2024 COMMOCEAN

6th International Marine Science Communication Conference

BOOK OF ABSTRACTS

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Málaga, Spain

European MARINE BOARD COMMUNICATIONS PANEL

CSIC Consejo Superior de Investigaciones Científicas

Instituto Español de Oceanografía 1914

CommOCEAN is organised once every two year by European Marine Board Communication Panel

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2024 Edition was hosted by Instituto Español de Oceanografía – Malaga

Main Local Organisers:

Pablo Lozano Ordoñez	Head of the Communications Unit, IEO
Francina Moya Ruiz	Researcher, Oceanographic Center of Málaga

Welcome and opening

Tymon Zielinski, Chair of European Marine Board Communication Panel

Since 2014 we have gathered around 1000 friends of the ocean, communicators, professionals, journalists and educators from more than 40 countries during the CommOcean conferences.

This year's meeting has gathered almost 140 professionals from all over the world.

Science, communication and education need to come together via broad collaboration to apply integrated and cross-sectoral approaches to effectively share information on the ocean, the changes occurring, associated effects on communities and approaches for mitigating changes and adapting to these changes.

Therefore, facilitation of efficient communication and mutual exchange of ideas and experiences between the research, educator and communicator communities and all interested stakeholders is of a key importance. This requires the development of new collaborative types of partnerships that can deliver more efficient, scientifically-framed management of the oceans and their resources as well as the promotion of more targeted information flows and innovative ways of conducting and using ocean science.

Tymon Zielinski

Chair of the EMBCP, Head of Climate and Ocean Research and Education Unit (CORE) at IOPAN

María del Carmen García Martínez

Director, Spanish Institute of Oceanography (IEO-CSIC)

David Macías

Director, Málaga Oceanographic Centre, Spanish Institute of Oceanography (IEO-CSIC)

Keynote Speakers

Joanne Sweeney - 10 Ways to Succeed on Social Media When Reach is Declining

New data shows that reach and engagement on social media is declining. This spells bad news for the science community. However, what if there were proven ways to be a social media outlier? Social media author, practitioner and trainer, Joanne Sweeney from Digital Training Institute has studied hundreds of public sector accounts and has 10 proven steps for social media success. This session is practical, actionable and will inspire you to improve your science comms online. Each recommended social media tactic is accompanied by a case study of Joanne's work.

Nikola Balić - AI's Role in Expanding the Frontiers of Science Communication

Artificial intelligence (AI) is revolutionizing how content is created and communicated. In this session, we will explore the incredible potential of AI in producing captivating and easily understandable content across different formats, cultures, and audiences. We will discuss how AI can simplify scientific language, enhance data visualization, and elevate storytelling. Participants will also learn about the challenges associated with AI, including biases, ethical considerations, and the risk of spreading misinformation. We will provide best practices for using AI responsibly in science communication to ensure accurate and effective messaging.

Dávid Kulcsár - Harnessing the power of AI and storytelling in marine science filmmaking for social media

In the dynamic field of marine science communication, storytelling through video production plays an increasingly important role in engaging diverse audiences and promoting the sustainable use of ocean resources. This presentation explores the innovative approaches employed in crafting compelling videos for social media platforms, focusing on the integration of emerging artificial intelligence (AI) tools to enhance workflow efficiency and product quality.

Interactive Sessions

Learning from disaster to avoid a disaster: how to better communicate our science with different stakeholders in times of crisis

Moderator:
Ezgi Şahin, METU Institute of Marine Sciences, Turkey

Speaker:
Eugenio Fraile Nuez, Spanish Institute of Oceanography (IEO-CSIC), Spain

This session focuses on the critical role of marine science communication during crises such as extreme events, mucilage formation, and oil spills. An example of an Advisory Protocol in an emergency situation will be provided, as well as insights into how to effectively convey urgent information, counter misinformation, and foster public trust in response efforts. Following that, participants will engage in interactive discussions about their experiences with science communication in times of crisis and how to better communicate marine science during those times.

How to write an engaging script for an animation

Moderators:

Jess Allen, Oceanographic Centre (National Oceanography Centre), UK
Lauren Noakes, Oceanographic Centre (National Oceanography Centre), UK
Elaine Maslin, Oceanographic Centre (National Oceanography Centre), UK
Dan Bourne, Oceanographic Centre (National Oceanography Centre), UK

This interactive session dived into the world of scripting, and how this can be applied to short animations to bring complex ocean science topics to life. The team introduced the simple explainer script structure used by the National Oceanography Centre, and storytelling techniques that can help to make ocean science topics more meaningful for a wider general audience.

What makes you better in communicating science?

Speakers:

Laura Secorun, Meridian Agency, Spain
Tiago Garcia, +ATLANTIC CoLAB, Portugal

What are the key elements to consider when presenting on ocean science? Is it the speaker? Is it what you see? Or is it the key message? Or a combination of all these and more? This interactive session will make participants pay attention to the basics of good oral presentation, and which little details make an excellent oral presentation.

IUCN Session

Bridging Science and Media: What's Needed for Success?

Co-organized with the Centre for Mediterranean Cooperation of the International Union for Conservation of Nature (IUCN)

Moderator:
Chantal Menard, Independent Consultant

Speakers:
Manfred Oepen, IUCN Commission on Education and Communication (CEC): Tips for strategic communications
Denis Loctier, Euronews: The European perspective
Rehab Abdalmohsen, Science, Environment and Health Journalist: The Southern Mediterranean focus
Xavier Aldekoa / Laura Aragó, La Vanguardia: Images and storytelling
Graphic facilitation by Yorgos Konstantinou

This session will debate in a roundtable format the key challenges and tips for successful communication. Different media stakeholders will bring their perspectives and discuss the key factors affecting a successful implementation of storytelling and scientific media news coverage particularly related to marine related contents and the new restoration efforts in place across the Mediterranean. One of the outcomes of the session will be to gather insights from the experts around obstacles and solutions and the dissemination of the Creating Effective Environmental Communication Strategies: A Ten Step Guide for Practitioners promoted by the IUCN Commission on Education and Communication (CEC). The objectives of the session are to foster debate and share examples from experimented journalists and communicators around marine and restoration stories in the Mediterranean; promote the exchange of knowledge and lessons learned on effective and successful communication among practitioners, bringing the perspective from both North and Southern stakeholders; and gather insights and expert advice from panellists and participants regarding the gaps and challenges faced by project communicators and press representatives.

Watch session: https://youtu.be/54T4I6j-RK8?si=XZKfJ_xv-hmgS_IT

City of Málaga
Photo: Área de Turismo Ayuntamiento de Málaga

Oral presentation abstracts

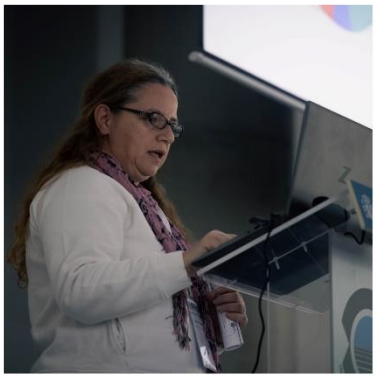
Session: How to ensure engagement in your Citizen Science project

Moderator:
Jan Seys, Flanders Marine Institute

Speakers:
Nancy Fockedey, Flanders Marine Institute
Sonia Liñán Moyano, Institute of Marine Sciences (ICM-CSIC)
Elena Santini, Life Conceptu Maris project
Eva Chatzinikolaou, Hellenic Centre for Marine Research (HCMR)
Maria Vicioso, Institute of Marine Sciences (ICM-CSIC)





Studying marine biodiversity using an online Citizen Science tool

Eva Chatzinikolaou[1], Ioannis Rallis[1], Georgia Sarafidou[2]

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[2]*Hellenic Centre for Marine Research - Institute of Oceanography, Greece*

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Summary

Marine biodiversity is of paramount importance, and it is considered as a critical aspect of the three pillars of sustainable development which are related with the environment, society and economy. The evaluation of biodiversity and ecosystem status requires advances scientific expertise and a considerable amount of effort and time. Citizens can be trained to identify marine organisms and thus help scientists to collect valuable data. The present study describes the Citizen Science project "Marine Creatures" which runs on the online platform Zooniverse and aims to raise public awareness for the marine environment.

"Marine Creatures" coordinates crowd-sourcing activities for visual annotation of marine underwater images. Volunteers are being trained to classify the types of organisms present on selected hard bottom habitats, both artificial and natural (artificial reefs, marine ports and natural sea caves). Citizen Scientists are called to detect the most important groups of mainly sessile fauna present, such as Macroalgae, Sponges, Hydrozoans, Sea anemones, Corals, Polychaetes, Bivalves, Barnacles, Bryozoans and Tunicates. Some of these organisms are quite common and well known, while others are strange creatures that often do not get easily noticed or can be confused with others.

The "Marine Creatures" project is part of the European Horizon project NAUTILOS (Grand Agreement No. 101000825) which aims to develop a new generation of sensors and samplers for physical, chemical and biological essential ocean variables. Up to now more than 1000 volunteers (>250 registered) are engaged in this Citizen Science project and we have received more than 15,000 contributions from participants. Engagement and data collection are still ongoing.

Beneath the Surface: Roadmap for Effective Aquatic Citizen Science Supporting Mission Ocean

Nancy Fockedey[1], Line Debaveye[1], Charlotte Van den Auwelant[1], Shamwari Anseeuw[1], Nils Jacobsens[1], Cyrielle Delvenne[1], Jan Seys[1]

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Summary

PREP4BLUE is a Horizon Europe initiative dedicated to supporting the EU Mission: Restore our Ocean and Waters by 2030. Under the wings of this project, the Flanders Marine Institute (VLIZ) has taken the lead in two critical tasks: (1) establishing a comprehensive public online database encompassing as many marine and freshwater citizen science projects as possible in Europe, and (2) creating a roadmap with recommendations and good practices on aquatic citizen science.

To create the database, a web and social media search strategy was designed, covering a wide array of search terms in every European language, to uncover as many projects as possible. At the end, approximately 1000 citizen science projects were identified, spanning a diverse spectrum of subjects and levels of engagement in aquatic citizen science. This database can be consulted in the WaveLinks portal (wavelinks.eu) on the Prep4Blue website. Aim is to promote synergies and spark inspiration for future aquatic citizen science projects.

Next to the creation of the database, an online survey was set up next to a series of in-depth interviews performed with a select group of the projects in our database. These interviews served as a platform for open conversations and knowledge sharing, aimed at identifying best practices within marine and freshwater citizen science. With the gained insights, a roadmap for marine and freshwater citizen science was constructed to help starting or running projects on their journey towards restoring our ocean and waters, with active engagement of citizens at its core.

The roadmap emphasizes social inclusivity within citizen science, shedding light on the nuances and considerations inherent in working with citizen scientists in aquatic environments. Moreover, it also serves as a critical tool in unveiling the areas where aquatic citizen science still awaits its full potential, uncovering the missing links that will further enrich our understanding and stewardship of these vital aquatic ecosystems.

The report 'Beneath the Surface' covers the whole process of citizen science in the round – setting up an initiative, maintaining, upscaling, funding, thinking about ethics and social inclusion – and all within the framing of Mission Ocean's citizen engagement target outcomes.

References:

Debaveye et al., (2023). Beneath the surface: A collection of recommendations and good practices in aquatic citizen science to support the EU's Mission Ocean & Waters. Milestone 7. PREP4BLUE. https://prep4blue.eu/portfolio/prep4blue-report

WaveLinks.eu – The platform that empowers you https://prep4blue.eu/citizen-science-database

Navigating Time and Collaboration through the Janus Framework and Quintuple Helix in Marine Citizen Science, the BioMARathon Case Study

Sonia Liñán Moyano[1], Xavier Salvador[1], Berta Companys[1], Marina Torres[1], Jaume Piera[1]

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Summary

Citizen science projects are driven by public engagement, necessitating effective communication strategies. Our marine citizen science event, BioMARathon, initiated in 2022, seeks to deepen our understanding of Catalonia's marine biodiversity by actively involving the public. With over 84,000 marine fauna and flora observations collected through the MINKA citizen science observatory, our success is attributed to the unique application of the Janus engagement framework (Liñán et al., 2022) and its implementation through the innovative Quintuple Helix of Innovation. This data, which includes rare and previously undocumented species, has significantly enriched our knowledge of the local marine ecosystem.

The Janus Framework harmonizes short-term and long-term actions and rewards, recognising that volunteers require short-term incentives to sustain motivation and that academia and policy-makers produce outputs for long-term rewards. This duality is crucial for sustaining engagement in citizen science projects where stakeholders operate on varied timelines. The Janus framework also delineates four pivotal roles for orchestrating these interactions: initiating engagement (trigger), motivating participants, surmounting barriers, and dispensing rewards. We applied the Quintuple Helix of Innovation to identify who will perform these roles, which entails collaboration between academia, industry, government, citizens, and the environment. The academic community (ICM-CSIC) provides essential services such as data curation and technological support through the citizen observatory MINKA. The business sphere (Anèl·lides Serveis Mediambientalsn FECDAS and Plancton) and the government (Barcelona City Council) play instrumental roles by facilitating access to the local community and offering crucial field support to surmount participatory challenges. Citizens actively contribute valuable data on biodiversity, while the environmental component focuses on monitoring 20 beaches in the Metropolitan Area of Barcelona. This multi-stakeholder approach ensured comprehensive support and resource availability, forming a dynamic living lab pivotal to BioMARathon's success. During this presentation, we will delve into the intricate dynamics of this collaboration and elucidate each stakeholder's pivotal role in the project.

To implement the Janus Framework, we identified barriers to volunteer participation and addressed them with specific crafted solutions performed by the different stakeholders. We aligned short-term volunteer incentives, such as recognition and learning opportunities, with long-term academic and policy goals, such as biodiversity conservation and policy development. This alignment enhanced the effectiveness of our project by ensuring that volunteers were motivated to contribute in the short-term while also understanding the long-term impact of their actions.

A notable achievement of this collaboration is the integration of dedicated layers for fish, mollusca and crustacea into the Barcelona City Council's biodiversity atlas with data and photographs of species obtained through the BioMARathon. Before the BioMARathon's involvement, this atlas lacked information about the marine biodiversity of Barcelona's beaches.

In conclusion, implementing the Janus Framework and the Quintuple Helix of Innovation in the BioMARathon provides a replicable model for engaging diverse stakeholders in marine citizen science projects. By harmonising short-term and long-term incentives and fostering collaborative support, we have successfully sustained public engagement in monitoring urban marine biodiversity. This presentation not only delves into the specifics of these strategies but also offers practical steps and valuable insights for similar initiatives.

