge Dahl</b>	University of Bergen, Norway
<b>Anders Goksøy</b>	University of Bergen, Norway
<b>Nils Gunnar Kvamstø</b>	Geophysical Institute, University of Bergen, Norway
<b>Gunn Mangerud</b>	University of Bergen, Norway
<b>Arnoldas Milukas</b> Speaker to the open session	European Commission DG R&I
<b>Øyvind Paasche</b>	Marine Research Cluster / UiB, Norway

### Marine Board Secretariat

Name	Organization
<b>Niall McDonough</b>	Marine Board Executive Scientific Secretary
<b>Jan-Bart Calewaert</b>	Marine Board Secretariat
<b>Maud Evrard</b>	Marine Board Secretariat
<b>Kate Larkin</b>	Marine Board Secretariat

## Marine Board Autumn 2013 Plenary Meeting, 23-24 October 2013, Lisbon, Portugal

### List of Participants

#### Marine Board Delegates

Representative	Member Organization
<b>Ulrich Bathmann</b> KDM accepted as MO on 23/10/13	German Marine Research Consortium (KDM), Germany
<b>Ferdinando Boero</b>	National Inter-University Consortium for Marine Sciences (CoNISMa), Italy
<b>David Cox</b>	Belgian Science Policy Office (BELSPO), Belgium
<b>Alessandro Crise</b>	National Institute of Oceanography and Experimental Geophysics (OGS), Italy
<b>Jean-Marie Flaud</b>	National Center for Scientific Research (CNRS), France
<b>Jan-Stefan Fritz</b>	German Marine Research Consortium (KDM), Germany
<b>Åke Hagström</b>	Swedish Institute for the Marine Environment, Sweden
<b>Lars Horn</b>	Research Council of Norway (RCN), Norway
<b>Gilles Lericolais</b>	French Research Institute for Exploration of The Sea (Ifremer), France
<b>Jan Mees</b>	Fund for Scientific Research – Flanders (FWO), Belgium
<b>Erlend Moksness</b>	Institute of Marine Research (IMR), Norway
<b>Cathal O'Mahony</b>	Irish Marine Universities Consortium / University College Cork, Ireland
<b>Sandi Orlić</b> Attended day 1, 23/10/13	Center For Marine Research / Institute Ruđer Bošković, Croatia
<b>David Paterson</b>	Marine Alliance for Science and Technology Scotland (MASTS), UK
<b>Yves-Marie Paulet</b>	Marine Universities of France
<b>Teodoro Ramirez</b> Speaker to the open session as JPI Oceans representative	Spanish Institute of Oceanography (IEO), Spain
<b>Mario Ruivo</b>	Science and Technology Foundation (FCT), Portugal
<b>Slawomir Sagan</b>	Institute of Oceanology, Polish Academy of Sciences (IO-PAN), Poland
<b>Ricardo Santos</b> Chair of Day 2	Science and Technology Foundation (FCT), Portugal
<b>Tarmo Soomere</b>	Estonian Academy of Sciences, Estonia
<b>Kirsten Thomsen</b>	National Institute of Aquatic Resources (DTU Aqua), Denmark
<b>Leyla Tolun</b>	Scientific and Technological Research Council of Turkey (TUBITAK), Turkey
<b>Vitor Vasconcelos</b>	Centre of Marine and Environmental Research (CIMAR), Portugal

Representative	Member Organization
<b>Ivica Vilibic</b>	Institute Of Oceanography And Fisheries (IZOR), Croatia
<b>Harald Walderhaug</b>	University Of Bergen (UiB), Norway
<b>Jacky Wood</b> Chair of Day 1; attended 23/10/13	Natural Environment Research Council (NERC) / National Oceanography Centre (Noc), United Kingdom

### EMB Observers

Name	Organisation
<b>Ana-Teresa Caetano</b> Speaker to the open session	European Commission DG R&I
<b>Luis Valdes</b> Speaker to the closed session on Day 2	Intergovernmental Oceanographic Commission of UNESCO

### Invited Speakers

Name	Organisation
<b>Wendy Bonne</b>	JPI Oceans Secretariat
<b>Nicholas Flemming</b>	National Oceanography Centre, UK / EMB WG SUBLAND Chair
<b>Flavio Martins</b>	Vice-Rector of the University of Algarve, Portugal
<b>Álvaro Peliz</b>	Instituto Dom Luiz & Faculty of Sciences of the University of Lisbon, Portugal
<b>Miguel Seabra</b>	President of Science and Technology Foundation (FCT), Portugal
<b>Josien Steenbergen</b>	EFARO Secretariat

### Invited Guest

Name	Organisation
<b>Mario Caetano</b>	Adviser of FCT for Space Sciences and Technologies
<b>Telmo Carvalho</b>	The Executive Diretor of EurOcean Portal
<b>João Carlos Marques</b>	The Chair of the Scientific Council of Natural Sciences and Environment of FCT
<b>Paula Elyseu Mesquita</b>	Diretor of the Department of Foreign Affairs of FCT do Departamento de Relações Internacionais da FCT
<b>Tiago Pitta E Cunha</b>	Advisor to the President of Portugal for Maritime Affairs
<b>Gonçalo Vieira</b>	FCT delegate to the European Polar Board

**Marine Board Secretariat**

<b>Name</b>	<b>Organisation</b>
<b>Niall McDonough</b>	Marine Board Executive Scientific Secretary
<b>Doris Abele</b>	Marine Board Secretariat (on secondment)
<b>Nan-Chin Chu</b>	Marine Board Secretariat
<b>Dina Eparkhina</b>	Marine Board Secretariat

### Annex 3: Marine Board working group members 2013

#### Working Group *Valuing Marine Ecosystems* (WG VALMARE)

##### Working group members:

- Melanie Austen, Plymouth Marine Laboratory (PML), UK – working group chair
- Peder Andersen, University of Copenhagen, Denmark
- Claire Armstrong, University of Tromsø, Norway
- Ralf Döring, TI-Institute of Sea Fisheries, Germany
- Stephen Hynes, National University of Ireland, Galway, Ireland
- Harold Levrel, French Research Institute for Exploitation of the Sea (Ifremer), France
- Adriana Resurreição, University of the Azores, Portugal
- Soile Kulmala, Finnish Environment Institute (SYKE), Finland
- Michel Kaiser, School of Ocean Sciences, Bangor University, UK

