MARBEFES PROJECT NEWSLETTER

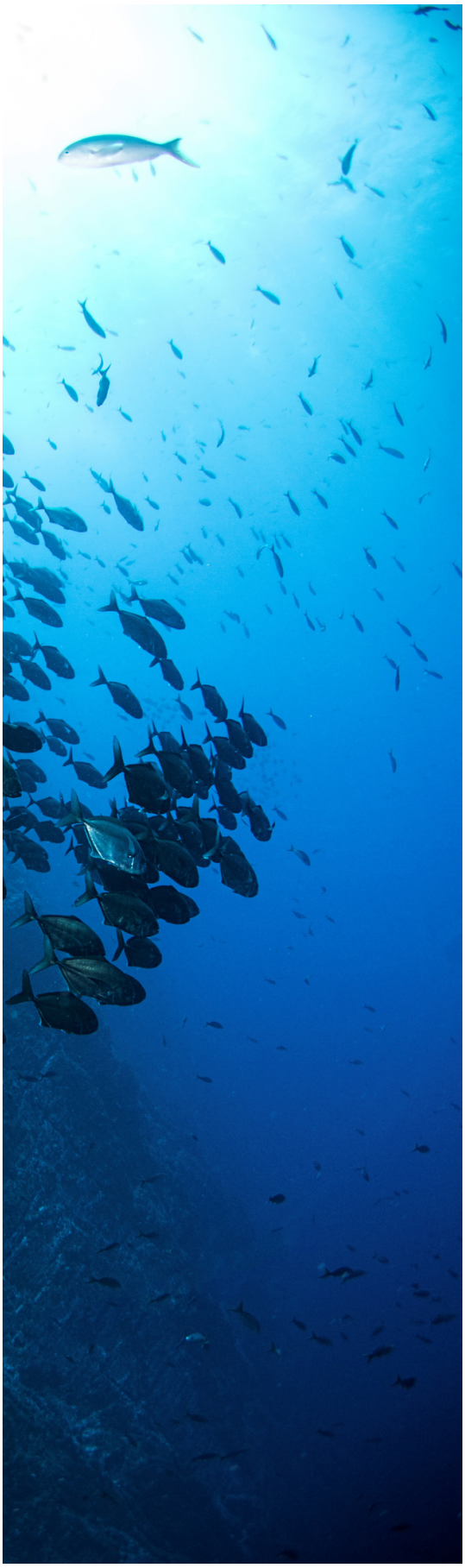
Linking marine biodiversity to economic and cultural valuation.

December 2023 | Issue 1

Follow us:

Subscribe:

Table of Content



www.marbefes.eu

Introduction

Out of the box

The project aims to progress beyond the current state-of-the-art understanding of the causes and consequences of the maintenance, loss, and gain of biodiversity and ecological , cultural and economic value and the repercussions of this for the management and governance of European seas.

Not just biology

The overall aim of the project is to determine the links between biodiversity, ecosystem functioning, and the resulting ecosystem services and societal goods and benefits. The project aims to achieve ecological, cultural and socio-economic valuation through a validated set of innovative tools in a distributed toolbox to enhance policy and governance for the marine environment to secure its benefits for current and future generations.

What is this all about

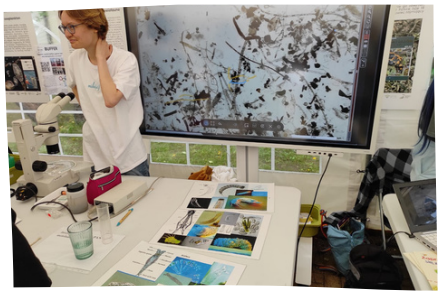
The **MARBEFES** (**MAR**ine **B**iodiversity and **E**cosystem **F**unctioning leading to **E**cosystem **S**ervices) project is based on the idea that biodiversity is connected across space and time. To fully understand it and its value, we must move past siloed thinking that separates the natural world into 'estuary', 'coast', and 'offshore'. Biological entities do not necessarily recognize the intangible boundaries we place in the sea.

The project explicitly considers the river-ocean gradient and tests and implements its tools in 12 broad belt transects (BBTs) in the four main marine regions of the EU - Arctic, Baltic, Atlantic, and Mediterranean.

www.marbefes.eu

The BioBlitz

Special event during the Sopot Science Fair

© IO PAN

The first from the four planned MARBEFES BioBlitz actions was organized at the Baltic Sea shore in Sopot, Poland on 16 June 2023. The key idea is to find coastal site that is accessible and known for the wide public – ideally a public park at the seaside.