Conceptu Maris and its Marine Citizen Science campaign - A network that extends across the Mediterranean Sea: citizens, scientists and ferry companies

Loredana Mulas[1], Elena Santini[2], Lara Carosso[1]

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Summary

The Mediterranean Sea is facing significant changes, induced by anthropogenic pressures, exacerbated by global warming. CEtaceans and Pelagic Sea TUrtles (CEPTU hereafter) are highly exposed to these pressures, however, according to the last Habitats Directive Art. 17 Report (2013 - 2018) and the European Environmental Agency Report (No 10/2020), the conservation status of most of their taxa is still considered data deficient, mainly because CEPTU species spend the majority of their life in remote offshore areas, which are difficult to monitor. In the frame of the LIFE Conceptu Maris project (LIFE20 NAT/IT/001371), researchers and citizen scientists cooperate to monitor these species along 17 ferry routes in the Mediterranean Sea.

Guidelines have been developed within the project as a main tool to provide a methodological approach, advice and practical guidance for establishing a citizen science program for recruiting, training, and involving citizens in the visual monitoring of CEPTUs aboard ferries. To inform citizens about the ways they can engage in the monitoring and conservation of these species, a call for volunteers has been disseminated in English, Italian, French and Spanish through a comprehensive media campaign in Italy, Spain and France through different channels, such as a dedicated website page, newsletters, social media networks, press releases, participation in radio and TV programs, and 19 thematic events. The goal of the call is to involve not only citizens with a particular sensitivity to environmental issues, but also those who are unaware and should be made conscious of CEPTU conservation.

The initial results of the stakeholder engagement approach developed by CONCEPTU MARIS are promising, as 315 applications have been received from 13 different countries. Of these, 154 applicants have completed online training and, subsequently, 82 have participated in training sessions onboard the ferries. This training on monitoring, based on standardized protocols, appropriate measuring tools, and an identification sheet for species identification, ensures the quality of data collected by citizen scientists. Considering that they may not have any scientific background, the training material is created using simple and intuitive terms and images.

Onboard the ferries, volunteers are able to apply the knowledge acquired during the theoretical training course, and the constant presence of the experienced researchers ensures the collection of validated data. The engagement of citizen scientists ensures the continuity of monitoring activities, through the gradual training of expert observers capable of long-term collaboration with researchers. Furthermore, the onboard experience leads citizens to a clear understanding of the current challenges faced by marine species and ecosystems. Since the monitoring of CEPTUs must be conducted over extensive geographic areas, the contribution of citizen scientists and ferry companies highlights the importance of cooperation among various stakeholders in defining conservation measures. Indeed, one of the most significant societal outcomes of the Conceptu Maris Citizen Science campaign and activities has been the establishment of a community dedicated to the conservation of CEPTUs at Mediterranean scale, which may continue beyond the project's lifetime.

Engaging diver's community through challenges: observadores del mar and the "OdM climate tour"

Maria Vicioso[1], Macarena Marambio[1], Sandra Espeja[2], Paula Lopez-Sendino[1], Maria García[3], Gemma Agell[3], Martí Vilanova[1], Eva Velasco[4], María Isabel Hermoso[1], Joaquim Garrabou[1]

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Summary

Observadores del Mar (OdM) the marine citizen science platform reference in Spain coordinated by CSIC, develops a communication strategy focused on "challenges": specific calls to engage community during a specific period of time, providing instructions and protocols, with the objective of obtaining information about a phenomena. These challenges are accompanied by specific protocols to facilitate the collection and ensure the rigorous data. In 2023, OdM organized an unprecedented event monitoring the coralligenous community with adapted protocols called the "Coralligenous weekends". After the excellent results, a new challenge has been devised this year under the motto "OdM Climate Tour: Joining views towards climate change", seeking for a deeper knowledge about climate change effects in marine ecosystems. This challenge has been fostered by the establishment of a monitoring network on 4 projects with climate change indicators for the Mediterranean Sea: Coral Surveys to asses massive mortality events due to marine heatwaves (Figuerola et al. 2023); Jellyfish Alert to study the blooms, distribution and phenology changes in the most common Mediterranean species; Climate Fish to detect the expansion of coastal thermophilic species; and Marine Seagrasses with the flowering events on *Posidonia oceanica* due to sea rise temperature (Tomas et al. 2024).

The monitoring network has been deployed by diving centres from the Spanish Mediterranean coast, trained for this goal. A total of 50 diving centres have been involved and received a theoretical training based on the rationale, objectives, materials and protocols of each project plus a 9-hour practical training, as future instructors of interested divers in contributing to science and climate change data collection, the best way to raise awareness and to act for a healthier ocean.

The "Challenges" strategy, together with a network of informed hubs, the diving centers, trained to develop environmental monitoring activities, has shown to improve volunteers engagement and achieve positive results from citizen participation.

Session: Integrating communication in fieldwork

Moderator:
Kelle Moreau, Institute of Natural Sciences, Belgium

Speakers:
Juan Moreno Navas, Spanish Institute of Oceanography (IEO-CSIC)
Özgün Evrim Sayılkan, METU Institute of Marine Sciences
Kelle Moreau, Institute of Natural Sciences, Belgium
Rebecca Pflanz, ERINN Innovation
Andrea Magugliani, University of Bergen
Michela Giusti, ISPRA

The 'Mare Nostrum' educational project: bringing marine research to Primary school children to create a bridge between them and the Mediterranean fragile marine ecosystem

Michela Giusti[1], Alessia Izzi[1], Lorenzo Rossi[1], Daniela Genta[1], Michela Angiolillo[1], Sante Francesco Rende[1], Alfredo Pazzini[1], Leonardo Tunesi[1]

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Summary

The “Mare Nostrum” educational project, conceived and realized by ISPRA, the Italian Institute for Environmental Protection and Research, is centered on the Mediterranean Sea's ecosystem, and holds a significant objective: to acquaint children of the Primary school with this unique environment and its inhabitants, by introducing them to a sense of respect and responsibility towards its conservation. By “immersing” them in the delicate ecological balances that sustain marine life, the project emphasizes the fragility of this ecosystem and the imperative need for its protection. Within the project, the research component, focuses on exploring deep benthic habitats using a Remotely Operated Vehicle (ROV). Through engaging classroom sessions, children are introduced to the functionality of this “robot”, with researchers sharing their firsthand experiences and showcasing footage collected during expeditions. Additionally, samples collected by the ROV, such as corals and small invertebrates, are brought into the classroom, enabling children to closely observe these organisms. Encouraging hands-on participation, children are prompted to build cardboard models of the ROV, fostering creativity and manual skills. Supplementary resources further enrich the learning experience. Children are provided with two links: one offering a virtual tour of the R/V “Astrea”, complete with explanatory video clips of onboard instruments (https://www.isprambiente.gov.it/public_files/astrea/index.htm), and the other granting access to a documentary detailing deep-sea coral research in the Mediterranean Sea (https://www.youtube.com/watch?v=KfqCysvcc5s). In addition, the children receive a copy of the book “Scendiamo in fondo al mare (Diving into the sea)” specially written for them. In this book, a small ROV, “Pollux”, narrates in first person, some of the explorations on the beautiful seafloors of our "Blue Planet” with his friends Astrea (the research vessel) and EM2040 (the sonar) (https://www.isprambiente.gov.it/it/pubblicazioni/pubblicazioni-di-pregio/scendiamo-in-fondo-al-mare-in-viaggio-con-un-robot-sottomarino). This holistic approach enables children to not only comprehend, but also appreciate an environment distinct from their own. By immersing them in firsthand experiences shared by researchers, children develop a genuine passion and curiosity for the sea. This initiative is also important for researchers visiting classrooms, who “live” the enthusiasm of children. Experiences show the full success of this initiative in creating a bridge between children and the mysterious marine world, fostering a deeper connection, and understanding.

Research & Communication on board the world's most advanced research and media vessel

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Summary

From July 30 to August 7, 2023, the University of Bergen (UiB) and OceanX conducted an expedition to the Norwegian Sea and êords on board the OceanXplorer, the world's most advanced research and media vessel. UiB participated with several research groups aiming to expand our understanding of these ecosystems, focusing on diverse research projects from bioluminescent animals, bluefin tuna, gelatinous plankton, and mesopelagic fish to benthic organisms and kelp forests.

OceanX is an American philanthropic organization dedicated to exploring the ocean and bringing understanding and inspiration to the world. The organization's model integrates science, technology, and media to uncover unexplored depths and foster a global community centered around the oceans.

Designed and retrofitted by OceanX, the OceanXplorer is a state-of-the-art vessel enabling groundbreaking research and media production. Equipped with Triton manned-operated submersibles, a 6,000-meter depth-rated ROV, and laboratories for both genetic mapping and live observation of marine life, it facilitates comprehensive real-time observation and research. By combining Hollywood-quality production facilities with these research capabilities, OceanXplorer captures the wonders of the ocean in unprecedented detail.

The expedition resulted in the publication of several short and long documentaries on YouTube, reaching thousands of people around the world.

In this presentation, the University of Bergen will showcase breathtaking footage filmed from the OceanXplorer submersible at depths of up to 1000 meters in the Sogneêord. This footage not only illustrates the beauty and complexity of underwater environments but also demonstrates how powerful visual storytelling can capture the imagination and interest of a global audience.

The goal of this presentation is to inspire and highlight the importance of innovative dissemination methods that can help researchers amplify the impact of their projects. By utilizing platforms such as YouTube and producing high-quality documentaries, researchers can reach broader audiences and foster greater awareness and appreciation of marine science.

Traditional academic publications and conferences, while valuable, often have a limited reach and primarily engage those already within the scientific community. To truly broaden the impact of marine research, it is essential to leverage powerful platforms and media formats that can reach a wider, more diverse audience.

Platforms such as YouTube and high-quality documentary production serve as modern "megaphones" for science communication. They allow researchers to present their findings in engaging, visually compelling ways that resonate with the public, policymakers, educators, and young aspiring scientists. By making use of these platforms, we can bridge the gap between scientific research and public understanding, fostering a deeper appreciation for marine ecosystems and the importance of ocean conservation.

Challenges of communication and media involvement from research vessels: lessons learnt during an R/V Belgica expedition to Iceland

Kelle Moreau[1]

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Summary

Ship time on scientific vessels is a scarce resource. Moreover, fieldwork on research vessels is often challenging and requires great flexibility in response to unforeseen circumstances. When scientists go to sea, the available time must therefore be used to the maximum for succesfully collecting data and performing experiments. Scientists usually have little or no time for communication during such campaigns, and when they do have time afterwards, they are often confronted with the fact that only limited good imagery was collected during the fieldwork that can be used for communication purposes. The great communication potential of fieldwork at sea therefore often remains severely underutilized.

In order to better utilise this communication potential, it is therefore important to not only pay attention to communication in project objectives, but also to integrate communication into the practical implementation plan of the fieldwork on board research vessels. The range of tools is increasing (web texts, press releases, social media, blogs, vlogs, podcasts, video productions, ...) whereby both communications during the scientific campaigns and/or after the fieldwork are possible. What is practically possible is of course strongly influenced by the on board capacity (space and time) and it must therefore be determined in advance which communication products one wishes to create, which material (images, texts, interviews, ...) is needed for this, and how the communication activities can be integrated into the fieldwork.

During an expedition of the R/V Belgica to Iceland in June-July 2023, the scientists involved included a communicator in their team. The intended communication objectives were very ambitious, covering both communication during the fieldwork (daily blog, web texts, social media) and afterwards (articles, video documentary), and it was also intended to serve the press so that they could report on the scientific activities. On board, the communicator had to focus on taking photos and videos, conducting interviews, writing texts, ... and all this in the reality of ongoing scientific sampling and experiments, where various unforeseen problems arise. It should come as no surprise that not all plans could be realised, but it was a very educational experience. In this presentation we reflect on the lessons learned and provide resulting recommendations for planning communication activities on board research vessels.

A micro-documentary should be part of every marine research survey - Our experiences and lessons learned

Juan Moreno Navas[1], Jorge Baro[1], Cristina Ciércoles Antonell[1], Miriam Domínguez Rodríguez[1], Mariano Ibáñez Heredia[2]

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Summary

Mass and social media are now embracing short-form news, documentary and social video for storytelling. A successful mini-documentary is authentic, concise, visually appealing and has a clear message. It creates a connection between the audience and the subject, provoking empathy and understanding. In just 5 minutes a micro-documentary on any marine activity can educate, inspire future scientific careers and connect the general public to marine activities.

In a unique natural environment (Cabo de Gata-Nijar Marine Protected Area), we have completed our first micro-documentary in a series about artisanal fishing and the role of fishery observers. Small-scale fishing is a dynamic industry with an uncertain future. Many are unaware of its global economic and social impact.

We filmed it using portable and medium-low-cost gear, in high definition and included a 2D animation of fishing manoeuvres. The idea is to highlight the value of fishing in a natural environment, its uniqueness and the work of fishery observers in collecting valuable scientific information.

We would like to share our experiences and lessons learned as newcomers to documentary filmmaking. This presentation will outline the gear used, mistakes, successes, strategies for engaging the audience and the key steps in making a micro-documentary. This will include planning and pre-production, production and shooting, editing and post-production and distribution.

From France to Ireland - Synergising Sampling Onboard Tara with a Public Outreach and Communication Campaign Across Europe's Coastline

Rebecca Pflanz[1]

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Summary

This presentation will focus on the unique approach of the Horizon Europe-funded BlueRemediomics project, in partnership with the TRaversing European Coastlines (TREC) Expedition, combining a large-scale marine microbiome sampling initiative onboard the Tara research vessel with an extensive communication and public outreach campaign in eight selected European coastal cities as the vessel travels. The campaign aimed to present the science and research carried out in the BlueRemediomics project, by focusing on one scientific theme for each stopover through direct involvement of the BlueRemediomics scientists working in the research area. This wide-reaching public outreach and communication effort during the ongoing sampling activities is one of the campaign's biggest novelties.

Why this way? In traditional research scenarios, the sampling activities are often completed first, followed by the dissemination of the findings. This campaign aimed to synergise these steps in an innovative approach implementing communication and outreach activities as the research is happening. To reach both 1) the wider public and 2) local policymakers, scientists, NGOs and other relevant stakeholders, several targeted outreach and communication activities were developed by BlueRemediomics partners Tara Oceans and ERINN Innovation.