##### Marine Board support:

- Manager: Niall McDonough

#### Working Group *Submerged Landscapes* (WG SUBLAND)

##### Working group members:

- Nicholas Flemming, affiliated with NOC, UK – working group chair
- Namık Çağatay, Istanbul Technical University, Turkey
- Francesco Latino Chiocci, University of Rome La Sapienza, Italy
- Nena Galanidou, University of Crete, Greece
- Hauke Jöns, German Archaeological Institute, Germany
- Sunhild Kleingärtner, German Maritime Museum of Bremerhaven, Germany
- Gilles Lericolais, French Research Institute for Exploration of the Sea, France
- Tine Missiaen, Gent University, Belgium
- Fionnbarr Moore, National Monuments Service Department of Arts, Heritage and Gaeltacht, Ireland
- Alar Rosentau, University of Tartu, Estonia
- Dimitris Sakellariou, Hellenic Centre for Marine Research, Greece
- Birgitte Skar, Norwegian University of Science and Technology, Norway
- Alan Stevenson, British Geological Survey, UK
- Henk Weerts, Cultural Heritage Agency, Netherlands

##### Marine Board support:

- Science officer: Nan-Chin Chu
- Manager: Niall McDonough

### **Working Group Use of Marine Protected Areas for Ecosystem-Based Management (WG MPAs)**

#### **Working group members:**

- Esben Olsen, Institute of Marine Research (IMR), Norway – working group chair
- Luciano Fonseca, International Oceanographic Commission of UNESCO
- Raquel Goñi, Spanish Oceanography Institute (IEO), Spain
- David Johnson, Seascope consultants, UK
- Stelios Katsanevakis, Joint Research Centre (JRC), European Commission
- Enrique Macpherson, Spanish National Research Council (CSIC-MCINN), Spain
- Dominique Pelletier, French Sea Research Institute for Exploitation of the Sea (Ifremer), France
- Marijn Rabaut, Ghent University, Belgium
- Marta Chantal Ribeiro, University of Porto, Portugal
- Phil Weaver, National Oceanography Centre (NOC), UK
- Tania Zaharia, National Institute for Marine Research and Development “Grigore Antipa”, Romania

#### **Marine Board support:**

- Science officers: Kate Larkin
- Manager: Niall McDonough

### **Working Group Oceans and Human Health (WG OHH)**

#### **Working group members and contributors:**

- Michael Moore, Plymouth Marine Laboratory (PML) and Peninsula Medical School, UK – working group chair
- Craig Baker-Austin, Centre for Environment, Fisheries & Aquaculture Science (Cefas), UK
- Michael H Depledge, European Centre for Environment & Human Health, University of Exeter Medical School, UK
- Lora Fleming, European Centre for Environment & Human Health, University of Exeter Medical School, UK
- Philipp Hess, French Research Institute for Exploration of the Sea (Ifremer), France
- David Lees, Centre for Environment, Fisheries & Aquaculture Science (Cefas), UK
- Paul Leonard, Faculty of Science & Technology, UK
- Lise Madsen, National Institute of Nutrition and Seafood Research, University of Bergen, Norway / University of Copenhagen, Denmark
- Richard Owen, University of Exeter Business School, UK
- Hans Pirlet, Flanders Marine Institute, Belgium
- Vitor Vasconcelos, Centre of Marine and Environmental Research (CIMAR), Portugal
- Aldo Viarengo, DISIT - Dipartimento di Scienze e Tecnologie Innovative, Università del Piemonte Orientale “Amedeo Avogadro”, Italy

#### **Marine Board support:**

- Science officers: Jan-Bart Calewaert
- Manager: Niall McDonough

## **Working Group *Deep-Sea Research* (WG DEEP-SEA)**

### **Working group members:**

- Alex Rogers, University of Oxford, UK – working group chair
- Antje Boetius, Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research (AWI), Germany
- Andy Brierley, University of St. Andrews, UK
- Peter Croot, National University of Ireland, Galway, Ireland
- Marina Cunha, University of Aveiro, Portugal
- Roberto Danavaro, Polytechnic University of Marche, Italy
- Colin Devey, GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany
- Andre Freiwald, Senckenberg Institute, Germany
- Alf Haakon Hoel, Institute of Marine Research (IMR), Norway
- Henry Ruhl, National Oceanography Institute (NOI), UK
- Pierre-Marie Sarradin, French Research Institute for Exploration of the Sea (Ifremer), France
- Seline Trevisnaut, University of Utrecht, Netherlands
- Helena Vieira, Bioalvo (SME), Portugal
- Martin Visbeck, GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany

### **Marine Board support:**

- Science officer: Kate Larkin
- Manager: Niall McDonough

## Annex 4: Marine Board Panel Members 2013

### European Marine Board Communications Panel (EMBCP)

#### Panel members:

- Jan Seys, Flanders Marine Institute (VLIZ), Belgium - panel chair
- Nienke Bloksma, Royal Netherlands Institute for Sea Research (NIOZ), Netherlands
- Anne Ditlefsen, Research Council of Norway (RCN), Norway
- Géraldine Fauville, The Sven Lovén Center - Kristineberg, Gothenburg University, Sweden
- Lisa Fitzpatrick, Marine Institute (MI), Ireland
- Albert Gerdes, Centre for Marine Environmental Sciences (MARUM), Germany
- Thomas Isaak, French Research Institute for Exploration of the Sea (Ifremer), France
- Sigrid Maebe, Royal Belgian Institute of Natural Sciences (RBINS), Belgium
- Kjartan Mæstad, Institute of Marine Research (IMR), Norway
- Kim Marshall-Brown, National Oceanography Centre (NOC), United Kingdom
- Martha Papathanassiou, Hellenic Centre for Marine Research (HCMR), Greece
- Joanna Piwowarczyk, Institute of Oceanology of the Polish Academy of Sciences (IO-PAN), Poland
- Line Reeh, National Institute of Aquatic Resources (DTU Aqua), Denmark
- Yianna Samuel-Rhoads, Cyprus Oceanography Centre, Cyprus
- Joana Saiote, Interdisciplinary Centre for Marine and Environmental Research (CIIMAR), Portugal
- Andreas Villwock, Helmholtz Centre for Ocean Research Kiel (GEOMAR), Germany