This was the case in Sopot with "Park Północny" that covers coastal boreal deciduous forest, wetland, small river, dune, exposed beach and sandy shallows with diversified bottom – stony outcrops, seagrass and mobile sands.

Read more

See video on the BioBlitz in Sopot

Within the MARBEFES project we organise such events in all of the four regions:
Sopot - June 2023,
Tromso - June 2024,
Dublin - 2025,
Sardinia - 2025.

Snapshot

BioBlitz is an event, where biologists are gathered in one place to catch and identify as many as possible species within 24 hours.

Common experience

The action is both important scientific data collected by professionals and a public event that shows how rich is the biodiversity even in the most trivial sites.

Experts gathering

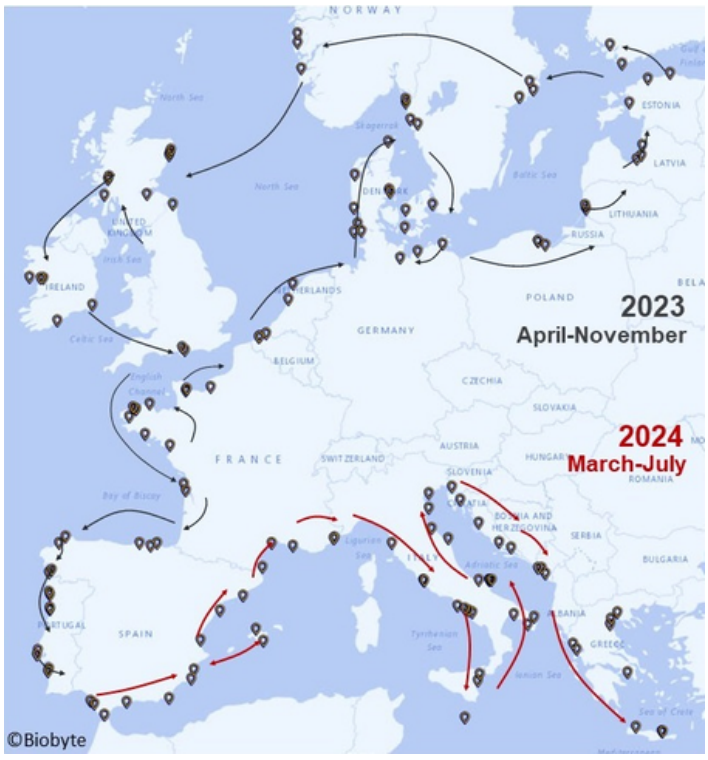
Altogether there were 37 scientists from different Institutions with diverse scientific background involved in search and identification.

Traversing European Coastlines - TREC expedition on Tara

Photo credit: Johan Cordelle

An expedition to study coastal ecosystems and their response to the environment, from molecules to communities.

The coastal areas of Sopot were also the arena of activities of the TREC expedition, which takes place on the schooner Tara The Tara Ocean Foundation and Tara Oceans Consortium are conducting an ocean exploration expedition that involves parallel sampling of soil, sediment, shallow water, and selected model organisms in various habitats. The action is supported by land-based mobile services EMBL and the MARBEFES project.



The TREC expedition

The researchers will be gathering biological samples and environmental data along the European coastline at more than 120 land-sea transects. In selected sites, time-series measurements will be performed to account for annual changes.

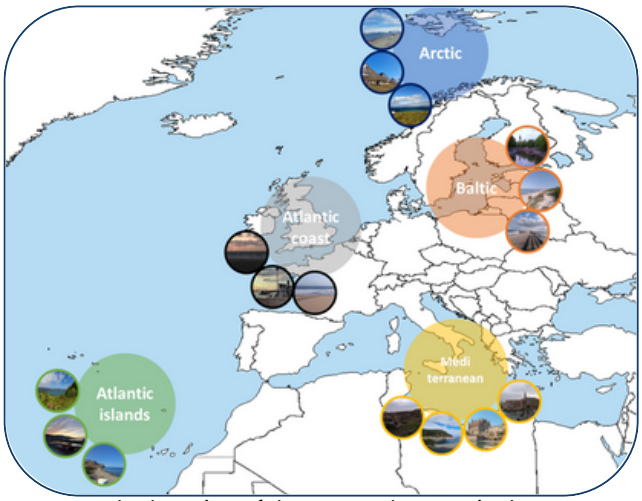
Read more: EMBL


Photo credit:Ewa Kotlarska

Stakeholder engagement

Mind maps and surveys

The project aims to develop a stakeholder-supported management and decision support tool that can help achieve a more sustainable balance between biodiversity, ecology, economy, and society in the coastal zone. To this end, our colleagues from HuFoSS, Roosendaal, the Netherlands, and the sister project Marine SABRES conducted a series of surveys and interviews. They consulted 231 stakeholders at 15 research sites across Europe and are funded under the Food, Bioeconomy Natural Resources, Agriculture and Environment program of the European Commission.