Public activities including visits to the sampling schooner Tara, an artist in residency program, secondary school activities "introducing your microbiome" and a set of videos and social media content of the port calls reached out to the wider public. Simultaneously, targeted "Tara Europa Lab" science-to-policy workshops were facilitated with a pre-invited audience of local policymakers, politicians, NGOs and other relevant stakeholders. Each workshop focused on a different BlueRemediomics-related scientific topic, engaging participants in topics such as Blue Carbon solutions, chemical pollution, an ecological and ethics discussion on aquaculture, the Microbiome Health Index and more. On the one hand, this turned the research process into opportunities for ocean microbiome literacy education. On the other hand, it provided a space for local stakeholders to engage with BlueRemediomics scientists about issues related to the project that affect them, in turn providing scientists with insights into local issues relevant to the project, that will be taken forward in the form of future policy briefs and considered in the development of the project's results.

Lessons learned? One of the key learnings of this campaign was related to the difficulty of communicating results effectively when a large number of partners and projects are involved in a campaign, as striking a balance for promoting all partners equally without confusing target users is difficult. Secondly, the campaign highlighted the difficulty of communicating the science in the project with concrete examples at such an early stage where very few actual results are already available. To clarify this, an in-depth article towards the end of the expedition will focus on "what happens after the sampling" detailing how the BlueRemediomics project is utilising the samples for the discovery and development of novel marine microbiome-based products and processes. These barriers and solutions will be discussed in the presentation.

From onboard to the public: Science communication and media strategies from the R/V BİLİM-2 in addressing marine research on multi-stressors

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Summary

Effective science communication emerges as crucial in fostering public understanding and engagement, both in environmental crises and routine research endeavors. This presentation sheds light on the experiences gained in communicating complex scientific research conducted aboard the Bilim-2 research vessel as part of the BRIDGE-BS project, alongside the media strategies of the METU Institute of Marine Sciences during the mucilage crisis in the Sea of Marmara. Funded by the European Union's H2020 programme, BRIDGE-BS aims to advance knowledge, conduct research, and empower citizens for a sustainable and climate-neutral Black Sea. Acknowledging the vital role of dynamic and accessible science communication, we embarked on a series of scientific vlogs documenting our marine research aboard the Bilim-2. These vlogs serve not only to convey scientific insights but also to evoke curiosity and deepen understanding of the multi-stressors facing the Black Sea. Beyond the Black Sea, the Sea of Marmara experienced a mucilage crisis in 2021, posing substantial threats to marine life, coastal communities, and local economies. The METU Institute of Marine Sciences played a pivotal role in researching and addressing this crisis. Through strategic media engagements, including live broadcasts from the research vessel and consistent updates across digital and traditional media platforms, crucial research findings and real-time updates on the mucilage crisis are effectively communicated with the public. Whether in routine research or crisis situations, our approach aimed not only to disseminate key findings but also to contextualize the urgency of the situation, rendering the science accessible and compelling to a broader audience. We opted to engage the public directly from the research vessel through scientific vlog series and mass media for three primary reasons:

- Accessibility and Engagement: Vlogs offer a visually engaging narrative format that appeals to a broad audience, while live broadcasts from the research vessel allow viewers to experience the research process firsthand, fostering a deeper connection and understanding.
- Real-Time Communication: The immediacy of vlogs and daily media convergences facilitates the sharing of ongoing research and discoveries almost in real-time, maintaining public interest and momentum.
- Personal Connection: Featuring researchers where they do the research creates a personal connection, humanizing science and making it more relatable to the public.

These experiences have underscored the critical balance between technical details and accessible language, essential for preserving both scientific accuracy and public engagement. Furthermore, the continuous provision of updates and strategically curated content is vital to sustaining audience interest. Above all, maintaining transparency in science and crisis communication is key to building trust in society, thereby enhancing the authenticity and credibility of the scientific narrative. By integrating these lessons, future science communication endeavors will persist in embracing engaging approaches while leveraging various mediums and media platforms to effectively address marine research, and multiple stress factors and develop permanent public participation.

Session: Inspirational examples of engagement in international initiatives using storytelling

Moderator:
Ángel Muñiz Piniella, European Marine Board

Speakers:
Elsa Vercellino & Emma Verron, University of Bretagne Occidentale (UBO)
Juanita Zorrilla, SUBMON
Juliana Corrales, International Alliance to Combat Ocean Acidification (OA Alliance)





Crafting marine conservation narratives: how to tell compelling stories of governance in the high seas?

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Summary

Narrative journalism “helps the reader feel the facts” (Alexander, 2020) by engaging the reader’s sensibilities. It allows for a shift in perspectives, delving into micro-scaled subjects while placing them within larger contexts and issues. It also serves as a gateway to access the often-overlooked elements of the non-human world. Tackling these subjects over longer temporalities enables a better understanding of the issues at play, especially in ecological cases, which occur gradually over time and/or out of sight. Our work focuses on developing “Stories”, akin to articles for a knowledge platform on biodiversity conservation in international oceanic spaces. The main objective of these articles is to enable our targeted audience (diplomats, marine environment managers, researchers…) to grasp the multifaceted complexity of marine conservation through a systemic view organised around biodiversity, human activities, and governance. Each story integrates the writer’s subjectivity within a scientific framework. The first step consists in choosing the article's main theme to inform and engage the audience on a specific marine conservation issue, while also addressing broader concerns in international marine conservation. For instance, we explore the global conservation of European and American eels, emphasising underlying challenges in international waters. The second step involves a literature review to create a comprehensive bibliography on the chosen topic, including both academic research and journalistic sources. Interviews with key actors or experts can complement the bibliography work and bring different perspectives to the story. Insights from a member of the French Ministry for Ecological Transition contributed to our story on cetacean conservation in the Mediterranean. The third step, a turning point in our work, involves writing the article by combining the factual rigour of scientific research with the emotional impact of the writer’s subjective (though non-fictional) narrative. This goal can be achieved by using different discursive modes (exposition, narration, description), temporalities (past, present, future), and media forms (text, video, infographics, sound). For instance, tracing the life of Fluker, a Mediterranean fin whale, provides insights into the many threats faced by marine mammals. Similarly, following the migratory journeys of European and American eels highlights the complexities of international and national conservation efforts. While giving voice to marine conservation experts and actors is crucial, shedding light on the voiceless is equally valuable. This engages readers' imagination and strengthens their emotional connection to the subject, fostering a deeper understanding of its stakes. Narrative journalism provides a compelling immersion into Ocean Literacy and often-overlooked non-human perspectives. One does not experience a story the same way from two different angles: from the viewpoint of an admiral successfully navigating the Mediterranean despite numerous challenges, or from the perspective of a sperm whale tragically dying after colliding with a ship. Every narrative forms a unique experience, connecting human and non-human stories, revealing their roles within the broader framework. Collectively, they form a rich tapestry of global perspectives and interrelated stakes.

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Ocean Citizen: Storytelling for Global Engagement

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Summary

The OCEAN CITIZEN project, launched as part of the Mission Ocean & Waters and endorsed by the UN Ocean, is a multidisciplinary approach that integrates science and society in Marine Forest regeneration for ocean management and protection. Communication has been critical to achieving this goal during these first 18 months. We envisage specific, innovative, and original tools and methods to bridge the gap used to engage diverse audiences related to the project execution. In this sense, we want to share our experience developing a communication strategy based on the storytelling of ecological restoration as a parallelism of the project's evolution.

Why do we do it?

OCEAN CITIZEN is a privileged project in which underwater scenes and footage provide beautiful scenes for developing videos and material. However, this is not enough to communicate; it has to tell a story and not just post underwater images with no thread or relation to the project to feed a social network algorithm. In this sense, we decided that ecological succession was an exciting topic for storytelling. As the project started, the first steps were to understand and evaluate the ecosystem, just like pioneer species that settle in a completely new environment and adapt to the new conditions. Ecological succession helps explain restoration progress by improving the complexity of the space and ecological interactions, similar to a project whose interactions become more complex and structured as it progresses. Once we identified these two main axes, we focused on the targets and channels (internal /external) for disseminating and communicating our content.

What Are Your Lessons Learned?

Creativity is essential in communication. Exploring different communication tools is essential to diversifying the rhythms of information input that surprise audiences. From the beginning of the project until now, we can say that we designed an attractive method that gives the project a special identity. It is worth investing time in planning a good strategy that fits your initiative. Another lesson that we are still learning is that the engaging and communication team cannot take this process for granted. Reminders are needed without overwhelming the partners, with clear guidelines and an established channel for communication. Tailored contributions addressed to their field of experience are also a way to improve the exchange of information within the project and make them have a leading role in part of the communication actions. Sustainable engagement requires ongoing efforts, collaboration, and adaptation to changing contexts and challenges. Last but not least, collaboration is another critical part of the project. Establishing reference projects to network and amplify your actions is also a good strategy to reach wider audiences. Promoting synergies helps improve the use of resources, not only economic but also human, and strengthens the credibility of your actions.

Haiku Over Hyperbole: Creative Communications and Emotional Expression as Uplifting Avenues for Advocacy on Climate-Ocean Change

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Summary

The International Alliance to Combat Ocean Acidification (OA Alliance) brings together governments and organizations from across the globe that are dedicated to taking urgent action to protect coastal communities and livelihoods from the threat of ocean acidification and other climate-ocean impacts.

Since we launched in 2016, our work has focused on building bridges between science and policy communities of practice across the ocean and climate nexus. However, it's still evident that the relationship between climate change and ocean change is not well understood. Traditional ocean conservation minded NGOs and most climate policy makers do not understand the impact of CO2 and GHG directly on our ocean, nor the consequences of these changes to ecosystems, species and human communities.

This disconnect has required that we evaluate the communications methods we were using. The Alliance's narrative and general messaging has traditionally relied on science comms or traditional policy comms methods. This has proven effective, to a certain point, in serving our most engaged constituencies. However, we have identified a need to showcase the issue around climate-ocean impacts/ responses from a different lens that provides deeper understanding, creates emotional connections, and instigates change.

Our objective is to make the "unseen" impacts of climate-ocean change seen and emotionally felt through creative narrative building & storytelling. In this presentation, we want to showcase the start of this new communications pathway where diverse artistic expressions, such as storytelling, poetry, and filmmaking are used as mediums to communicate OA and climate-ocean impacts/ response. We will recount many of the lessons learned and the adjustments we've made for future iterations. Together, we will explore the qualitative impact and unique results of different communications campaigns rooted in the same engagement philosophy. This presentation will subvert your expectations and leave a lasting impression on the way you think about marine science communication.

Session: How to engage younger audiences with the help from ECOPs and what they need

Moderator:
Tymon Zielinski, Institute of Oceanology Polish Academy of Sciences (IOPAN)

Speakers:
Natalie Fox, ECOP Programme
Izabela Kotyńska-Zielińska, Today We Have
Amanda Leslie, Ocean Tracking Network




ECOP Programme communications: Coordinating global efforts of ECOP engagement within the UN Ocean Decade and beyond

Natalie Fox[1], Evgeniia Kostianaia[1], Raphaël Roman[1]

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Summary

The Early Career Ocean Professionals (ECOP) Programme is a UN Decade of Ocean Science Programme designed to support ECOPs in their capacity development and work by providing meaningful networking, training, professional development, funding opportunities and creating capacity for cooperation and knowledge exchange.

Since 2021 we have had 2 focal points of our communications work in this context - one is internal (strengthening the network and assisting regional and national coordinators to achieve their objectives) and the second is external (amplifying the work and collective voice of ECOPs to represent their contributions and make sure they and recognized and included).

Our structure now includes 50+ regional and national nodes, thematic task teams and endorsed projects from the Calls for Decade Actions, and our global network includes over 5000 members from over 150 countries. This provides many opportunities for transnational dialogue and exchange, as well as challenges to make sure we still communicate with minorities within our ECOP network. Our commitment to communications allows for us to achieve our mission to elevate and strengthen the diverse perspectives of new generations of ocean professionals. Through this collective voice, we hope to ensure that knowledge is transferred between experienced and early-career ocean professionals to promote ocean sustainability for "The Ocean We Want" by 2030 and beyond.

How can we access and reflect on the needs, perspectives and knowledge that this diverse group of ECOPs have? How can we best reach the diverse audiences within our ECOP group, and how can we make sure we listen and learn from them to help guide Ocean Science (and communications) in a more equitable, just and inclusive direction. The ECOP communications team have devised a survey questionnaire and will be releasing this to our global network in July 2024. We propose to share the results from this survey, including insights, conclusions and recommendations, that may be useful for other organisations or institutions working with, or aiming to work with ECOPs. We will reflect on the campaigns the ECOP Programme has already engaged its members in, using different formats and mediums, and launch ideas for how to create participatory campaigns that speak to, and enable ECOPs to showcase their talent and dedication to the outcomes of the Ocean Decade and Sustainable Development Goal 14.

EARTHgames4EyoUth – between communication and education

Izabela Kotyńska-Zielińska[1], Andreea-Ştefania Ionascu[2], Anca-Maria Panait[2], Katarina Zvarikova[3], Tamar Aydinyan[4]

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Summary

The EARTHgames4EyoUth project is focused on the development of Earth competences among young Europeans, and it tackles knowledge, skills, and attitudes towards reducing global and climate change impacts with special focus on SDGs and provides a pathway of a smooth transition from policies to the grassroots level, making them more consumable for youngsters.

This project provides youth work sector with a new framework of competences, a set of interactive games and a communication and an educational program, which will address a wide array of environmental issues from various perspectives and using various approaches.

The EARTHgames4EyoUth project brings unique combination of methods (competence framework, gamification of policies and non-formal education program with a scientific emphasis) and learners (youth workers and young people themselves).

The above-mentioned target groups will also be involved in co-creating some of the games and communication and educational materials, by testing the draft versions, giving feedback and offering suggestions for better adapting them to their needs.

Effective communication and education have a key role to play in supporting youth to move from simple awareness of environmental issues to individual and collective action. Thus, we concluded that the missing element is the methodology the knowledge is provided with and transformed into competences in the long term. Therefore, one of our goals is to make it easier for young people to grasp the meaning and the importance of official policies, regulations, laws at European/global level related to environment including a special aspect of the global ocean.

Our project is built on individual experience of 4 institutions (ONG Mare Nostrum, Slovak Eco Quality, Today We Have and UNIGrowth Development Center), represented by ECOP females, who are heavily involved in communication, educational and environmental activities both in their countries and internationally, through cooperation with various types of international institutions.

The team knows and understands the current needs for increasing awareness of citizens across the world and thus we propose universal tools for effective communication and education which can be used and adapted to individual/local needs across Europe and beyond.

Another strong point of our partnership is the large geographical spread, which comprises rather different mentalities and cultures. This ensures having a wide range of perspectives, but also making the project accessible to more people and understanding the specific needs and challenges of each region.