#### Marine Board support:

- Science officer: Nan-Chin Chu
- Manager: Niall McDonough

### European Scientific Diving Panel (ESDP)

#### Panel members:

- Martin Sayer, Scottish Association for Marine Science (SAMS), United Kingdom – panel chair
- Philipp Fischer, Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research (AWI), Germany
- Jean-Pierre Féral, Institut national des sciences de l'Univers (INSU) of the French National Centre for Scientific Research, France – panel chair (until October 2012)
- Giorgio Caramanna, Italian Association of Scientific Divers, Italy
- Pirkko Kekalainen, Finnish Scientific Diving Committee, Finland
- Roger Lindblom, University of Gothenburg, Sweden
- Alain Norro, Management Unit of the North Sea Mathematical Models and the Scheldt estuary (MUMM), Belgium
- Luka Bekić, Coordination of Scientific Divers of Croatia, Croatia

#### Marine Board support:

- Science officer: Kate Larkin
- Manager: Niall McDonough

### Annex 5: Meetings and events organized by the EMB Secretariat in 2013 (including jointly)<sup>1</sup>

Date	Event
30/01/2013	Marine Board ExCom meeting, Brussels
6/02/2013	2 <sup>nd</sup> EU FP7 SEAS-ERA Forum, Brussels
7/02/2013	EU FP7 SEAS-ERA Steering Committee, Brussels
8/02/2013	Marine Board Secretariat 5 years at the InnovOcean site – Reception for InnovOcean colleagues
11-12/03/2013	EU FP7 MarineBiotech Final Conference <i>Challenges and Opportunities for Marine Biotechnology in Europe</i> , Brussels
20-21/03/2013	European Scientific Diving Panel 10 <sup>th</sup> Meeting, Zadar
22-23/04/2013	Marine Board Communications Panel meeting, Bergen
23/04/2013	Marine Board ExCom meeting, Bergen
24-25/04/2013	Marine Board Spring 2013 Plenary meeting, Bergen
25/04/2013	EurOCEAN 2014 1 <sup>st</sup> Organizing Committee meeting, Bergen
14/05/2013	EMB WG VALMARE kick-off meeting, Brussels
22/05/2013	European Maritime Day Stakeholder Day workshop on Oceans and Human Health and launch on Position Paper 19 on Oceans and Human Health
22/05/2013	European Maritime Day Stakeholder Day workshop on MPAs and Tourism and launch of Position Paper 18 on Marine Protected Areas
20/06/2013	Launch of Navigating the Future IV and EurOCEAN 2014, Brussels
25-26/06/2013	EMB-VLIZ workshop on Ocean Literacy, Ostend
06/09/2013	EurOCEAN 2014 2 <sup>nd</sup> Organizing Committee meeting, Rome
26/09/2013	EMB WG SUBLAND kick-off meeting, Szczecin
01/10/2013	EMB WG VALMARE 2 <sup>nd</sup> meeting, Dublin
22/10/2013	EMB ExCom meeting, Lisbon
23-24/10/2013	EMB Autumn Plenary Meeting, Lisbon
04-05/11/2013	Marine Board Communications Panel meeting, Hamburg
17/12/2013	EMB WG SUBLAND meeting, Brussels

<sup>1</sup> This list includes only formal meetings and events involving multiple stakeholders

## Annex 6: Presentations to meetings by EMB/working group members and Secretariat in 2013

Date	Event	Speaker(s)
6/02/2013	2 <sup>nd</sup> EU FP7 SEAS-ERA Forum, Brussels	Niall McDonough
7/02/2013	EU FP7 SEAS-ERA Steering Committee, Brussels	Niall McDonough
8/02/2013	Marine Board Secretariat 5 years at the InnovOcean site –Reception for InnovOcean colleagues	Niall McDonough
11-12/03/2013	EU FP7 MarineBiotech Final Conference <i>Challenges and Opportunities for Marine Biotechnology in Europe</i> , Brussels	Niall McDonough Jan-Bart Calewaert
14/03/2013	EU FP7 STAGES Steering Committee Meeting, Vigo	Kate Larkin
21-22/03/2013	Baltic-Mediterranean Workshop on Blue Biotechnology, Marseille	Jan-Bart Calewaert
10/04/2013	Marine Universities of France Conference, Brest	Nan-Chin Chu
22-23/04/2013	Marine Board Communications Panel meeting, Bergen	Niall McDonough
22/05/2013	European Maritime Day Stakeholder Day EMB-JPI Oceans joint workshop on Oceans and Human Health – Launch of EMB Position Paper 19 on Oceans and Human Health	Niall McDonough
24/05/2013	Lunch-time conference in DG MARE on Marine Biotech, Brussels	Jan-Bart Calewaert
25-26/06/2013	EMB-VLIZ workshop on Ocean Literacy, Ostend	Niall McDonough Nan-Chin Chu
19-23/08/2013	European Marine Biology Symposium, Galway	Niall McDonough
17-18/09/2013	EU FP7 SEAS-ERA WP 6&9 meeting, Lisbon	Niall McDonough
26/09/2013	EMB WG SUBLAND kick-off meeting, Szczecin	Niall McDonough Nan-Chin Chu
21-25/10/2013	International Marine Protected Areas Symposium (IMPAC3), Marseille	Phil Weaver presents EMB Position Paper 18 on MPAs
29-30/10/2013	EU FP7 SEAS-ERA – EU FP6 MarinERA project evaluation meeting and SEAS-ERA Steering Committee meeting	Niall McDonough
05/11/2013	Science Europe LEGS committee meeting, Florence	Niall McDonough
20-21/11/2013	EU FP7 STAGES Steering Committee meeting, Brussels	Niall McDonough Doris Abele
02/12/2013	European Polar Board plenary meeting, Lisbon	Niall McDonough