The location of the research areas in the MARINE SABRES and MARBEFES projects

The preliminary results of this research are encouraging. The stakeholders in Europe universally feel that Biodiversity and Nature in our environment, together with Culture, Economy and Large-scale tourism, are the most important.

Example of a mind-map composed during an interview`by a stakeholder.

Mapping

In the interviews the stakeholders were also asked to indicate how the elements they judged to be important influence each other with positive or negative connections and to rate the strength of these relationships. This resulted in mind-maps.

In the surveys we gave the stakeholders cards with elements and we asked them to score these element-cards on a poster with fields ranked from 0 to 5 according their importance in the coastal area.

www.marbefes.eu

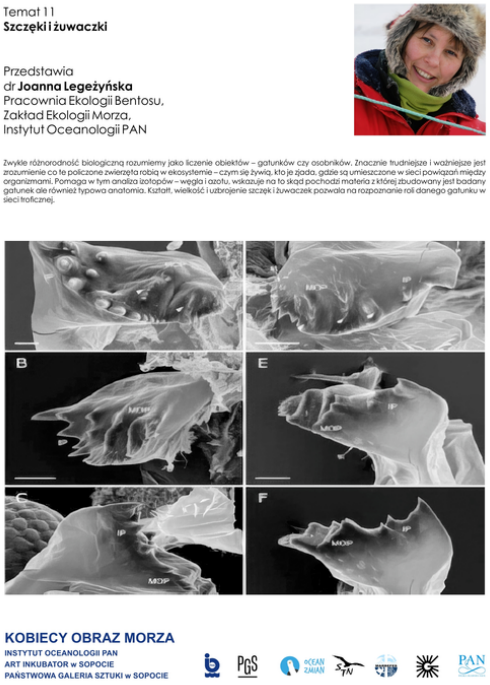
Woman View of the Sea

Art competition

The Sea has been told traditionally by men. Endurance, strength, hardships were the backbone of the sea strories as well as the marine research is usually associated with man's adventure in public prerception.

We want to challange this stereotype and demonstrate the fact, that many of present day marine research is being completed by women. Important part of this is biodiversity and climate change.

To show the female marine researchers, we have asked several of them to produce a short text and scientific illustration of their favorite subject. In such way we obtained 25 short illustrated scientific stories. Next step was to call for female artists to select subjects that were inspired by the presented researchers.



The exhibition

Finally, we have produced the exhibition of art and science and web page presenting the pairs of female artist/researcher talking about the sea and its life. From the public visiting our exhibit, we have seen that scientific information is getting more interesting and attractive, when associated with a piece of art. Female artists on their own were vividly inspired by marine research and want to develop this initiative.

The forthcoming stage

The plan is to organise a large scale (30 pieces of art) and associated 30 scientific stories in the big state art gallery in 2025. You can see the scientific stories and associated are at the web page:

See more: Woman View of the Sea

Publications

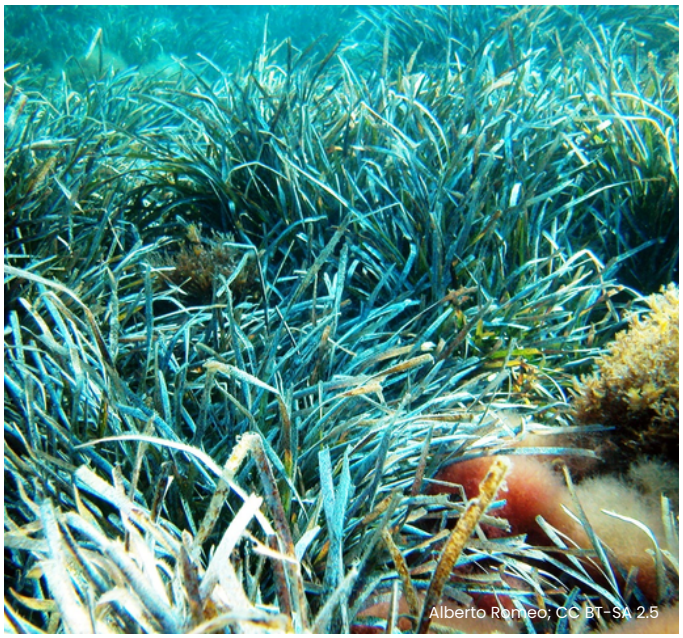
Stories about lagoons

Photo credit: Jacopo Giampaoletti

Macrobenthos of lagoon ecosystems: a comparison in vegetated and bare sediments.

It is often being claimed that seagrass meadows provide perfect conditions for life development and therefore are characterized with greater abundance and diversity of organisms than unvegetated locations. Is it the case? Or maybe there are also other factors that have a crucial impact on specific location diversity and abundance of species in it? Read through the lines of the article done on Mediterranean Sea to find out what's true.

DOI: 10.4081/aiol.2023.11124



Alberto Romeo; CC BT-SA 2.5

Desmodoridae total body

Photo credit: Federica Semprucci

Taxonomic and functional diversity of nematode fauna: two sides of the same coin in the ecological quality assessment of transitional environments.

Roundworms/Nematodes appears to be valuable organisms to help with assessment of lagoon ecosystems condition. Collecting information on Nematodes contributes to knowledge on macrofauna too. This study explores nematodes fauna functional and taxonomic diversity in transitional environments of Mediterranean Sea. If you wish to explore two sides of the coin and understand better the role of nematodes in the environment flip the coin and read the article:

DOI: 10.1016/j.ecss.2023.108550

Publications

Stories about lagoons

Photo credit: Jacopo Giampaoletti

Gianni Careddu CC-BY-SA 3.0

Joint use of biological traits, diversity and biotic indices to assess the ecological quality status of a Mediterranean transitional system.

The state of the environment is crucial information when reflecting on the past and thinking about the future. It is often that there are multiple factors like species diversity, biotic indices, biological traits that need to be considered in order to assess status of transitional system. What parameters and in what way are being used to do that in Mediterranean Sea? Check it on another paper of Italian group.

DOI: 10.1016/j.ecolind.2023.109939

Publications

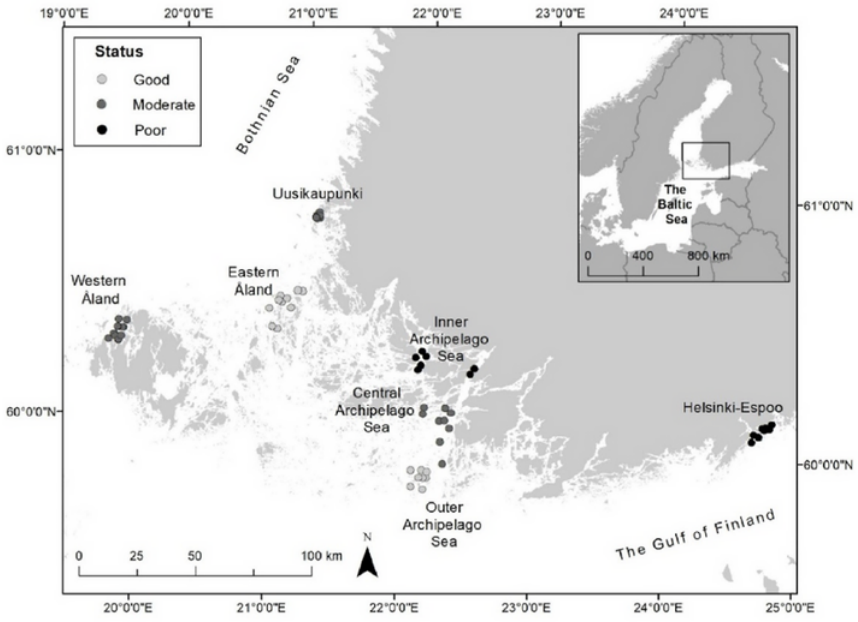


Fig. 1 Sampling locations

DOI: 10.1016/j.ecolind.2023.109939

This study shows that faunal traits can differ within the same habitat type, and even communities with low species numbers can host a diverse trait composition. The results also highlight that the functioning of communities may change due to anthropogenic pressures and natural drivers at different scales. This information is important for shaping environmental policy.