Leveraging Novel Opportunities to Engage Younger Audiences in Ocean Science

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Summary

The Ocean Tracking Network (OTN) is a global aquatic research, data management and partnership platform headquartered at Dalhousie University in Halifax, Nova Scotia, Canada. OTN's mission is to inform the stewardship and sustainable management of aquatic animals by providing knowledge on their movements, habitats, and survival in the face of changing global environments. Since 2008, OTN has undertaken a wide range of science communication activities to inform and engage stakeholders, such as public-facing reports, facility tours, media relations, outreach events, and social media, as well as novel projects and campaigns.

This presentation will highlight specific examples of novel opportunities that OTN has leveraged to engage younger audiences in ocean science, including a multi-language colouring and activity book that was designed to share the diversity of marine life in Atlantic Canada's Bay of Fundy; a special campaign with Mattel and National Geographic to launch a conservation and science-focused Barbie doll inspired by OTN's former scientific director, Dr. Sara Iverson; and an ongoing collaboration with the Terranaut Club —an accessible science exploration club for girls and underrepresented genders (girls+)—to educate 12 to 18-year-old participants about the role of gliders in collecting data on aquatic animals and oceanographic conditions.

All of these projects illustrate the value of thinking 'outside of the box' as a science communication practitioner, drawing on a mix of different communications channels, activities and partnerships to help inspire the next generation of ocean scientists.

Session: Sound & Vision

Moderator:
Kathrin Kopke, MaREI, Environmental Research Institute, Ireland

Speakers:
Geraint Rhys Whittaker, Helmholtz Institute for Functional Marine Biodiversity + Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research
Kirsty Bradley, Centre for Environment Fisheries and Aquaculture Science (CEFAS)
Maria Vittoria Marra, Galway Atlantaquaria
Lisa Picatto, JPI Oceans
Remco Lameijer, GRID-Arendal

The Ocean Science Jam: Improvising Oceanic Creative Communities

Geraint Rhys Whittaker[1]

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Summary

Sharing complex Oceanic research in an accessible way with the public is being identified by scientific institutions, universities, governmental departments, and NGO'S as a critical intervention in promoting better engagement with the sea. Art-science collaborations play an integral role in this. Traditionally, these involve pairing artists and marine scientists together to work on a project which is then presented to an audience. Increasingly however co-creation with the public is being seen as a beneficial way to merge art with oceanic science. The Ocean Science Jam is such a project which brings together musicians, artists, dancers, performers, marine biodiversity scientists and the public to respond creatively in real time to visual and audio cues based on a theme related to marine scientists' work. By mixing creativity with science in an integrative way the Ocean Science Jam not only acts as tool for public communication but also opens new ways for scientific data to be interpreted by non-scientists. This paper will explore this initiative from design to delivery highlighting the results of sharing and creating new ocean knowledges through art. It will do so by combining the reflections of the creator of the Ocean Science Jam as well as interviews with the scientists and public who have participated. It will argue for the benefits of using improvisation and co-creation as a way to create ocean communities of moments of inspiration and connection with the ocean in excess.

Setting sail across “Unchatted Waters”, creating an audio podcast for public science communication

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Summary

Improving the collective knowledge of society is an integral part of science. While traditional science outputs exist, novel methods are emerging. Podcasts have increased in popularity over recent years and could be a valuable science communication channel. When listeners put on their headphones, they imagine where the conversation is happening, what the speakers look like and visualise what they are speaking about or describing. As everyone’s imagination is unique, listening to a podcast feels immersive and personal. As the podcast series continues, a level of familiarity can also be established. I created a podcast to break down barriers between specialists and the public who may have different experiences, expertise, and knowledge bases. I will share the journey of discovery across “Unchatted Waters” from scripting to producing a podcast.

The power of music to deliver blue education and public engagement: the experience of Galway Atlantaquaria in Ireland

Maria Vittoria Marra[1], Anna Lardi Fogarty[2], Naomi Berrill[3], Joao Frias[4], Garry Kendellen[1], Noirin Burke[1]

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Summary

Music is a fundamental part of popular culture, and it has been largely proven to be an effective tool to promote environmental education. A survey conducted in 2019 by the National Concert Hall has shown that for Irish people music is the most important cultural facet. At the end of 2020 Galway Atlantaquaria (GA) started a collaboration with the Galway Ukers, a local non-professional musical ensemble to carry out a project aimed at raising ocean awareness and action via the development of an original marine-themed song. Inspired by the title of a popular Irish movie, the project was originally called 'Amhrán na Mara' (which stands for 'Song of the Sea' in Irish Gaelic), but it soon changed name to 'Amhráin na Mara' ('Songs of the Sea') because several members of the group were inspired by the proposal and wrote one or more original songs. In some cases, it was the very first song they had ever written by themselves. In spring 2021, the 'Amhráin na Mara' project was further developed via a collaboration with the Claddagh National School in Galway and the Marine Institute's Explorers Education Programme which brought to the co-development of an additional original song between the musicians and the children in the 5th class of this primary school which was featured at the 'Ocean Literacy in Action at the European Ocean Days' in March 2024.

The journey to conjugate music and ocean literacy undertaken by GA has culminated in summer 2023 with the approval by the national Creative Ireland Programme of a project called 'Galway Bay Is Calling'. This is a creative project co-developed by GA with the classical music organisation Music for Galway and the Atlantic Technological University, and aimed at raising awareness of the impacts of climate change in Galway among the local communities. Through their attendance to a series of ocean literacy and behaviour change workshops, the choirs and musician groups involved in the project first have boosted their awareness of the ocean's influence on them, and their influence on the ocean, and then they have contributed to the development of an original music piece in collaboration with internationally acclaimed cellist Naomi Berrill to inspire the local community's climate action. This music piece was premiered at the opening ceremony of the international festival CELLISSIMO on 18th May 2024 in Galway. This talk will reflect on the experience of the 'Galway Bay Is Calling' project, showcasing the challenges and the achievements it has involved. Also, we will discuss the lessons learned over the years, and the plans for the future of GA to keep unlocking the power of music to bring people together across barriers of age, gender and culture in order to deliver blue education and public engagement.

Visual synergy: merging artistic expression and scientific insight, a collaboration between JPI Oceans and Talk C.E.C. (Cultural Experiences Creator) for the “Seas and Oceans” Exhibition

Raluca Dumitrache[1], Lisa Picatto[1], Vaghi Margaux[1]

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Summary

In Brussels, the cultural capital of Europe where international governance and business converge, making a lasting impact with messages about ocean conservation can be difficult. JPI Oceans addressed the challenge of communicating ocean science in the heart of Brussels by providing its scientific expertise to the “Seas and Oceans” Exhibition organised by Talk C.E.C., an independent art centre.

One of the most efficient media for communicating with people is through visual stimuli, as we tend to remember better and longer information that is presented to us vividly. This underscores the critical importance of integrating art with science to enhance communication and understanding of scientific concepts and to bridge the gap between these two domains.

Despite being far from the ocean's edge, the “Seas and Oceans” Exhibition brought together artists, marine scientists and the general public by adopting the unique approach of creating a sort of "mental palace"— a storytelling house within the gallery setting that combines spatial elements with engaging visuals. JPI Oceans provided scientific background and inspiration for the associated artists while also ensuring the accuracy and relevance of the information presented. The collaboration has resulted in the ongoing exhibition that not only highlights scientific findings, but also fosters a deeper connection with the audience through art.

Talk CEC and JPI Oceans joined the movement for pioneering the integrative approach of seemingly antagonistic areas art and science, demonstrating the potential of such collaborations in promoting ocean literacy towards the general public. Starting in 2023, the exhibition has been complemented by several events, including a series of expert talks with marine scientists and a special programme on World Ocean Day (2023 and 2024). For Talk C.E.C., art has a real power to influence our perception of the world and increase our awareness of it. A genuine medium for reflection, art provides a means of communicating about contemporary social issues, enabling us to take action to change our habits and behaviour.

In this presentation, we will share our strategies, outcomes, and lessons learned from this rewarding collaboration between art and science focused on the ocean but set in the heart of the city. We will provide insights on communication regarding this event, including tools, methods, and analytics. Our experience demonstrates how combining art and science can create a compelling narrative that effectively engages the public and advocates for the preservation of our Ocean.

PFAS: Our intimate relationship with these forever chemicals

Thomas Maes[1], Elisabeth Berglihn[1], Elena van Doorn[1], Dave Messing[1], Eirin Husabø[1], Remco Lameijer[1], Julika Wolf[1]

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Summary

PFAS, short for Per-and Polyfluoroalkyl Substances, are a large group of manufactured chemicals that can resist heat and repel grease, water and oil. This makes PFAS desirable to use in a wide range of consumer and industrial products. However, PFAS do not easily break down, and can travel long distances along water ways and accumulate over time in soil, lakes and oceans, and living organisms. Because of this, PFAS can be found everywhere, and is even detectable in most humans. However, despite most of us having come into contact with the chemical group, few people know what PFAS are, what they do, and how they can affect us and the environment.

To raise awareness about PFAS, we created a StoryMap that takes people on a journey from the source to the sea ((https://www.grida.no/publications/1024). We take a look at a real issue: A PFAS manufacturing plant built along the river Scheldt in Belgium, which flows out into the North Sea. Along this path we use a combination of text, graphics, interviews, and maps to describe the geographical and societal scale of the PFAS pollution problem.

People connect through stories. This natural tendency makes them an ideal way of sharing information. In our StoryMap, we make use of this concept, offering scientific information in a more relatable wrapper. Our presentation will touch on the overall process of creating a media rich story, the challenges of portraying personal stories, and the compromises that come with working on the interface between science and communication.

The StoryMap was developed by GRID-Arendal as part of the Horizon Europe Source to Seas – Zero Pollution 2030 project and was published in January 2024.

City of Málaga
Photo: Área de Turismo Ayuntamiento de Málaga

Poster presentation abstracts

MARETO – Observation, Science, and Citizens

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Summary

We are currently witnessing a global warming process in which the oceans play a particularly crucial role. Covering about 70% of the planet's surface, the oceans produce half of the oxygen generated by the Earth's photosynthetic organisms. Oceans have absorbed about 90% of the energy retained by our planet since the mid-20th century due to greenhouse gas emissions and have also absorbed between 25% and 30% of the CO2 emitted into the atmosphere from burning fossil fuels.

Consequently, the Earth's seas and oceans have helped to cushion the effects of climate change, but they are also heavily threatened by this process. Among these threats, sea level rise is significant. Given the increasing global population growth around coastal areas, sea level rise poses a serious threat to the safety of people, buildings, and infrastructure along the coast. This concentration of the population along the coastline not only increases our vulnerability to the effects of climate change but also puts added pressure on the marine environment, increasing pollution, the risks of accidents affecting the environmental health of our coastal and open sea waters, and, in short, intensifying our use of these waters and their resources. Because of these threats, both those linked to global warming and those associated with other anthropogenic activities, we must observe our seas: monitor them to detect and quantify any alterations that may affect the environment. The results of these observations must be communicated and made accessible not only to the scientific and political communities but to all citizens to raise awareness of these issues.

In this context, the Instituto Español de Oceanografía (Spanish Institute of Oceanography, IEO-CSIC) has maintained a Mediterranean observing system since the 1980s. Recently, as part of this observing system, our coastal laboratory (Málaga Oceanographic Center) located on the northern coast of the Alboran Sea, has deployed the MARETO (Málaga Real-Time Observatory) underwater observatory.

The MARETO buoy is equipped with sensors that collect oceanographic (temperature, salinity, pressure, speed and direction of the current, dissolved oxygen concentration, pH, fluorescence, and turbidity) and meteorological data, as well as cameras and a hydrophone that record images and sounds from the seabed in real time. The data are used for various scientific studies and also by the LifeWatch Alborán project.

The LifeWatch Alborán project is strategically linked to the Malaga Urban Agenda and its Climate Plan 2050, contributing to the enhancement of coastal and urban biodiversity through research and citizen science.

MARETO aims to disseminate scientific knowledge and raise public awareness about the need to protect and conserve our seas. To this end, it makes the collected data publicly available in a format accessible and understandable to all citizens, through the LifeWatch Alborán project website: LifeWatch Alborán.

"Alborán Azul": citizen science in the face of climate change on the coast of Malaga

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Summary

Climate change is a global problem that affects the entire Earth, but it is not a homogeneous problem, because it affects different regions of the planet in different ways. Taking into account these regional differences, our research grouped considered the question of how were the waters of the Alboran Sea and its ecosystems changing? More particularly, the Instituto Español de Oceanografía has a coastal laboratory in Málaga, within the northern coast of the Alboran Sea. Do the waters of Malaga have any particularity within the Alboran and Mediterranean Seas?

Alborán Azul is a project born of the collaboration between the Málaga Oceanographic Center of the Spanish Institute of Oceanography (IEO-CSIC) and the non-profit association Liga Naval Mar de Alborán that can help us solve issues related to climate change in Malaga waters to which new technologies are not yet able to respond.

To do this, we take measurements and samples at different points along the coast of Malaga that, with a sampling rate of up to 100 measurements per year, solve the high-frequency variability that oceanographic campaigns do not give us at the moment.

Framed within the concept of citizen science, Alborán Azul delves into the objective of spreading scientific knowledge and raising public awareness of the need to protect and conserve our seas. To this end, it makes public the data collected through the website of proyect, maintained by Liga Naval. The main results are shared through the social networks of the Spanish Institute of Oceanography in X, facebook or youtube. Likewise, the data collected in this project are incorporated into the databases of the IEO itself, so that they can be freely accessible to the scientific community.

This information is also disseminated in different forums organized by public administrations such as the City of Fuengirola or the Provincial Council of Malaga, at conferences of institutions such as Ateneo de Málaga and at the open days organized by the Málaga Oceanographic Centre on the occasion of the International Day of Women and Girls in Science, which brings together hundreds of students from different schools each year.

We also carry out informative days, at least once a month, in educational centers of coastal municipalities of the province, in which we make known, in a pleasant way and with an accessible language, to the first students of High School, the project, as well as the scientific work carried out in our institution in different areas such as observational oceanography, climate change or fisheries. These talks, which have been broadcast in media such as television, local radio and press, have a duration of approximately 50 minutes per class, and use videos, documentaries and images of our activities. We also show to the students, material related to the various disciplines in which the IEO works, including profilers, rocks or specimens of the marine fauna collection of the Malaga Oceanographic Center, etc. These talks arouse the interest and participation of students, who are attentive and open to dialogue with scientists and technicians.

GLOFISH – global research and technology transfer to stakeholders

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Summary

To obtain a complete view of the functioning of marine ecosystems we must adopt a multidisciplinary view of the ocean as a socio-ecological system. Likewise, issues related to the sustainability of marine fisheries and climate change have become a global challenge, with direct repercussions for biodiversity loss, food security and public health. Research to address this problem requires a global approach as well as strong interdisciplinary collaboration between the natural and social sciences to produce both empirical and theoretical knowledge, specifically aimed at public policy advice. However, conventional regional approaches to the study of fisheries often ignore the global scale, lacking the scientific advice necessary to inform policies that effectively address these global issues.