**Annex 7: Participation in conference and event exhibitions in 2013**

<b>Date</b>	<b>Event</b>
23-25/01/2013	EU FP7 PERSEUS General Assembly, Barcelona, Spain
14-15/02/2013	VLIZ mini-Symposium & Young Scientists' Day
11-12/03/2013	EU FP7 MarineBiotech final conference, Brussels, Belgium
22/03/2013	Baltic-Med Marine Biotech workshop, Marseille, France
10/04/2013	French Marine University Network Conference, Brest, France
15-19/04/2013	Arctic Science Summit Week, Krakow, Poland
24/04/2013	ECRA hearing on the Arctic, Brussels
30/05/2013	Arctic Observing Summit, Vancouver, Canada
22/05/2013	European Maritime Day 2013, Malta
23-24/05/2013	The Atlantic - A shared resource, Galway, Ireland
11-12/06/2013	EU FP7 SPIRAL workshop, Brussels, Belgium
20/06/2013	High-level launch of Navigating the Future IV and EurOCEAN2014, Brussels,
21/08/2013	48th Annual European Marine Biology Symposium, Galway, Ireland
3-5/09/13	Second Conference on Ocean Literacy in Europe, Plymouth, UK
21-25/10/13	International Marine Protected Areas Congress (IMPAC3), Marseille, France
28-31/10/2013	Protection and Sustainable Management of the Black Sea - 3rd Millennium Imperative, Romania

**Annex 8: Marine Board member contributions 2013**

<b>Marine Board Member</b>	<b>Country</b>	<b>Contribution 2013/€</b>
<b>National Fund for Scientific Research, FNRS</b>	Belgium	10,167
<b>Fund for Scientific Research – Flanders, FWO</b>	Belgium	10,167
<b>Belgian Science Policy Office, BELSPO</b>	Belgium	12,000
<b>Institute of Oceanography and Fisheries, IZOR</b>	Croatia	3,000
<b>Institute Ruđer Bošković, IRB</b>	Croatia	1,500
<b>Cyprus Oceanography Centre</b>	Cyprus	8,000
<b>DTU Aqua</b>	Denmark	12,000
<b>Estonian Academy of Sciences</b>	Estonia	8,000
<b>Academy of Finland</b>	Finland	12,333
<b>National Centre for Scientific Research, CNRS</b>	France	16,500
<b>French Research Institute for Exploitation of the Sea, IFREMER</b>	France	16,500
<b>Universités Marines</b>	France	17,000
<b>German Research Foundation, DFG</b>	Germany	16,500
<b>Association of National Research Centres, HGF</b>	Germany	16,500
<b>Hellenic Centre for Marine Research, HCMR</b>	Greece	8,333
<b>Marine Institute, MI</b>	Ireland	11,333
<b>Irish Marine Universities Consortium</b>	Ireland	12,000
<b>National Research Council, CNR</b>	Italy	16,500
<b>National Institute of Oceanography and Experimental Geophysics, OGS</b>	Italy	16,500
<b>National Inter-University Consortium for Marine Sciences, CoNISMa</b>	Italy	17,000
<b>Netherlands Organisation for Scientific Research, NWO</b>	Netherlands	11,333
<b>Royal Netherlands Institute for Sea Research, NIOZ</b>	Netherlands	12,000
<b>University of Bergen, UiB</b>	Norway	11,333
<b>Research Council of Norway, RCN (+Institute of Marine Research, IMR)</b>	Norway	22,666
<b>Institute of Oceanology - Polish Academy of Sciences, IO-PAN</b>	Poland	8,000
<b>Science and Technology Foundation, FCT</b>	Portugal	6,667
<b>Centre of Marine and Environmental Research, CIMAR</b>	Portugal	6,667
<b>National Institute for Marine Research and Development “Grigore An-tipa”</b>	Romania	7,667
<b>Spanish Institute of Oceanography, IEO</b>	Spain	11,333
<b>Council for Scientific Research, CSIC</b>	Spain	11,333
<b>Swedish Institute for the Marine Environment</b>	Sweden	12,333
<b>Scientific and Technological Research Council of Turkey, TÜBİTAK</b>	Turkey	8,000
<b>Natural Environment Research Council, NERC (+ National Oceanography Centre, NOC)</b>	UK	33,000
<b>Marine Alliance of Science and Technology Scotland, MASTS</b>	UK	17,000
<b>Total Call for Contributions 2013</b>		<b>€ 421,165</b>