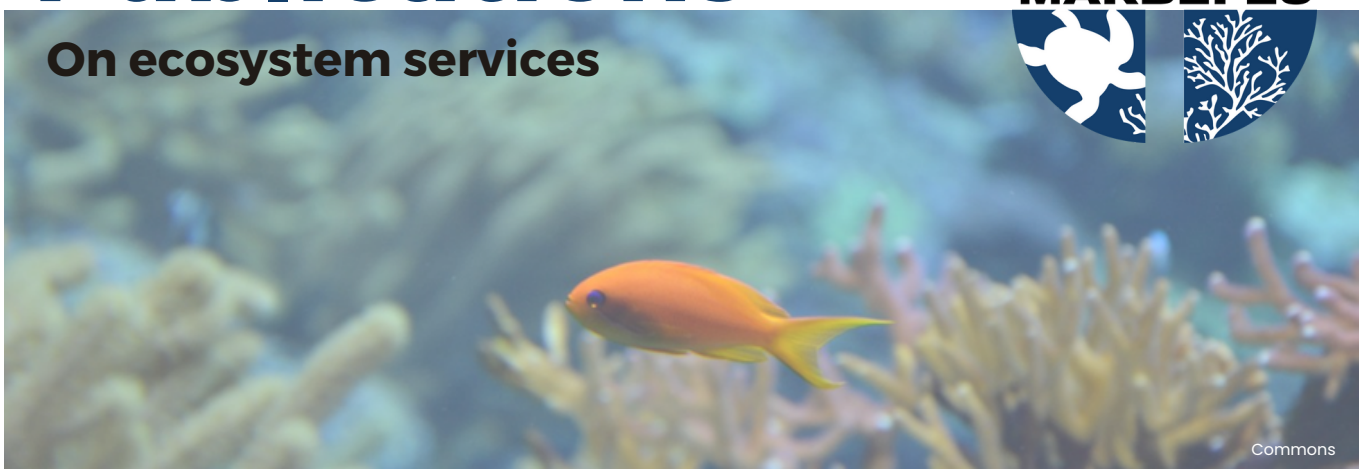
Environment- and scale-dependent changes in the functioning of invertebrate communities associated with Fucus vesiculosus

This study used the functional trait approach to investigate the community functioning and trophic structure of invertebrate communities associated with the marine macroalga *Fucus vesiculosus* in the Baltic Sea. The study found that functional richness differed between areas of different water quality, with higher richness generally observed in areas with clearer waters and sheltered sides of the skerries.

DOI: 10.1016/j.ecolind.2023.109939

Publications

On ecosystem services



Marine Ecosystem Services and Integrated Management: "There's a crack, a crack in everything, that's how the light gets in"!

How to plan coastal areas in a way that includes interest of both parties: humans and nature ? That is a conundrum that gives sleepless night to many. The hassle begins with the concept of ecosystem services that is in many cases hard to define and monetarize and ends in including it in spatial planning. If you wish not to ring the bells, but find out some of the models, attempting to clarify ecosystem services concept, look no further and read the article linked here:

DOI: 10.1016/j.marpolbul.2023.115177

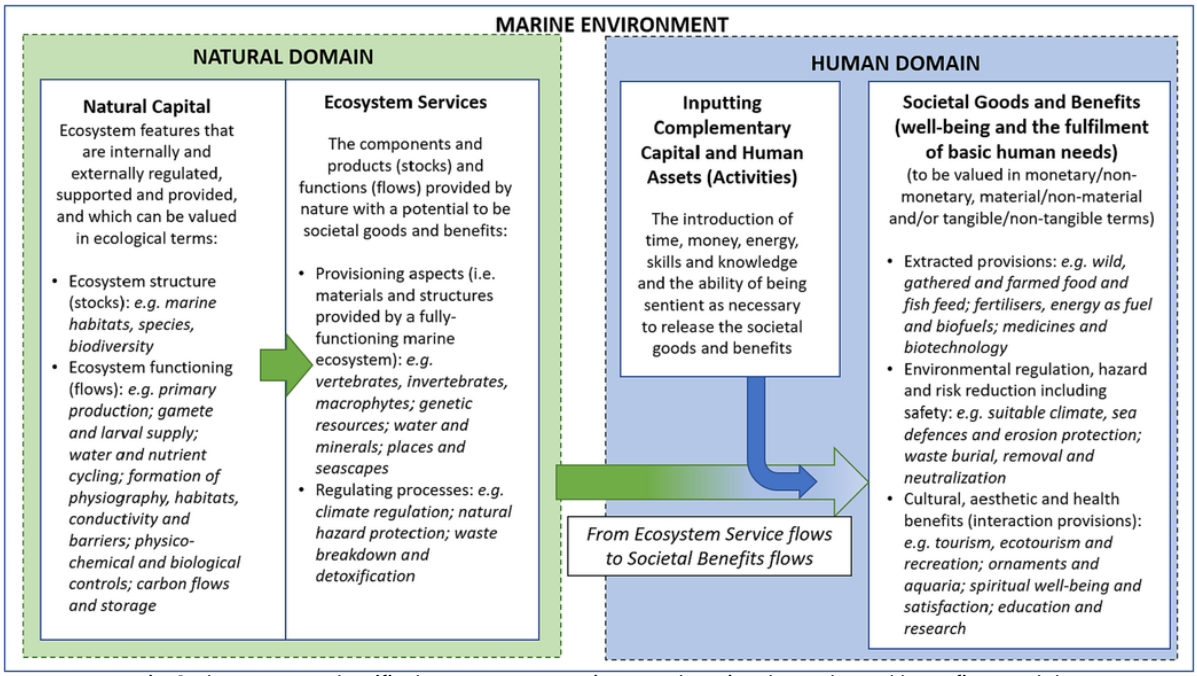


Fig. 1. The proposed unified ecosystem services and societal goods and benefits model

Source: Ibid.

Media / press

A magazine article.

An article by Professor Jan Marcin Węsławski was published in the magazine "Dzikie życie" (Wildlife), which discusses a new approach to the issue of biodiversity. The MARBEFES project was presented there as a flagship example of building a new approach to the biodiversity of marine ecosystems and shaping mutual relations between the marine environment and civilization.

The article (*in polish*)

Media / press

A newspaper article.

In an article published in the newspaper “Wyborcza”, the Director of the Institute of Oceanology, Polish Academy of Sciences, expressed pride in leading the MARBEFES project. The article also discusses the project’s assumptions and expectations for its results.

The article (in polish)


Dzisiejsza gazeta (e-wydanie)

wyborcza.pl

Zaloguj się

WYBORCZA.PL WYBORY 2023 ŚWIAT KRAJ MIASTA WYBORCZA.BIZ OPINIE KLIMAT MAGAZYNY KULTURA NAUKA ZDROWIE SPORT WYSOKIE OBCASY PRENUMERATA PODCASTY

WIĘCEJ

Prof. Jan Marcin Węsławski, biolog morza: Zdobyliśmy największy w Polsce europejski grant na badania morza

POLSCY NAUKOWCY DONOSZĄ 01.12.2022, 15:25

Jan Marcin Węsławski

5 ZDJĘĆ

• Prof. Marcin Węsławski z Instytutu Oceanologii PAN w Sopocie (KAMIL GOZDAN)

A handful of news

Broad Belt Transects across Marine, Coastal and Transitional habitats in Europe

Online interactive GS-based database is online at http://laguna.ku.lt

Ethics Issues

Contract with the MARBEFES project ethical advisor, Prof. Stavroula Tsinorema, has been signed. Prof. Stavroula participated in the 2nd GA, informed partners about ethical issues of concern in the project, work flow between the advisor and the consortium will be coordinated by PM, the 1st report is due in month 18.

Project Coordination and Outreach

- International Sopot Youth Conference 2023, (16 June) with a number of ocean related presentations.
- First videos of PPs reflections have been recorded at the 2nd GA and the films are under posproduction process.
- MARBEFES presented at the EC - ESA Joint Initiative conference in Rome on 22-24th September; the Initiative gathered over 150 EU research projects in six themes: Ocean, Polar, Carbon, Agriculture, Biodiversity and Disasters..
- We took a part in the first Annual Forum of the EU Mission "Restore our Ocean and Waters by 2030" held in Brussels on 17th February; MARBEFES was presented among over 50 posters and 300 participants.

Editorial Notes

Issue #1
December 2023

Follow Us

Webpage: www.marbefes.eu
Twitter: twitter.com/marbefes
Facebook: www.facebook.com/MARBEFES
Instagram: www.instagram.com/marbefes/

Subscribe:

Write to marbefes@iopan.pl or click the subcribe button on the first page of this issue.

Coverphoto and the 2nd page picture from https://www.theoceanagency.org/

This newsletter is compiled by the MARBEFES project partners.