GLOFISH (Global Ecology and Fisheries Research Group) works to establish links between the regional and the global scale. We are a number of researchers working in different worldwide fisheries and providing regional advise (Regional Fisheries Management Organizations such as NAFO, NEAF, GFCM, CECAF, ICCAT, IOCC, …). Our goal in GLOFISH is to gather our high knowledge on regional scale and then synthesise to promote scientific synergies on a global scale.

We make use of statistical and mechanistic models applied at a global level. These studies summarize the available information to evaluate the current situation of world fishing, explore and evaluate different scenarios of evolution, also accounting for context of climate change. We also work on evaluation of management measures in a global context, establishing the synergies and knowledge generated in the different Regional Fisheries Management Organizations (RFMOs) and other international and national management and research organizations. Finally we are an active research group on outreach and dissemination activities, fostering awareness on the importance of the global scale on marine ecology, both at the scientific and citizen level.

GLOFISH research is highly connected to the main objectives of 2024 Ocean Decade Conference, by transferring of knowledge and technology to scientific advice at a local, regional (meso and macro-scale) and global (macro-scale) scale. This results on both two 2024 Ocean Decade Conference objectives of “facilitating broad stakeholder engagement” and “identifying future priorities for science-based solutions to global challenges”

Marine Science with the Five Senses

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Summary

For over a decade, the Instituto Español de Oceanografía (IEO, CSIC) has made significant efforts to promote scientific culture in the field of marine sciences. These efforts have allowed us to detect the need to adapt our activities to bring the IEO's work closer to groups less familiar with marine science, those far from the activity of a research center or those who are not usually considered a target audience for such actions.

In this context, in 2017, during the centenary of the Centro Oceanográfico de Vigo (COV), the "Oceanográfico Itinerante" (Traveling oceanographic) project was launched. This initiative included workshops aimed at fostering scientific culture among people with physical and/or intellectual disabilities, senior citizens, or groups with addictions, among others.

In 2022, the IEO celebrated World Oceans Day with members of the ONCE (National Organization of Spanish Blind People), carrying out scientific outreach activities. Among the proposals was a sensory experimentation table where participants could touch marine species and instruments used in research, relief maps of the seabed or sounds of fin whales and dolphins to learn about marine fauna.

The IEO is committed to consolidate the offer of activities to promote scientific culture from the perspective of inclusive science outreach. In that sense, the COV is developing the project, “Marine Science with the five senses” (FCT-23-19179), in collaboration with the Spanish Foundation for Science and Technology - Ministry of Science, Innovation and Universities. This project aims to bring, in an inclusive way, the science, technology and research activities carried out by the IEO to an audience with different types of disabilities, both physical and intellectual, who are usually excluded from marine science outreach activities. All of this will always be carried out with a focus on accessibility, inclusion and gender equality.

The first of the actions focuses on conducting scientific workshops at the facilities of five associations for people with disabilities in Vigo: ONCE, Down Vigo, ASPANAEX, San Rafael and Doral Residencias.

The second action will be carried out during the 2025 summer camps that ONCE organizes for its members aged 6 to 17. The aim is to increase the knowledge and understanding of science and technology among these young people, enhancing their scientific and technological culture and fostering scientific vocations, which will help them in their future career orientation.

In both actions, innovative, attractive, and imaginative methods will be required to disseminate information, adapting the proposals to the abilities, knowledge, and needs of each group. This will require the development of specific materials that are both functional and attractive and that can be used later in the workshops that are usually organized to make them more inclusive.

Engaging Youth in Marine Citizen Science: Communicating Research through the OBSEA Underwater Observatory with Technology and Hands-On Experience

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Summary

Engaging the next generation in marine citizen science projects is crucial to fostering environmental awareness and understanding among young people. This article discusses the implementation of community outreach and education programmes, with a focus on school initiatives. The OBSEA underwater observatory (www.obsea.es) is a cabled seafloor platform run by the engineers of the SARTI group from UPC. The cable observatory allows scientists to connect instruments without any restriction of power and communication. This enables them to collect long-term fixed-point observations and permits real time communication with instruments from land. The OBSEA infrastructure was deployed in 2009 at 4 km off Vilanova i la Geltrú harbor at 20 m depth.

The OBSEA has been monitoring local fish communities for over 15 years. Changes in fish populations can show us how human activities and climate change impact the marine ecosystem. Fish species are a good indicator of the health of an ecosystem because they are highly mobile and can move to more favourable areas in short timescales. For example, we have observed that fish species have changed their habits and moved more north and to deeper habitats because of warming waters. UPC Vilanova has a special program for schools and institutes called “Tastet”, allowing students to experience what it's like to be a university student for a day. One of the workshops offered is "Get to know OBSEA, the UPC's underwater observatory in Vilanova." This workshop provides students with an opportunity to explore the world of marine research through hands-on activities.

At the beginning of this initiative, participants used a web-based tool developed by the SARTI Group. This tool used video recordings captured by the OBSEA camera, previously analysed by CSIC scientists. Its main function was to test the participants' ability to identify different fish species. However, the tool encountered several limitations, especially a restricted number of videos analysed and the absence of gamification elements to enhance user participation. Thanks to "IntotheDeep (www.thedeepproject.eu)", an Erasmus Plus project, we had the opportunity to elaborate a comprehensive lesson that not only highlighted the unique characteristics of these ecosystems, but also provided hands-on experience in identifying the rich variety of fish species that inhabit these waters using the BIIGLE PARTY tool. BIIGLE PARTY tool were incorporated into the program to provide a practical and engaging way for students to participate in real scientific research, this hands-on experience was designed to enhance their understanding of marine ecosystems and the importance of biodiversity conservation. Advanced technology has made learning more engaging for a digitally adept generation. Contributing to real scientific research lets students see the impact of their work, fostering accomplishment and community connection. Focusing on local ecosystems helps students develop a sense of connection and responsibility to their immediate environment. The evolution from the initial tool to the BIIGLE tool demonstrates the importance of continuous improvement based on user feedback and technological advancements. These lessons can guide initiatives to engage youth in marine citizen science, nurturing the next generation of environmentally conscious individuals and potential scientists.

Enhancing Marine Functional Connectivity global awareness to advance Science and Sustainable Management of the ocean

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Summary

Marine ecosystems urgently require conservation and management strategies based on sound science to match global sustainable development goals. Through the COST Action SEA-UNICORN "Unifying approaches to Marine Connectivity for Improved Resource Management for the Seas" (2020-2024), we sought an overarching conceptual and methodological framework for integrating research on marine species distribution and movements, centered around the emerging concept of Marine Functional Connectivity (MFC), i.e. the spatial fluxes of matter, genes and energy resulting from the transgenerational and lifetime displacements of all marine organisms. Facilitating communication among peers from different sub-disciplines (e.g. genetics, animal tagging, biophysical modelling, etc.) was necessary to find consensus between concepts with similar terminology yet diverging definitions for connectivity. To bridge this gap, 23 workshops and training schools were organized to connect disciplines and collaboratively address MFC challenges for effective knowledge advancement. These collaborative efforts are currently in various stages of publication in over 10 review papers. SEA-UNICORN also aimed to bring scientists and stakeholders closer together, transferring collective MFC knowledge to a wider audience. Consequently, one of the main challenges for this collaborative project was effective science communication among scientists, stakeholders, end-users, and the wider public. Towards this goal, the Action has heavily invested to enhance science communication around the concept of connectivity and the role of marine life in sustaining the functioning of the global ocean at all scales. Two trans-disciplinary workshops gathering scientists and varied environmental managers, policymakers and marine end-users (including marine professionals, NGOs, associations, funders and private companies) were convened to highlight the importance of incorporating MFC in planning and policy, and collaboratively develop a strategy to co-design the Marine Connectivity Science and decision-taking tools we need 'for the Ocean We Want' To prove public knowledge and awareness of connectivity we developed a promotional video explaining the importance of MFC research, accounting for over 1K views in only two months, and an educational video game (the "Maze of Misfortune") to reach a younger audience and help them to understand the importance of species movements in the ocean. Inspired by the retro classic PacMan, the game aims to help Sammy the Salmon, Tilly the Sea Turtle,

and Nora the Narwhal navigate the maze and reach their breeding grounds overcoming MFC barriers while eating as much food as possible to get a high score and a place on the leaderboard. With more than 500 MFC scientists connected through the COST Action, and a further reach regarding stakeholders and the general public, SEA-UNICORN is a successful example of effective science communication to different target audiences.

A “set” of visual outputs can benefit communicating practical work like Atlantic Mackerel tagging in the North Sea (MAKTAG)

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Summary

To take part in field work you often need to be a scientist, have relevant expertise and access to the team/ project. This means fieldwork can remain undiscovered or inaccessible to others. The variety of areas, species, protocols and methods used across science means fieldwork is an untapped treasure trove of interesting information for your audience to discover. In 2023 we launched a mackerel tagging survey in the North Sea, building on already established international programmes. We communicated our work using a variety of outputs from videos, infographics and short web hosted articles. A “set” of varied visual outputs was created and used as fundamental building blocks which we could adapt and develop to cater to growing interest across audiences. Through this approach we were able to engage international audiences across science, industry and policy.

Solidifying your storytelling leads to more robust and effective science visual communication outputs

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Summary

Effectively communicating our science is becoming a vital skill, as the challenges our ocean is facing often require a multidisciplinary approach from scientists, stakeholders, policy makers and the public. The pursuit of science often results in specialisation in a topic, almost like building a box around ourselves. Successful science communication involves thinking outside this box and breaking down the barriers which may isolate us from those with a different knowledge base. But where do you start? Solidifying your storytelling lays the foundation for more robust and effective science communication outputs. In an environment saturated with information, simply adding a fish or wave icon isn't enough. I will present key steps needed to approach and improve science communication using visual outputs as an example.

First-Person Experiences and Art: The Base of CIM's Marine Outreach

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Summary

The Marine Research Centre (CIM) has developed and refined a series of innovative tools and methods to communicate and engage its audience within the framework of international initiatives, particularly in the context of the United Nations Decade of Ocean Science for Sustainable Development. CIM's experience in organizing its Open House Days and its active participation in the Scientists Meet Artists program of Campus do Mar are fundamental actions in the mission to promote ocean literacy and community engagement in marine issues. CIM's Open House Days are an annual event that gathers more than 600 people, attracting a diverse audience. This event is supported as part of the activities of the Ocean Decade, aimed at raising public awareness about the importance of the oceans and marine research. During these days, CIM staff organize interactive activities, workshops, and presentations designed to educate and excite participants about marine science and conservation initiatives.

Personal experience is a central component of it, aiming to raise awareness about the importance of caring for the oceans through direct knowledge. Activities include practical workshops, exploration of the ecosystem of the estuary using viewers, and scientific boat trips. During these, participants can conduct small-scale experiments typical of an oceanographic campaign and learn about the uniqueness of the Ría de Vigo. These immersive experiences allow attendees to engage directly with the research, fostering a deeper and more personal connection with the marine environment.

The implementation of the Open House Days is based on several key principles. First, interactivity and active participation are prioritized, allowing attendees to engage directly with the research through practical demonstrations and discussions with scientists. Second, a multidisciplinary approach is used, integrating aspects of marine biology, oceanography, ecology, and conservation, providing a holistic view of the oceans. Third, emphasis is placed on accessibility and inclusion, ensuring that activities are engaging and understandable for all ages and knowledge levels.

CIM staff are also actively involved in the Scientists Meet Artists program of Campus do Mar, which seeks to create a dialogue between scientists and artists to communicate ocean-related topics in a creative and accessible manner. This program fosters collaborations resulting in exhibitions, performances, and artworks that interpret and disseminate marine research findings. This synergy between science and art has proven to be a powerful tool for reaching wider and more diverse audiences, making marine science more tangible and emotionally resonant for the public.

These Scientists Meet Artists initiatives also form the basis on which CIM researchers work when giving talks in schools. Utilizing the tools developed in this program, they succeed in capturing students' attention, making scientific concepts more accessible, and stimulating interest in marine science.

The rationale behind these strategies is twofold. First, it is recognized that education and awareness are fundamental to achieving sustainable societal changes. By actively involving the community and making science accessible and relevant, greater commitment to ocean conservation is fostered. Second, collaboration with artists allows for the exploration of new forms of communication that can overcome traditional barriers to scientific outreach.

The Sea Science Festival 'ZEEKERWETEN': a sandbox for innovative public engagement formats under the EU Mission Ocean

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Summary

By 2030, the EU Mission "Restore our Ocean and Waters" aims to protect and restore the health of our ocean and waters through research and innovation, citizen engagement and blue investments. On behalf of this 'Mission Ocean', the project 'BlueMissionBANOS' inspires, engages and supports stakeholders across the Baltic and North Sea (BANOS) to reach the Mission Ocean's objectives. The project facilitates the uptake of sustainable, carbon-neutral, and circular blue economy by connecting national regional and transnational actors from politics, industry, and science.

One of the project's focusses is to foster citizen engagement across the BANOS area. As a work package leader and given its experience in ocean literacy and public engagement, the Flanders Marine Institute (VLIZ) organised a first BlueMissionBanos workshop on new and innovative formats to raise awareness for and involve citizens in achieving carbon neutrality and circularity, and in promoting the EU Mission Ocean.

The workshop with 35 participants, representing various stakeholder groups – including research institutes, NGOs and blue industry (offshore wind, aquaculture, tourism) – took place on October 26, 2023. It resulted in an extensive overview of outreach concepts and formats to engage the public and broaden the support base for a sustainable, carbon-neutral, and circular blue economy, preventing marine ocean pollution and preserving marine biodiversity.

To bring a selection of these formats into practice, VLIZ organised a vibrant (citizen) science festival at sea (called 'ZEEKERWETEN') on 15 and 16 June 2024. The aim of the festival was to bring the public at large in touch with marine science via a plethora of activities and outreach concepts: from a comedy night and food workshops, to theatre plays, live dive demos and immersive digital experiences.

One of the highlights of the festival was the launch of the immersive and interactive experience 'Uncertain Tides'. With this experience, visitors get to learn more about the effects of climate change and biodiversity loss. The link between climate change and the plankton community in the North Sea is put in the spotlight. This installation was tailor made for display in a former Second World War bunker at the Marine Station Ostend. It was co-created by VLIZ and studio.POC. The latter is a digital arts collective that initiates, stimulates and produces digital art projects on the intersection between science, art and technology.