## Annex 9 : Full list of Marine Board publications

### Marine Board Position Papers:

- European Marine Board (2013). **Navigating the Future IV. Position Paper 20 of the European Marine Board**, Ostend, Belgium. ISBN: 9789082093100, 203pp.
- Michael N. Moore *et al.* **Linking Oceans and Human Health: A Strategic Research Priority for Europe. European Marine Board Position paper 19.** McDonough N., Evrard M., Calewaert J.B., French V. (Eds). European Marine Board, Ostend, Belgium. 2013.  
Contributing authors: Michael N. Moore, Craig Baker-Austin, Michael H. Depledge, Lora Fleming, Philipp Hess, David Lees, Paul Leonard, Lise Madsen, Richard Owen, Hans Pirlet, Mathew White, Vitor Vasconcelos, Nicholas Boase, Nicholas Osborne, Aldo Viarengo
- Olsen EM *et al.* **Achieving Ecologically Coherent MPA Networks in Europe: Science Needs and Priorities. Marine Board Position Paper 18.** Larkin, KE and McDonough N (Eds.). European Marine Board, Ostend, Belgium. 2013.  
Coordinating author: Esben Moland Olsen; Contributing authors: Luciano Fonseca, Raquel Goñi, David Johnson, Stelios Katsanevakis, Enrique Macpherson, Esben Moland Olsen, Dominique Pelletier, Marijn Rabaut, Marta Chantal Ribeiro, Phil Weaver, Tania Zaharia; External editorial support was provided by David Johnson of Seascope Consultants Ltd. Editors: Kate Larkin, Maud Evrard, Aurélien Carbonnière
- Glöckner F.O. *et al.* **Marine Microbial Diversity and its role in Ecosystem Functioning and Environmental Change. Marine Board Position Paper 17.** Calewaert, J.B., McDonough N. (Eds). European Marine Board, Ostend, Belgium. 2012. ISBN 978-2-918428-71-8, 80pp.  
Coordinating author: Frank Oliver Glöckner. Contributing authors: Frank Oliver Glöckner (Chair), Lucas J. Stal (Coordinator Chapter 2), Ruth-Anne Sandaa (Coordinator Chapter 3), Josep Maria Gasol (Coordinator Chapter 4), Fergal O’Gara, Francisco Hernandez, Matthias M. Labrenz, Elena Stoica, Marta Varela Rozados, Adriano Bordalo, Paraskevi Pitta. Special contributions: Frede Thingstad, Marcel Kuypers
- Roose P. *et al.* **Monitoring chemical pollution in Europe’s Seas - programmes, practices and priorities for research. Marine Board Position Paper 16.** Calewaert, J.B., McDonough N. (Eds). Marine Board, Ostend, Belgium. 2011. ISBN 978-2-918428-57-2, 104pp.  
Coordinating authors: Patrick Roose and Colin Janssen. Contributing authors: Joan Albaigés, Maria João Bebianno, Kees Camphuysen, Margot Cronin, Jan de Leeuw, Geir Wing Gabrielsen, Thomas Hutchinson, Ketil Hylland, Colin Janssen, Bo Jansson, Bjørn Munro Jenssen, Patrick Roose, Detlef Schulz-Bull, Piotr Szefer. Case study lead authors: Kees Camphuysen (Chapter 5) and Ketil Hylland (Chapter 6). Special contributions: Lynda Webster and Torgeir Bakke.
- Querellou J. *et al.* **Marine Biotechnology: A Vision and New Strategy for Europe. Marine Board Position Paper 15.** McDonough N., Calewaert J-B. (Eds.). Marine Board-ESF, Ostend, Belgium. 2010. ISBN 978-2-918428-26-8, 94pp.  
Contributing authors: Torger Borresen, Catherine Boyen, Alan Dobson, Manfred Hofle, Adrianna Ianora, Marcel Jaspars, Anake Kijjoa, Jan Olafsen, Joel Querellou, George Rigos, Rene Wijffels. Special contributions: Chantal Compere, Michel Magot, Jeanine Olsen, Philippe Potin, Filip Volckaert.
- Rice J. *et al.* **Science Dimensions of an Ecosystem Approach to Management of Biotic Ocean Resources, SEAMBOR. Marine Board Position Paper 14.** McDonough N., Carbonnière A. (Eds). Marine Board-ESF, Ostend, Belgium. 2010. ISBN 978-2-918428-10-7, 90pp.  
Contributing authors: Maria de Fátima Borges, Anthony Grehan, Andrew Kenny, Harald Loeng, Francesc Maynou, Jake Rice, Ricardo Serrão Santos, Hein Rune, Skjoldal, Olivier Thébaud, Vassiliki Vassilopoulou, Filip Volckaert. External contributions: Olivier Curtil, Harold Levrel.

- Boyd I. *et al.* **The Effects of Anthropogenic Sounds on Marine Mammals. Marine Board Position Paper 13.** Connolly N., Calewaert J-B. (Eds). Marine Board-ESF, Ostend, Belgium. 2008. ISBN 2-912049-85-7, 94pp.  
Coordinating authors: Ian Boyd, Bob Brownell, Doug Cato, Chris Clark, Dan Costa, Peter Evans, Jason Gedamke, Roger Gentry, Bob Gisiner, Jonathan Gordon, Paul Jepson, Patrick Miller, Luke Rendell, Mark Tasker, Peter Tyack, Erin Vos, Hal Whitehead, Doug Wartzok, Walter Zimmer.
- Robinson I.S. *et al.* **Remote Sensing of Shelf Sea Ecosystems. Marine Board Position Paper 12.** Connolly N., Walter N., Calewaert J-B. (Eds). Marine Board-ESF, Strasbourg, France. 2008. ISBN 2-912049-77-6, 62pp.  
Contributing authors: David Antoine, Mirosław Darecki, Patrick Gorringer, Lasse Pettersson, Ian S. Robinson, Kevin Ruddick, Rosalia Santoleri, Herbert Siegel, Patrick Vincent, Marcel R. Wernand, Guy Westbrook, Giuseppe Zibordi.
- Connolly N. *et al.* (Eds). **Marine Board Responses to the European Commission's Green Papers: (i) Towards a future Maritime Policy for the Union: A European vision for the oceans and seas and (ii) The European Research Area: New Perspectives EC's Green Papers on: Maritime Policy, and the ERA. Marine Board Position Paper 11.** Marine Board-ESF, Strasbourg, France. 2007. ISBN 2-912049-73-3, 46pp.  
Developed from existing Marine Board-ESF publications and discussions with Marine Board Delegates and Executive Committee.
- Binot J. *et al.* **European Ocean Research Fleets – Towards a Common Strategy and Enhanced Use. Marine Board Position Paper 10.** Connolly N., Carbonnière A. (Eds). Marine Board-ESF, Strasbourg, France. 2007. ISBN 2-912049-62-8, 62pp.  
Contributing authors: Jacques Binot, Juanjo Da obeita, Thomas Muller, Per Wilhelm Nieuwejaar, Marieke J. Rietveld, Paul Stone. Special contributions: Massimiliano di Bitteto, John Breslin, Klaus von Broeckel, Joao Coimbra, Dimitris Georgopoulos, Mick Gillooly, Hannu Gronvall, Jan Piechura, Frans Veenstra.
- Philippart C.J.M. *et al.* **Impacts of Climate Change on the European Marine and Coastal Environment – Ecosystems Approach. Marine Board Position Paper 9.** Connolly N., Walter N. (Eds). Marine Board-ESF, Strasbourg, France. 2007. ISBN 2-912049-63-6, 84pp.  
Contributing authors: Ricardo Anadón, Roberto Danovaro, Joachim W. Dippner, Kenneth F. Drinkwater, Stephen J. Hawkins, Geoffrey O'Sullivan, Temel Oguz, Catharina J.M. Philippart, Philip C. Reid.
- Minster J-F., Connolly N. *et al.* (Eds). **Navigating the Future III. Marine Board Position Paper 8.** Marine Board-ESF, Strasbourg, France. 2006. ISBN 2-912049-59-8, 69pp.  
Contributing editors: Aurélien Carbonnière, Niamh Connolly, Jan de Leeuw, Maud Evrard, Jan Mees, Jean-François Minster, Kostas Nittis, Geoffrey O'Sullivan, Nicolas Walter.
- Prandle D. *et al.* **Modelling in Coastal and Shelf Seas – European Challenges. Marine Board Position Paper 7.** Connolly N., Walter N. (Eds). Marine Board-ESF, Strasbourg, France. 2005. 30pp.  
Contributing authors: João Gomes Ferreira, Wolfgang Fennel, Michael Hartnett, Peter Herman, Michiel Knaapen, Hans Los, Morten Pejrup, Thomas Pohlmann, David Prandle, Roger Proctor, Yann-Hervé de Roeck, Karline Soetaert, Takvor Soukissian, Tapani Stipa, Georg Umgieser, Waldemar Walczowski.