To get a better view of the impact of a science festival such as ZEEKERWETEN, the general public's perception and attitude towards the sea was assessed before and after the festival.

In this talk, we will share our experiences in organizing a large-scale science festival at sea and the impact of such an event on the behavior of the attendants. Moreover, the process of setting up an immersive and interactive experience at the interface of science and art will be explained, from brainstorm to press release.

Future Sea: Connecting Schools for Ocean Awareness

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Summary

In Croatia as a maritime country, in recent years, significant efforts have been made to raise awareness about the importance of the ocean for life on Earth, the advantages we have as a maritime country, and the possibilities that the ocean provides. However, more efforts are needed to ensure understanding of the ocean's importance for human well-being and sustainable development, especially from early childhood. Previous experiences in popularizing ocean topics among schoolchildren have shown that children in larger coastal areas have more activities related to the ocean compared to children in rural areas. Therefore, through the "Future Sea" project (www.futuresea.eu), we aimed to connect schools in different parts of Croatia with one goal: educating children about the importance of the ocean.

The main objective of the project is to sensitize children to environmental issues and sustainable development, while encouraging their creative expression on ocean-related topics. As part of the project, we organized workshops in 25 primary schools across Croatia, primarily in rural areas. A total of 45 workshops were conducted, involving approximately 1,000 students and around 70 teachers. The workshops covered various aspects of ocean literacy, such as the ocean's role in oxygen production, temperature regulation, food supply, aquaculture, and more. They also addressed ocean changes, including climate change, pollution, and decreasing biodiversity, and discussed actions we can take to reduce our negative impact.

Following the workshops, students were encouraged to creatively express themselves, resulting in over 140 student works that were exhibited during the main event of the European Researchers' Night in Split in 2023.

Additionally, a publication titled "Ocean in Our Hands: A Guide to Ocean Literacy" was released as part of the project. This publication aims to provide teachers with essential knowledge and ideas for teaching ocean-related topics. It was distributed to all schools that hosted the workshops, as well as to other interested teachers, educators, and individuals. The "Future Sea" project has become recognized both locally and nationally in Croatia. In the future, we will continue to build a platform known for spreading knowledge about the ocean among students and their teachers.

Data visualization from/to communities engaged against plastics pollution: A BeMed perspective

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Summary

The Beyond Plastic Med (BeMed) initiative was created in 2015 with the aim of reducing plastics pollution in the Mediterranean, with the impulse of Prince Albert II of Monaco Foundation, the Tara Ocean Foundation, Surfrider Foundation Europe, the Mava Foundation and the IUCN. BeMed gives high relevance to bottom-up actions implemented at community level, around the shores of the Mediterranean Sea, engaging actors from research institutes to NGOs and SMEs. With such a diverse group united under the same vision, one of the emerging challenges is to keep communication flowing and effective. While the kind of outreach usually requested from donors relates to a target external to the community, involving e.g. broad (social media) audience and/or technical reports made simple, the need emerging from within the initiative was rather how to return data gathered from the projects, back to their communities of origin. Returning own data would then maximise their impact, empowering communities and strengthening the messages they want to send, within and outside the community. The reconnection of data to local reality would also reinforce local people awareness about the relevance of their actions, finally enhancing engagement. The project "Training of Mediterranean trainers to bridge science and grassroots movements against plastic pollution" stemmed from this background and was further based on two main observations: 1) the power held by data proceeding from local communities, and 2) the potential of evidence-based communication in bringing transformative changes. To channel the potential of data and the fit to their context, the initiative involved BeMed project awardees of years 2017-2022, who were asked to code data from their initiatives into an interoperable format as preparation for an in-person workshop with a data visualization professional. Two webinars were also held in preparation for the workshop, to discuss constraints, needs and share insights from the different communities. At the workshop, participants worked around the canvas for storytelling and tools for visualization, experimenting ways for returning to their communities both achievements and next challenges. Hand-drawing was selected as best approach to such exploration, along with multiple sessions of dialogue and exchanges among participants. Out of the experience, important lessons were learned: while the data coding is still a bottleneck for many of these projects, also related to the cost in terms of time and expertise that it requires, data visualization was found an excellent tool unleashing great potential after basic training. Finally, data visualization allows to communicate effectively with communities of barely literate people, such as e.g. fishermen in Lebanon and rural women in

Morocco. Data visualization also overcomes language barriers, as in the case of tourists visiting seaside localities – an insight brought by the Ho.Re.Ca. sector, target of BeMed initiatives in Montenegro. These considerations point at the relevance of visual communication as an effective tool to return data to the communities that have produced them, empowering them in the process.

Citizens of Surf: Engaging recreational ocean users in marine biodiversity citizen science monitoring through eDNA sampling

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Summary

Citizens of Surf is a long term strategy for surfers to engage in Ocean science and conservation. Formerly a Decade of Ocean Science Activity, in March 2023, the project is now endorsed under the Early Career Ocean Professionals Programme as a Project. Citizens of Surf aims to equip surfers with the knowledge, understanding, support and tools to become active and engaged citizen scientists by 2030, and therefore contribute to the UN Decade of Ocean Science. Its main objective is Challenge 10: Change humanity's relationship with the Ocean.

The first ever Citizens of Surf eDNA sampling workshop took place on the 15 September 2023 in Devon, UK, in the newly appointed North Devon World Surf Reserve (Croyde Beach), with 6 local participants. It involved collecting a water sample from the surf break (whilst surfing!) and then sending the eDNA filter back to the Nature Metrics lab for analysis. This talk will explain why eDNA sampling is a promising tool for engaging recreational ocean users in marine biodiversity citizen science monitoring and will reflect on the social and environmental data collected since September 2023 until October 2024 (When there is another workshop planned).

This year, Citizens of Surf plans to scale up its eDNA sampling to establish the protocol for collecting baseline datasets, there will also be results reflecting on the marine citizenship of participants and quantitative and qualitative data to show whether their engagement in marine citizen science has increased their ocean literacy and marine citizenship.

Finally, the talk will also explain the methods used to: a) recruit participants, b) communicate findings, c) attempt to attract a diverse group to participant and thus actively promote inclusive and accessible community engagement practices.

Citizen of the Ocean Youth-led Forum

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Summary

Today, young people are engaging with climate, biodiversity, marine science and policy in a way that previous generations have not. Without action, their futures will be dominated by heatwaves, storms, floods and other consequences of the global warming, the greatest global environmental challenge facing mankind. As world leaders and other stakeholders assemble annually for the Conferences of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) and ocean conferences under the United Nations Decade of Ocean Science for Sustainable Development, the science-led youth movements, and an emerging generation of young ocean / climate /environment scientists and advocates would like to participate in the international negotiations and in the decisions to be taken for the future they will live in.

In order to strengthen young people's support for the United Nations Sustainable Development Goals, the United Nations Decade of Ocean Science for Sustainable Development, the EU Mission Ocean, and improve their ocean literacy, Nausicaá and partner organisations (Youth Environment Europe, Seascape Belgium, European Marine Science Educators Association, Intergovernmental Oceanographic Commission of UNESCO) initiated the Youth Forum for the Ocean (Youth4Ocean Forum) on behalf of the European Commission in 2019.

This presentation will showcase good practice and lessons learnt from how we managed to integrate young voices in high level events such as the European Maritime Day conferences, COPs of the UNFCCC and the UN Ocean Conference in Lisbon.

Communication strategies for the European project SEAFOODTURE: Integral valorisation of seaweed biomass for the development of sustainable, high nutritional quality food products

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Summary

SEAFOODTURE is an ambitious project which aims to contribute towards an integral valorisation of seaweeds for the production of sustainable, high nutritional quality food products. The project combines research activities dealing with: sustainable cultivation of seaweeds; development of protein-rich ingredients and seaweed-based food products through green technologies; production of bio-based packaging materials; structural and techno-functional characterization; assessment of nutritional quality and digestibility; sensorial and consumer studies to bring the products closer to the final markets; and life cycle assessment (LCA) and socio-economic analysis, to ensure the environmental social and economic sustainability.

In this presentation we will discuss the specific actions undertaken in this project to ensure efficient communication towards different target groups: (i) Academics and Researchers; (ii) Policy-making and administrative stakeholders; (iii) Industrial stakeholders and (iv) General public. Different tools such as specialized communication channels (e.g. scientific journals, presentations/posters in conferences/ workshops) and more general channels, such as the project website, social media (LinkedIn, Twitter, YouTube), promotional brochures, videos and press releases, will be used. The promotion and dissemination of the project activities will also take place through the participation in related events concerning food science and technology, blue economy and marine sciences.

MUNIMAP: A Multi-Stakeholder Approach to Addressing Underwater Munitions in the Baltic Sea

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Summary

The Baltic Sea is a critical marine environment, not only for the nations that border it but also for the estimated 100 million people reliant on its resources. This region faces a significant environmental and safety threat due to submerged munitions from historical conflicts. The remnants of these munitions pose risks to marine biodiversity, the safety of offshore activities and maritime transport, the economic viability of seafood industries, and the overall health of the Baltic marine ecosystem.

MUNIMAP, which stands for the Baltic Sea Munition Remediation Roadmap, is a pioneering initiative designed to address these challenges. The project's primary goal is to develop a modular roadmap that can be tailored to the specific conditions and needs of individual countries in the region. This roadmap includes comprehensive strategies for policy development, site selection, ongoing monitoring, and the implementation of various remediation methods.

The MUNIMAP project harnesses the expertise of an international consortium of 42 organizations from 9 countries around the Baltic Sea. This diverse group includes scientists, public administration representatives, and practitioners who have long been engaged with the issue of underwater munitions. Key stakeholders in the project encompass a wide range of entities, including environmental management agencies, scientific and research institutions, offshore and maritime transportation businesses, public safety organizations, NGOs focused on environmental protection and human rights, tourism industry representatives, underwater heritage protection groups, and local communities such as coastal residents and fishermen.

Working with such a varied assembly of participants presents challenges but also offers a unique opportunity to forge comprehensive solutions. These solutions not only aim to mitigate the immediate threats posed by underwater munitions but also promote sustainable development and collaborative governance in the Baltic Sea region.

The MUNIMAP project is funded by the EU cooperation Interreg Baltic Sea Region 2021-2027 Programme.

Voices from the Sea: Women's Adventures in the Arctic and Antarctic Expeditions

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Summary

This poster presents the experiences of three women participating in various oceanographic expeditions, including those to polar regions. We have taken part in several expeditions, including three missions to Spitsbergen and one to the Central Arctic as part of the MOSAiC project summer school. Additionally, we participated in a multi-month journey to the Arctowski Research Station in Antarctica. Working at sea is demanding for everyone, regardless of gender, but it can be particularly challenging for women due to the physically intensive nature of the work. In this poster, we aim to share our experiences during these expeditions, highlighting both the positive aspects and the challenges we faced.

¿DIÁLOGO DE BESUGOS? [drunk talk?] The DOs and DON'Ts for promoting understanding between scientists and journalists

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Summary

Generating misunderstandings is one of the main fears that marine scientists face when communicating their research to journalists. Marine scientists most commonly communicate among peers; using technical language to precisely define complex research topics. They commonly present their research following the "introduction- problem- results & discussion" workflow which is the most common structure to present the results in scientific fora. This sort of storyline, however, does not match the needs of journalists, which struggle to find attractive headlines among tons of background and technical information. We present here the results of a recent workshop aimed at training marine scientist in effectively communicating with journalists, where scientists and journalists discussed the DOs and DONT's to effectively communicate research findings to journalists.

Marine scientists are urged to plan their communications putting themselves in the shoes of the target public: Why is this research useful and important for the general public? Any communication to journalists should start by addressing this question, stating first the most relevant results and their implications and finishing with details about the methods or funding, which are not essential to understand the main message. All messages need to be concise and adjusted to time or space provided, as synthesising overwhelming amounts of information is not part of the journalists work. Neither it is to translate complex ideas nor concepts; technical terms should be avoided, as the final message needs to be understood by a wide audience. If possible, more than one headline should be clearly provided, to facilitate the journalists work and prevent non-expert journalists having to dive in complex information to identify them, potentially misinterpreting th e message. Providing data (numbers) and success stories while communicating to journalists promotes the credibility of the message. Similarly, the emotional involvement of the scientists is key; communicating from a personal perspective and appraising the research, elevates the scientist to the one expert to ask, and working as a bait to maintain the attention of the journalist and the general public. Investing time in preparing marine scientists' communications to journalists and making sure to check all the above rules of thumb is crucial to effectively communicate research messages and avoid any potential misunderstanding.

Finding allies to disseminate scientific knowledge on the biology, ecology and fisheries of marine resources: fishmongers and consumers of marine fish

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Summary

Marine fish are an important source of food for human populations. However, the animals behind the fisheries products are largely unknown to many of us. In this science outreach campaign (#12months12fish), we specifically target fish consumers to disseminate scientific information on the biology, ecology and fisheries of marine resources, aiming to catch their attention during the few minutes that they wait their turn at the fish market. To do so, we designed twelve posters, each featuring one of the main species consumed by the population of the region of Cantabria. Each poster/species is introduced in a given month of the year, coinciding with the period when consumers can find this specific resource in the fishmonger's; for example mackerel (February) and albacore (July) are featured in the month that these species inhabit the Cantabrian Sea during their annual migrations.

The design of the posters is collaborative, lead by one different research leader each month and following a similar design. Each poster starts featuring the one aspect of the species that we find most interesting, such as the high cannibalism of hake or the recovery of anchovy in the Bay of Biscay after the fisheries collapse in the 2000s. We also include relevant information about the distribution of the species and the equivalences between size and age during critical moments of the life cycle, as the minimum catch size, the first maturity and the maximum size/age the species can reach in our waters. In addition, a summary of its diet is provided, how age is estimated for that particular species is explained, and a brief description of the main fisheries targeting the species is included. Each poster finish featuring one of the scientists at the Oceanographic Centre of Santander (COST-IEO, CSIC), who explains first-hand why the work of our institution is essential for preserving that particular species.

The collaboration of the fishmongers is essential for the success of this #12months12fish campaign; we currently have a network of nearly 100 small fish markets and 100 more supermarkets with a fish section in the region of Cantabria, which monthly receive the posters at no cost and display them on their walls. We expect that the spread of this scientific knowledge will outlive this science outreach campaign, as these professional will continue to transmit the information of the posters among their clients. In addition, this network opens the door to future initiatives aimed to use both fishmongers and fish consumers as vectors for transmitting marine scientific information to the general public.

BLUEMISSIONMED Project Communication at CommOCEAN 2024 Congress: Tools, Methods, and Experiences to Engage Your Target Audience in International Initiatives – EU Ocean Mission

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Summary

Within the framework of the Horizon Europe Regulation, the Missions have been developed as a new way to provide concrete solutions to some of our biggest and ambitious challenges for 2030 and to implement R+D+I with a social and economic impact in areas of interest to the EU and its citizens. Five main thematic areas were agreed to contribute to the objectives of the European Green Deal, the Sustainable Development Goals and the European Beating Cancer Plan. These areas are: Cancer; Adaptation to Climate Change; Smart and climate-neutral cities; Soil and food health and, finally, the one that concerns us; Water and oceans.

The Water and Oceans Mission has as its strategic objective to protect and restore the health of our oceans and waters through research and innovation, citizen participation and blue investments. It seeks to accelerate the recovery of our aquatic ecosystem by addressing aspects such as pollution, unsustainable uses related to fishing, transport or tourism, the effect of water degradation on climate change and the necessary improvement of governance.

The Mediterranean basin, through the BlueMissionMed project, has focused on the objective of "Prevention and elimination of pollution of seas and waters" and has three specific objectives or goals. Reducing marine litter by at least 50%, reducing microplastics by at least 30%, and reducing nutrient losses, use, and risk of chemical pesticides by at least 50%.

In this way, BlueMissionMed and using a double parallelism like Lighthouses seeks to be a facilitator. Using the Lighthouses' own form, the lines of action or work have been structured and, on the other hand, the Lighthouses network serves as a support on which to create cooperation, synergies, mobilization of actors or stakeholders and establish the ultimate initiatives for the mission.

The target audience of these initiatives are stakeholders encompassed in 10 sectors linked to the ocean and water (fisheries and aquaculture, maritime transport, tourism, textile sector, producers and operators of the plastic industry, waste management, research and innovation, ports, public authorities and civil society) on the other hand, the selected solutions are disseminated to narrow the gap between the innovation fabric, investment and policymakers and governance.

The objectives of these initiatives are several, from publicizing the Mission and its objectives, to connecting the different parts or sectors and interconnecting them to implement and apply the selected solutions, and at the same time serve as a basis to be replicated at the Mediterranean basin scale but also in other basins or enclaves with similar problems.

Each phase of the project has a target audience and achieved/expected results. The phases will be presented at CommOCEAN by analyzing the selected methodology, results obtained and lessons learned, as well as subsequent strategies for subsequent phases, to respond to CommOCEAN's issues.

Listening to communicate: communication campaigns to open a dialogue

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Summary

With this talk we address the latest communication campaigns of the Institute of Marine Sciences (ICM-CSIC) and highlight the importance of active listening for effective communication. The first campaign, "What do you think about when you think about the sea", focused on capturing the perceptions and concerns of citizens regarding the sea. Based on this initiative, the ICM institutional video was developed and very valuable data was obtained on the main concerns of the public, allowing the ICM to adjust its messages to address these issues more effectively. The second campaign, “The research that makes us dream”, presented this year, focuses on the scientific community.Its aim is to reflect on the role of research to address challenges and build a more desirable future, showing how scientific research contributes to making it a reality and has a positive impact on society. Both campaigns put on the table the ICM’s commitment to active listening and effective communication, promoting a deeper and more positive understanding of scientific research and its benefits for society.

Oceanographers on the Island – 3 years of education, networking and growth in Ocean literacy in Croatia

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Summary

Closely connected through work on the SHExtreme and StVar-Adri projects six young oceanographers, all working at scientific institutions in Split (Croatia), founded a group for ocean education in summer 2021. Having background of growing up on islands or working in small island schools and over 30 years of experience in organizing and participating in popular science and educational activities, e.g. Science Festival, Science Factory, FantaSTikon, but mostly in the big cities on the mainland, the main direction of the group was immediately agreed upon. The inhabitants of islands in the Adriatic Sea (hours away from the big cities, with a low number of daily connections, and a small, predominantly older, population), especially children, were the perfect target group for the "science for all".

Three main blocks of activities (science and art workshops for children, ocean-themed board games, public lectures and discussions in cafés) were welcomed by the islanders. Through experiments, meteorological and oceanographic in-situ measurements and discussions about the phenomena, the children deepened their knowledge about thermohaline properties and processes, sea currents and waves and the atmosphere-sea interaction. The selected (board) games, played after the workshops, were a great incentive for the children to attend the entire program. Through the topics of sea-ecology and strategy, they were able to refresh their knowledge about the marine ecosystem while having fun and feeling that they have an important impact on the present and future of their sea-oriented community and the planet. Children also created posters and picture plates with "promises to the sea" - the messages they found empowering (furthermore, these were spotlighted in their wider community). The public talks were various and carefully chosen to the locals' interest. The first two (in Vela Luka on Korčula and in Vrboska on Hvar) dealt with the topic of "schigas" – a local phenomenon of sudden, sometimes devastating, sea level oscillations (e.g., the great flood of Vela Luka in 1978 brought unprecedented destruction to the village). Ugljan on Ugljan followed with the topic of climate change – of especial interest given the numerous natural disasters in the summer of 2021. With excellent coverage by both local and national media, social networking and praises by locals and visitors of all ages, the group has continued its work under the motto "The sea speaks to us, let's listen to it". The Oceanographers have carried out over 30 activities so far and are constantly growing in terms of their reach (from the islands to the Croatian mainland and beyond), type of activities (from "the founding three" to public discussions, shows and student research trip), group size (currently 11 scientists from all marine sciences plus students, and growing), topics (from physical oceanography through meteorology to chemistry, biology and geology) and public (from schools and cafés to pre-schools, science festivals in Croatia and Brussels and fantasy congresses). Whether repeating their work with the same schools or coming to new locations, the schedule for future activities of Oceanographers on the Island is always rich, the list of ideas long and fresh.

Scientists meet Artists - Art and Science promotion of Ocean Literacy at Campus do Mar

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Summary

Scientists meet Artists is an initiative promoted and led by the University of Vigo through the Campus do Mar. It was created as a place of encounter and dialogue between two very different disciplines: Science and Art. This initiative, whose first edition took place in 2021, aims to establish a collaboration between researchers from the Campus do Mar network and the Marine Research Centre of the University of Vigo, and artists who develop their work in Spain and Portugal. This way, we explore new channels of public engagement by appealing directly to their emotions, and with the aim of making a significant learning experience to all the parties involved. This initiative contributes to the UN Decade of Ocean Science for Sustainable Development, and more specifically to challenges 9 – Skills, knowledge and technology for all, and 9 – Change humanity's relationship with the ocean, as well as the to the activities of the EU4Ocean Platform, to which the Campus do Mar belongs.

The first editions of Scientists meet Artists used illustrations as a vehicle to convey complex scientific knowledge to students and society at large, with the goal of promoting Ocean Literacy. The good reception from the target audience of this initiative led to new proposals and new vehicles of artistic co-creation to engage more diverse audiences. Among these, in 2023 Scientists meet Artists in collaboration with the Port Authority of Vigo focused on urban art and coordinated the creation of a 516 square meter mural with a theme on Ocean Observation and its importance for marine and maritime sectors. Sculptures are the main form of artistic expression we focused on during 2024, with the collaboration of the Spanish Foundation for Science and Technology and the Ministry of Science, Innovation and Universities. The choice of sculptures widens the target audience and increases its diversity, as it enables people with visual challenges to engage with the piece of art and, through complementary audio guides, increase their Ocean Literacy.

All these initiatives were accompanied by the creation of educational resources for the general public and, in particular, for the primary and secondary school teaching communities, which are freely available through the Campus do Mar website.

Scientists meet Artists proved to be a challenging but rewarding initiative for Scientists, that were taken out of their comfort zone, as well as artists, who need to be inspired by Science and convey that inspiration to society in a rigorous but emotional way. Most importantly, it has been a welcome and valued proposal for students and society at large, whose curiosity has been picked, their artistic sensibility aroused, and their knowledge about the Oceans increased.

Citizen science and marine species observations: can we do it another way?

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Summary

Knowledge of marine biodiversity is vital for developing appropriate conservation policies. In the current Information Age, data shared by citizens in social networks are a cost-effective alternative to complement on-going marine biodiversity monitoring programs, as well as to understand human interactions with the natural environment from a current perspective. This information can be obtained in a transparent way to the citizen (passive citizen science approach) after sharing relevant content such as: rare catches of recreational fishermen, sightings of invasive species, stranding of cetaceans, sea turtle entanglements, episodes of massive arrival of jellyfish or interactions between organisms, among others. This contribution shows an analysis of the content posted on the X social network (previously known as Twitter) focusing on those tweets that apparently reported a biodiversity observation along the Spanish coast. To avoid an initial bias, generic messages asking "who knows" or if "anyone knows" what they have found were captured, as well as messages stating that they had found something interesting. After retrieving ~11K tweets with potential information, 597 tweets were finally identified after human validation. Most of the observations (21%) corresponded to gelatinous animals, with observations of fish (11%) and marine mammals (11%) also being frequent. 57% of these tweets were adequately located over the coast, drawing the first coastal biodiversity map in Spain based on this methodology. The results show this technique as a low-cost tool complementary to existing monitoring programs, which allows studying the occurrence as well as the temporal variability of non-indigenous and sensitive species, as well as to alert in case of massive coastal arrivals of jellyfish, or stranding of cetaceans or sea turtles, among others. We will discuss how we can increase the number of observations from social networks, what the cost is versus traditional citizen science programs, and what the drawbacks are.

Enhancing Data Collection in Recreational Fisheries through Online Questionnaires and Social Networks

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Summary

Effective management of recreational fisheries necessitates robust data collection mechanisms that capture accurate and comprehensive information. This study explores the integration of online questionnaires and social media platforms to engage recreational fishers in data collection. Online questionnaires offer a flexible and efficient method to gather diverse data from a broad geographic range, while social networks provide an interactive medium to promote participation and foster a community-driven approach to data sharing. Our research demonstrates that these digital tools can significantly enhance the volume and quality of data collected. By utilizing targeted online surveys and leveraging the reach of popular social media platforms, we engaged a diverse group of recreational fishers, resulting in increased response rates and more detailed catch and effort data. Furthermore, social media facilitated real-time feedback and discussions, enriching the data with anecdotal insights and fostering a collaborative environment. The findings suggest that integrating these digital approaches can overcome traditional barriers in fisheries data collection, such as limited accessibility and participant engagement. This dual strategy not only streamlines data collection but also empowers the recreational fishing community, fostering a sense of stewardship and active involvement in marine resource management. The implications for policy and practice include more informed decision-making processes and enhanced conservation efforts. Our study underscores the potential of digital engagement in transforming recreational fisheries data collection, providing a model that can be adapted for various marine science communication initiatives globally.

A toolbox to foster general public and stakeholders' engagement in MSP

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Summary

In the last few years, human activities at sea have constantly developed: maritime transport, marine renewable energies, professional fisheries, recreational fisheries, aquaculture, extraction, tourism, etc. In a context where space is increasingly shared between different users, marine spatial planning (MSP) has become a real challenge for society and a knowledge issue.

The Maritime Chair is a research project with the following objectives:

- to explore the ways in which maritime space is appropriated, occupied and exploited.
- to support dialogue around maritime projects through a range of participation tools.

We are currently building a participation toolbox that will allow us to share our knowledge with diverse audiences. For now, two tools have been developed and released publicly and one is still in the pipeline.

The first tool that has been created is the Marine Spatial Planning Fresk. Understanding the complexity of maritime issues in a collaborative, participative and stimulating way. Through this workshop, we aim to foster dialogue, stimulate reflection and encourage collaboration between participants. We also seek to understand how participants perceive and position themselves in relation to maritime planning. This 4h00 serious game has two versions, and can be played from 3 to 6 players. The first version for maritime stakeholders is called the technique version, and the second one for the general public, is called the simplified version. This second version has been used on a large scale during the last public debate (November 2023 – April 2024) organized by the national commission for public debate, on marine planning, protection of marine biodiversity and the development of offshore wind.

The second tool: "The sea in disarray", is mainly for the general public and is currently being adapted for a more professional one. It is a role-playing game of more or less 20 minutes and ideally played by 6 players, although it can be less. Players are randomly assigned a role, from industrial fisher to a biodiversity protection NGO, and have to defend and set up new zones on a fictive map.

The last tool is still in the making and will be finished in October since we will use it for the national science festival in our region. This educational game is based on an escape box. Unlike common escape-rooms, an escape box is a portable game that can be played in a variety of contexts and places. This serious game of approximately 1h30 has been designed for high school students, but will be expanded for professional maritime stakeholders in the future. Throughout the game, participants will have access to a variety of teaching aids to help them learn more about the effects of climate change on the management of our oceans and shores. They will also learn more global information about coastal erosion, fisheries, offshore wind, and marine protected areas.

From the idea, to the development, testing, and release, we have been working in teams to create these new tools about MSP with the aim of making complex knowledge and processes more accessible.

The role of citizen engagement in effective co-creation of local ocean knowledge with focus on intangible cultural heritage.

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With more people crowding into coastal areas, the greater the pressure on both land and sea. Natural landscapes and habitats are altered, overwhelmed and destroyed to accommodate growing populations and simply ecosystems are damaged, frequently lost forever. However, social and cultural values - in contrast to environmental and economic ones - are relatively poorly recognized. Their incorporation into planning processes on the sea, and to less extent on the land, is limited. This is especially true in relation to intangible cultural heritage, which is understood as values (and emotions) that people place on the sea and the coast.

In our studies we addressed this gap by testing a specific MSP support framework that incorporates cultural values into planning processes, using the Gulf of Gdansk area as an example. The core of this framework was to use knowledge and attachment to space of the local communities to identify places of high cultural (and emotional values). Based on this study focused on the coastal communities, we are now developing (and testing) the wider framework that could use the wider engagement of citizens and tourists alike, and include more emotions into planning the marine space.

In order to identify cultural values people put on the sea and coast, we have performed a series of workshops and individual interviews, some of them accompanied with the sightseeing walks to first-hand experience places listed by our respondents.

Based on these activities we were able to identify the variety of places and coastal objects that are important for local communities as well as the reasons why these places are important and should be protected. While working with maps turned to be rather challenging as many respondents were not able to mark the places they were talking on the maps, the description in the majority of cases were detailed enough that they allowed for spatial annotation. In a result we have obtained a serious of maps that illustrate culturally significant areas. Additionally, we identified the series of cultural practices and events that perhaps are not directly relevant to a given costal and marine space, but demonstrate direct links with the sea and the coast, including seasonal changes. These practices, still valid for the local communities, cannot be protected under spatial law, but different tools should be used to enhance they continue.

These results were then discussed with managerial and planning agencies, representatives of municipalities, and the tourism sector to investigate to assess their usefulness in the actual managerial activities.