- Mantoura F., Boissonnas J., d'Ozouville L., Connolly N. **Navigating the Future II - Summary of Integrating Marine Science in Europe. Marine Board Position Paper 6.** Minster J-F. et al (Eds). Marine Board-ESF, Strasbourg, France. 2003. 24pp.  
Editors: John Marks, Jean-François Minster, Mario Ruivo, Silvana Vallerga; Other Contributors: Avan Antia, Laura Castellucci, Juanjo Dañobeitia, Jens Degett, Bob Dickson, Graham Edgar, Paul Galvin, David Griffith, Gwyn Griffiths, Harlyn Halvorson, Carlo Heip, Jean-Pierre Henriet, Catherine Jeandel, Frank Lamy, Jacques Legrand, Han Lindeboom, Karin Lochte, Jens Meincke, Geoffrey O'Sullivan, Nadia Pinardi, Gérard Riou, Douglas Wallace, Gerold Wefer, John Woods.
- Mantoura F., Boissonnas J., d'Ozouville L., Connolly N. **Integrating Marine Science in Europe. Marine Board Position Paper 5.** Minster J-F. et al (Eds). Marine Board-ESF, Strasbourg, France. 2002. 148pp.  
Editors: John Marks, Jean-François Minster, Mario Ruivo, Silvana Vallerga; Other Contributors: Avan Antia, Laura Castellucci, Juanjo Dañobeitia, Jens Degett, Bob Dickson, Graham Edgar, Paul Galvin, David Griffith, Gwyn Griffiths, Harlyn Halvorson, Carlo Heip, Jean-Pierre Henriet, Catherine Jeandel, Frank Lamy, Jacques Legrand, Han Lindeboom, Karin Lochte, Jens Meincke, Geoffrey O'Sullivan, Nadia Pinardi, Gérard Riou, Douglas Wallace, Gerold Wefer, John Woods.
- Halvorson H. *et al.* **Marine Biotechnology – A European Strategy for Marine Biotechnology. Marine Board Position Paper 4.** Mantoura F. (Ed). Marine Board-ESF, Strasbourg, France. 2001. ISBN 2-912049-29-6, 30pp.  
Contributing authors: Maria Alexis, Grant Burgess, Joao Coimbra, Yves le Gal, Maura Greal, David Gutnick, Harlyn Halvorson, Manfred Höfle, Zuzana Smolenicka, Bernt Walther, Roman Wenne; Special consultant: Jan A. Olafsen.
- Boissonnas J., d'Ozouville L. *et al.* **Navigating the Future – Towards a Marine European Research Area. Marine Board Position Paper 3.** Marine Board-ESF, Strasbourg, France. 2001. 14pp.  
Core Drafting Group: J. Boissonnas, O.R. Godø, C. Jeandel, J.W. de Leeuw, K. Lochte, R.F.C. Mantoura, J. Marks, J.F. Minster, G. O'Sullivan, L. d'Ozouville, S. Vallerga, G. Wefer; Other contributors: H. Halvorson, C. Heip, B. B. Jørgensen.
- Boissonnas J., d'Ozouville L. *et al.* **Towards a European Marine Research Area. Marine Board Position Paper 2.** Marine Board-ESF, Strasbourg, France. 2000. 54pp.  
Core Drafting Group: J. Boissonnas, O.R. Godø, C. Jeandel, J.W. de Leeuw, K. Lochte, R.F.C. Mantoura, J. Marks, J.F. Minster, G. O'Sullivan, L. d'Ozouville, S. Vallerga, G. Wefer; Other contributors: H. Halvorson, C. Heip, B. B. Jørgensen.
- Heip C., Hummel H. **Establishing a Framework for the Implementation of Marine Biodiversity Research in Europe. Marine Board Position Paper 1.** Mantoura F. (Ed). Marine Board-ESF, Strasbourg, France. 2000. ISBN 2-912049-13-X, 50pp.

**Special Reports:**

- Heip C., *et al.* **Climate Change and Marine Ecosystem Research: Synthesis of European Research on the Effects of Climate Change on Marine Environments. Marine Board – CLAMER Special Report.** Calewaert J.B., Heip C., McDonough N., Philippart C. (Eds). Marine Board, Ostend, Belgium. 2011. 154pp.  
Coordinating author: Carlo Heip. CLAMER Scientific Expert Panel Contributors: Carlo Heip, Manuel Barange, Roberto Danovaro, Marion Gehlen, Anthony Grehan, Filip Meysman, Temel Oguz, Vangelis Papathanassiou, Catharina Philippart, Jun She, Paul Treguer, Rachel Warren, Paul Wassmann, Phil Weaver, Rita Yu. Other Contributors: Justus van Beusekom, Philip Boyd, Andrew Cooper, Hein de Baar, Henk de Haas, Felix Janssen, Wolfgang Ludwig, Leif Toudal Pedersen, Michael Tsimplis, Hans Von Storch.

**Marine Board Future Science Briefs:**

- Heip C., McDonough N. **Marine Biodiversity: A Science Roadmap for Europe. Marine Board Future Science Brief 1.** European Marine Board, Ostend, Belgium. 2012. ISBN 978-2-918428-75-6, 32pp.

**Marine Board Science Commentaries:**

- Haugan P. **Getting Ready for an Ice-free Arctic. European Marine Board Science Commentary 1.** European Marine Board, Ostend, Belgium. 2013

**Marine Board Vision Documents:**

- Le Boulluec M. *et al.* **Marine Renewable Energy – Research Challenges and Opportunities for a New Energy Era in Europe. Marine Board Vision Document 2.** McDonough N., Evrard M. (Eds). Marine Board-ESF, Ostend, Belgium. 2010. ISBN: 978-2-918428-27-5, 12pp.  
Contributing Authors: Augusto Barata da Rocha, Cibran Camba Rey, Marc Le Boulluec, John Dalen, Henry Jeffrey, Finn Gunnar Nielsen, Geoffrey O’Sullivan, Nathalie Rousseau, Eoin Sweeney, Judith Wolf.
- Dosdat A., Ryder P. *et al.* **Marine Board – EuroGOOS Vision Document on EMODNET, The European Marine Observation and Data Network. Marine Board Vision Document 1.** Ryder P., Connolly N., Evrard M. (Eds). Marine Board-ESF, Ostend, Belgium. 2008. 10pp.  
Contributing authors: Patrick Berthou, Taco de Bruin, Howard Cattle, Franciscus Colijn, Antoine Dosdat, Michael Gillooly, Johnny Johannessen, Juha Markku Leppanen, Giuseppe Manzella, Geoffrey O’Sullivan, Sylvie Pouliquen, Roger Proctor, Peter Ryder, Dick Schaap.

**Marine Board Fora:**

- Chu N. *et al* (Eds) **3<sup>rd</sup> European Marine Board Forum, New Technologies for a Blue Future (18 April 2012, Brussels). Forum Proceedings.** European Marine Board, Ostend, Belgium. 2014  
Proceedings prepared and edited by the European Marine Board Secretariat: Nan-Chin Chu, Kate Larkin, Dina Eparkhina and Niall McDonough
- Larkin K. *et al* (Eds). **2<sup>nd</sup> Marine Board Forum, Towards a European Network of Marine Observatories for Monitoring and Research (16 September 2010, Brussels). Forum Proceedings.** Marine Board, Ostend, Belgium. 2012.  
Proceedings prepared and edited by Marine Board Secretariat: Kate Larkin, Aurélien Carbonnière, Dina Eparkhina, Jan-Bart Calewaert, Maud Evrard and Niall McDonough

- Connolly N., Evrard M. (Eds). **1<sup>st</sup> Marine Board Forum, *Marine Data Challenges: from Observation to Information* (15 May 2008, Ostend). Forum Proceedings.** Marine Board-ESF, Ostend, Belgium. 2008. ISBN 2-912049-97-0, 36pp.  
Forum rapporteurs: Erlend Moksness, Jacky Wood

#### Marine Board Annual Reports:

- McDonough N., Eparkhina D. **European Marine Board Annual Report 2013.** European Marine Board, Ostend, Belgium. 2014. ISBN: 9789079528226, 64pp.
- McDonough N., Eparkhina D. **Marine Board Annual Report 2012.** European Marine Board, Ostend, Belgium. 2013. ISBN: 9789079528196, 64pp.
- McDonough N., Eparkhina D. **Marine Board Annual Activity Report 2011.** Marine Board, Ostend, Belgium. 2012. ISBN 9789079528141, 64pp.
- McDonough N., Eparkhina D. **Marine Board Annual Activity Report 2010.** Marine Board-ESF, Ostend, Belgium. 2011. ISBN 9789079528110, 72pp.
- McDonough N., Eparkhina D., Calewaert J-B. **Marine Board Annual Activity Report 2009.** Marine Board-ESF, Ostend, Belgium. 2010. 50pp.
- Connolly N., Eparkhina D., Calewaert J-B. **Marine Board Annual Activity Report 2008.** Marine Board-ESF, Ostend, Belgium. 2009. 44pp.
- Connolly N. **Marine Board Annual Report 2007.** Eparkhina D., Evrard M., Calewaert J-B., Carbonnière A. (Eds). Marine Board-ESF, Ostend, Belgium. 2009. 28pp.

#### EurOCEAN Conference Reports:

- McDonough N., Calewaert J-B. (Eds) **EurOCEAN 2010 Conference Report and Ostend Declaration.** EurOCEAN 2010 – Grand challenges for marine research in the next decade. Thermae Palace, Ostend, Belgium, 12-13 October 2010. Belgian Science Policy Office (BELSPO), Brussels. VLIZ Special Publication 49 – Flanders Marine Institute (VLIZ). Ostend, Belgium. 2011. ISSN 1377-0950, 60pp.  
Conference rapporteurs: Florence Coroner, Jan-Stefan Fritz, Stephen Hall, Nina Hedlund, Jacky Wood.
- O’Sullivan G., Angell-Hansen K., Connolly N. (Eds). **EurOCEAN 2007 (22 June 2007, Aberdeen, Scotland). Conference Report and Aberdeen Declaration.** Marine Institute, Galway, Ireland. 2007. 18pp.  
Conference rapporteurs: Charlotte Jagot, Jacky Wood, Niall McDonough, Stephen Hall.
- Cieslikiewicz, W., Connolly, N., Ollier G., O’Sullivan G. (Eds). **Proceedings of the EuroOCEAN 2004 European Conference on Marine Science and Ocean Technology (10-13 May 2004, Galway, Ireland).** Luxembourg: Office for Official Publications of the European Communities. 2007. ISBN 92-894-7727-X, 420pp.

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For hard copies (within availability in stock), please contact: [info@marineboard.eu](mailto:info@marineboard.eu)

**Annex 10: EMB Secretariat 2013**

**Marine Board Executive Scientific Secretary:**

Dr. Niall McDonough

**Administration and Coordination Officer:**

Ms. Dina Eparkhina

**Science Officers:**

Mr. Jan-Bart Calewaert

Dr. Nan-Chin Chu

Dr. Kate Larkin

Dr. Doris Abele (on secondment from AWI, Germany; Sept. 2013-Feb. 2014)

**Annex 11: Glossary**

<b>BONUS EEIG</b> .....	BONUS Secretariat established as an European Economic Interest Grouping
<b>CETMAR</b> .....	Centro Tecnológico del Mar (Spain)
<b>CIMAR</b> .....	Centre of Marine and Environmental Research (Portugal)
<b>CLAMER</b> .....	EU FP7 project Climate Change Impacts on Marine Ecosystems: Research Results & Public Perception
<b>COST</b> .....	European Cooperation in the field of Scientific and Technical Research
<b>CSA</b> .....	Coordination Support Action (EU FP Scheme)
<b>CSIC</b> .....	Spanish National Research Council
<b>DEVOTES</b> .....	EU FP7 project, DEvelopment Of innovative Tools for understanding marine biodiversity and assessing good Environmental Status
<b>DG</b> .....	Directorate General (European Commission)
<b>DG MARE</b> .....	DG Maritime Affairs and Fisheries (European Commission)
<b>DG R&amp;I</b> .....	DG Research and Innovation (European Commission)
<b>DTU Aqua</b> .....	National Institute for Aquatic Resources (Denmark)
<b>EAS</b> .....	Estonian Academy of Sciences
<b>EC</b> .....	European Commission
<b>EFARO</b> .....	European Fisheries and Aquaculture Research Organisation
<b>EMB</b> .....	European Marine Board
<b>EMBCP</b> .....	European Marine Board Communications Panel
<b>EMD</b> .....	European Maritime Day
<b>EMODnet</b> .....	European Marine Observation and Data Network
<b>ERA-NET</b> .....	European Research Area Network (EU FP Scheme)
<b>ESDP</b> .....	European Scientific Diving Panel (Marine Board panel)
<b>ESF</b> .....	European Science Foundation
<b>EU</b> .....	European Union
<b>EurOCEAN</b> .....	European conference series on marine science and technology
<b>ExCom</b> .....	Marine Board Executive Committee
<b>FCT</b> .....	Science and Technology Foundation (Portugal)
<b>FP</b> .....	EU Framework Programme for Research and Technological Development
<b>FSB</b> .....	Future Science Brief (Marine Board instrument)
<b>HCMR</b> .....	Hellenic Centre for Marine Research (Greece)
<b>Ifremer</b> .....	French Research Institute for Exploitation of the Sea
<b>IMR</b> .....	Institute of Marine Research (Norway)
<b>IODE</b> .....	International Oceanographic Data and Information Exchange
<b>IUCN</b> .....	International Union for Conservation of Nature
<b>JPI Oceans</b> .....	Joint Programme Initiative on Healthy and Productive Seas and Oceans
<b>MarineBiotech</b> .....	EU FP7 CSA ERA-NET Preparatory Action in Marine Biotechnology
<b>MARUM</b> .....	Centre for Marine Environmental Sciences (Germany)
<b>MINECO</b> .....	Ministry of Economy and Competitiveness (Spain)
<b>MPAs</b> .....	Marine Protected Areas
<b>MSFD</b> .....	Marine Strategy Framework Directive

<b>NFIV</b> .....	Navigating the Future IV (EMB Position Paper 20)
<b>NERC</b> .....	Natural Environment Research Council (United Kingdom)
<b>NOC</b> .....	National Oceanography Centre (United Kingdom)
<b>OGS</b> .....	National Institute of Oceanography and Experimental Geophysics (Italy)
<b>ODEMM</b> .....	EU FP7 project Options for Delivering Ecosystem-Based Marine Management
<b>PERSEUS</b> .....	EU FP7 project Policy-orientated marine Environmental Research for the Southern European Seas
<b>RBINS</b> .....	Royal Belgian Institute of Natural Sciences
<b>RCN</b> .....	Research Council of Norway
<b>RFO</b> .....	Research Funding Organization
<b>RPO</b> .....	Research Performing Organization
<b>RTDI</b> .....	Research, Technology Development and Innovation
<b>SA</b> .....	Support Action (EU FP Scheme)
<b>SAMS</b> .....	Scottish Association for Marine Science (United Kingdom)
<b>SEAS-ERA</b> .....	EU FP7 ERA-NET project Towards Integrated Marine Research Strategy and Programmes
<b>SICA</b> .....	Specific International Cooperation Action (EU FP Scheme)
<b>SIS</b> .....	Science in Society (EU FP Scheme)
<b>SPIRAL</b> .....	EU FP7 project Interfacing Biodiversity and Policy
<b>STAGES</b> .....	EU FP7 CSA project Science and Technology Advancing Governance of Good Environmental Status
<b>TP</b> .....	Technology Platform
<b>UK</b> .....	United Kingdom
<b>UNEP WCMC</b> .....	United Nations Environment Programme World Conservation Monitoring Centre
<b>UNESCO</b> .....	United Nations Educational, Scientific and Cultural Organization
<b>UNESCO IOC</b> .....	Intergovernmental Oceanographic Commission of UNESCO
<b>US</b> .....	United States of America
<b>VLIZ</b> .....	Flanders Marine Institute (Belgium)
<b>WG</b> .....	Working Group (Marine Board Instrument)
<b>WG</b> .....	MICROCEAN Marine Board Working Group Marine Microbial Biology
<b>WG Deep-Sea</b> .....	European Marine Board working group on Deep-Sea Research
<b>WG MPAs</b> .....	European Marine Board working group on Marine Protected Areas
<b>WG SUBLAND</b> .....	European Marine Board working group on Submerged Landscapes
<b>WG VALMARE</b> .....	European Marine Board working group on Valuing Marine Ecosystems

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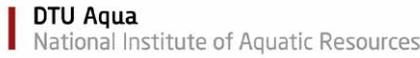
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