Both the tools and the results were promising both in terms of receiving information about what was being valued and how to protect it within the current managerial (and planning frameworks). In order to increase the inclusiveness of the study, based on our experiences, we prepared a simplified quantitative survey that is now being tested with the involvement of senior citizens around the Gulf of Gdansk. If that proves to be successful, we plan to extend the study towards the general population of the region as well as tourists.

Citizen look towards marine conservation

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Summary

The sea is of fundamental importance in Spain for many historical, economic, cultural and ecological reasons. Since ancient times, the sea has been a source of wealth and has shaped the identity and development of its inhabitants. The Spanish economy is intrinsically linked to the sea: fishing and aquaculture, navigation and tourism are economic engines of coastal areas. However, there is a great lack of knowledge on the part of citizens about the mechanisms of environmental regulation and how these actually affect their lives.

Protecting and sustainably managing marine resources is crucial to ensure the well-being and future of people. The conservation of the marine environment is structured through major mandatory European directives, mainly the Marine Strategies Framework Directive and the Habitats Directive. These strategies aim to protect and preserve the marine environment, prevent its deterioration and recover marine ecosystems in areas that have been negatively affected, ensuring that activities and uses in the marine environment are compatible with the preservation of its biodiversity. The scientific implementation of these directives in Spain falls on the Spanish Institute of Oceanography (IEO-CSIC), which to carry them out, needs to collect a large amount of geo-referenced and taxonomically validated information on the biodiversity of different habitats of interest such as, among others, the intertidal, macroalgae forests, underwater caves, coral communities, etc. For this purpose, in addition to using national scientific monitoring programs, the 'Observadores del Mar' citizen science platform provides valuable data to complement this scientific information.

The creation of new specific projects in the Observers of the Sea platform related to Marine Strategies (to actively integrate volunteers) and the implementation of different outreach and awareness activities such as talks to people related to the nautical sector and guided dives with diving clubs, allow bringing environmental policies closer to citizens.

Ocean Tracking Network x Big Spruce Brewing: A Marine Conservation Colla'beer'ation

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Summary

The Ocean Tracking Network (OTN) is a global aquatic research, data management and partnership platform headquartered at Dalhousie University in Halifax, Nova Scotia, Canada. OTN's mission is to inform the stewardship and sustainable management of aquatic animals by providing knowledge on their movements, habitats, and survival in the face of changing global environments.

In 2017, OTN partnered with a local Nova Scotian brewery by the name of Big Spruce Brewing to produce a conservation financing beer, where 50 cents from every can sold would support marine-related organizations in Canada.

What started as a musing blossomed into a partnership that unites ocean enthusiasts and beer aficionados alike — and for several years, has raised money for research, education, and conservation initiatives in the country. Funds have been allocated to a wide variety of organizations and causes — from North Atlantic right whale conservation, to salmon habitat restoration, to bringing fishermen and scientists together, and beyond!

Through outreach opportunities — including movie screenings, panels, and taproom talks — the partnership has engaged Maritimers in conversations about ocean conservation and local marine fauna. The partnership has also since garnered local media attention, and has even galvanized additional outreach opportunities with funding recipients — including a series of webinars during the CV-19 pandemic.

To date, the colla'beer'ation has raised more than $130,000 (and counting!). At its core, this collaboration bridges the realm of science and business and lends itself to engagement and conservation beyond traditional communication methods.

"Jeanne", a workshop e-bike bringing marine forests to schools in a landlocked country

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Summary

Most people are unaware of the vital role marine forests (e.g., seagrass meadows and seaweed banks) play in the world and their lives, especially people living in landlocked countries, like Austria. Moreover, many have never considered that they can be part of the solutions to preserve these ecosystems. To shine light on these issues, we developed "Jeanne", the marine restoration e-bike. "Jeanne" is an interactive workshop on wheels, directed at school classes in the ages of 10-14 years old, and is intended to be used in outdoor locations such as parks. Once in the park the e-bike transforms into a small "kamishibai" theatre and two stop-motion video stages. The 2-hour workshop is separated in three parts. First, an expert uses the theatre to tell the story of marine forests, from their origin until their relationship with humanity over the centuries, ending with an overview of their current conservation state and what we can all do to improve it. The second part is a self-guided sensory experience in the park, using cell phones and tablets, where the children establish a connection between their own surroundings and marine forests. Some of the workshop attendees have never been to the sea, so by using the park and its ecological processes as parallels, they can better understand marine forests. Through the use of sound, interactive quizzes, videos, and images, they learn about how marine forests function, their importance in everyone's lives, and the work our project, RESTORESEAS, does in places like Brazil. In the third and final session, participants create a 3-D stop-motion video, telling their own stories about the marine world, combining their imagination with all they learned during the workshop. This is typically the highlight of the workshop, and the stories range from 'everyone dies at the end' to 'sharks save the day.' The goal of "Jeanne" is to, not only showcase the research on marine forest conservation and restoration done by RESTORESEAS, but also to convey a sense of responsibility towards marine ecosystems, and to increase the participant's feeling of connectedness with the marine environment. After the workshop, the children are given a questionnaire to assess their previous knowledge on the subject, their overall feeling towards the workshop and whether they are likely to share what they learned with family and friends. According to the queries done to date, over 60% of the students were keen on sharing their experience with family and friends.

Communication strategies and coordination Efforts in the BioMARató citizen science event

Marina Torres Gibert[1]

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Summary

This presentation explores the communication strategies and campaign execution of the BioMARató, a citizen science event coordinated by the Institut de Ciències del Mar of Barcelona. The event aims to engage the public in recording biodiversity observations along the Catalan coastline using the MINKA citizen science platform. We will discuss the coordination efforts with mobilizing entities that organize sea outings, facilitating extensive and inclusive participation. Additionally, we will showcase how the results are published and utilized to demonstrate the practical applications of citizen science in informing public administration actions.

The presentation will also highlight our approach to mobilizing public participation through various communication channels associated with both BioMARató and MINKA. We will review the different actions taken, evaluating their effectiveness, identifying what worked well and what did not, and suggesting potential areas for improvement.

Furthermore, we will demonstrate how the BioMARató serves as a replicable model for similar citizen science initiatives in other countries. By leveraging these insights, we aim to amplify outreach, foster community involvement, and ultimately contribute to the greater understanding and preservation of coastal biodiversity in Catalonia and beyond.

Expanding the European Blue School Network: Communication Strategies and Tools for Promoting Water Literacy and Citizen Science

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Summary

Do you know what a Blue School is? Most of our target audience, the schools, do not either. Addressing this lack of awareness was one of the major challenges we had to overcome in the communication strategy of our ProBleu project. ProBleu, a project funded by the European Commission, aims to expand the Network of European Blue Schools (NEBS) and promote citizen science to mobilize and engage children, youth, teachers, and school communities across the European Union and associated countries.

A Blue School integrates water themes into its curriculum, using project-based learning to involve students in marine, maritime, and freshwater topics. This approach fosters awareness and a sense of stewardship for the ocean. At the start of our project, only 130 schools in Europe were accredited as Blue Schools. Our goal was to increase this number tenfold!

Our communication strategies to reach as many schools as possible in Europe were multifaceted and included several experiments:

- Mobilizing politicians and administrative bodies to communicate in a cascading manner. Engaging project partners.
- Facilitating cross-promotion with other European projects with similar missions. Directly contacting teachers through partners' databases.
- Directly contacting teachers via cold email campaigns. Providing incentives to existing schools in the network.
- Mobilizing NGOs and environmental education companies that could indirectly benefit from the school projects.

Fortunately, ProBleu offers several tools to teachers in primary and secondary schools, promotes open schooling methodologies, and fosters interactions with scientists and experts in the field. Among other offerings, ProBleu provides:

- Financial support for school projects: calls for grants of up to 10,000 euros per school to develop projects related to the ocean or freshwater.
- A catalogue of digital teaching aids: ProBleu is creating dynamic and interactive tools to explore the functioning of marine and freshwater systems.
- Support for schools to be accredited as a Blue School in the NEBS: tailored support and templates that schools can adapt.

Support for citizen science projects: The ProBleu Consortium has expertise in marine and freshwater citizen science, a methodology that engages students in acting as scientists in the field and connecting with their environment. ProBleu has developed templates on how to create marine or freshwater citizen science projects in schools and offers virtual assessments to implement them.

This talk is framed within the theme of tools, methods, and experiences in engaging your target audience in citizen science projects, but it also touches on other themes relevant to ocean science communication and public engagement. I will present the work we have done to encourage schools to develop projects related to water literacy, with a special focus on citizen engagement, and provide an overview of the actions taken and results achieved during the first two grant calls of the project.

Communicating ocean and UN Ocean Decade issues to the world of business

Tymon Zielinski[1], Tomasz Kijewski[1], Izabela Kotyńska-Zielińska[1], Grażyna Niedoszytko[2], Paulina Pakszys[1], Aleksandra Koroza[1], Joanna Piwowarczyk[1]

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Summary

In order to tackle the UN Ocean Decade principles and the 7 Decade outcomes, the global society needs to understand and learn how to value the ocean in relation to human wellbeing and sustainable development. Therefore, we need to engage all stakeholders in the process of effective communication of ocean and climate change issues. Since the economic aspects of the ocean-humans relation are among most prominent, a special connection involves the relation of the world of science and the business. In our work we believe that interaction with business companies and "selling" them story of the ocean is a key to address many of the anthropogenic pressures on the planet, especially those related to the ocean.

In our approach to the communication of the ocean issues and specifically the UN Ocean Decade mission philosophy to businesses, we firstly screen the company profile in order to avoid being involved in green washing practices. Then, we establish a joint team and discuss the company needs versus our team competences. This way we co-create a program that is interesting and attractive for both the business and us. We always keep the sustainability and sustainable development goals as "an umbrella" for all types of actions, which involve, inspiring, interactive talks and story-telling events, interactive workshops, including such as e.g. beach events, with active harvesting and discussing "life" from the sea. We use various methods, such as world café or collective intelligence during our workshops. This way we reach many participants with our message and since, each activity is co-designed and tailored for a particular event, our communication is very effective and easily absorbed by many different stakeholders, which is reflected by the comments and reports we obtain after the events.

Study of Climate Change Impact on Ocean Productivity Through Citizen Science (Atlantic Islands of Galicia Marine National Park, Spain)

Diana Zúñiga[1], Nicolas Villacieros Robineau[2], J. Coenjaerts[1], J.L. Rivera[3]

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Summary

Coastal upwelling areas are the most productive marine ecosystems in the world, supporting around 10% of the total marine production, and consequently, hosting the largest fisheries in the world. In this context, a process-based understanding of how climate change could affect these highly productive areas, particularly through changes in local winds, has been identified as a scientific priority.

In this context, our work aims to unravel the impact of climate change on ocean productivity in the Galician Rias, a region located in the northern boundary of the NE Atlantic upwelling system, where the high production of its waters support a huge fishing and aquaculture industry. To achieve our objective, we created a tourism experience, through which, in addition to enjoy sailing, participants collaborate monitoring a scientific station located in the Atlantic Islands of Galicia marine national park. Taking advantage of the boat excursions, visitors periodically help scientists collecting oceanographic data, including the transparency and color of the water. The data are also uploaded online to contribute with two international projects, promoting the importance of citizen science in depicting the state of the global ocean.

By contributing to increase the amount of data for a scientific project, our findings highlight the role of visitors participation in a collective goal for the engagement of society in ocean´s conservation. However, we also conclude that support of public institutions will be fundamental on achieving the key challenges of citizen science projects, such as recognition of scientific information, involvement of citizen scientists representing a broad spectrum of society, together with political and finantial guarantees for decisive actions on scientific findings.

CommOCEAN 2024 programme

26-27 November 2024 - Málaga, Spain
Málaga Oceanographic Centre, Spanish Institute of Oceanography (IEO-CSIC)
Muelle de San Andrés s/n, 29002, Málaga, Spain

Day -1 (25 November)
Icebreaker event – Registration at 17:00 *(more information provided by e-mail) – later arrival may not be possible. Please, be on time.*
RV Odón de Buen, new oceanographic vessel of the Spanish Institute of Oceanography
Cruise ship terminal, Port of Málaga (P.º de Levante, 29016 Málaga)

Day 1 (26 November)

08:30 – 09:30	***Arrival by participants***
09:30 – 10:00	Welcome and opening addresses - Tymon Zielinski, Chair of the European Marine Board Communication Panel (EMBCP), Head of Climate and Ocean Research and Education Unit (CORE) at the Institute of Oceanology Polish Academy of Sciences (IOPAN) - María del Carmen García Martínez, Director, Spanish Institute of Oceanography (IEO-CSIC) - David Macías, Director, Málaga Oceanographic Centre, Spanish Institute of Oceanography (IEO-CSIC) - Practical information: Tymon Zielinski, EMBCP Chair
10:00 – 11:00	Session 1 - **Learning from disaster to avoid a disaster: how to better communicate our science with different stakeholders in times of crisis** This session focuses on the critical role of marine science communication during crises such as extreme events, mucilage formation, and oil spills. An example of an Advisory Protocol in an emergency situation will be provided, as well as insights into how to effectively convey urgent information, counter misinformation, and foster public trust in response efforts. Following that, participants will engage in interactive discussions about their experiences with science communication in times of crisis and how to better communicate marine science during those times. Moderator • Ezgi Şahin, METU Institute of Marine Sciences Speakers: • Eugenio Fraile Nuez, Spanish Institute of Oceanography (IEO-CSIC) *Q&A* *Interactive session with participants*
11:00 – 11:45	***Coffee break & exhibition*** **Pitch presentations by** *Please note that the order, date and hour of the presentations may change depending on practical organization* • Diana Zúñiga, North Wind - Sailing for Science • Michela Giusti, ISPRA

	• Maria Teixeira Pinto, Natural History Museum Vienna • Enrique Ballesteros Fernández, Spanish Institute of Oceanography (IEO-CSIC) • Anja Samardzic, Ocean Tracking Network • Victoria Besada, Spanish Institute of Oceanography (IEO-CSIC) • Mercedes Rodríguez, Spanish Institute of Oceanography (IEO-CSIC) • Miguel Ángel Herrero Ramiro, Food Science Research Institute (CIAL, CSIC-UAM) • Tymon Zielinski, Institute of Oceanology Polish Academy of Sciences (IOPAN) • Aleksandra Koroza on behalf of Joanna Piwowarczyk, Institute of Oceanology Polish Academy of Sciences (IOPAN) • Araceli Martin Sepúlveda, Spanish Institute of Oceanography (IEO-CSIC) • Natalie Fox, UN Decade of Ocean Science
11:45 – 12:45	Session 2 - **How to ensure engagement in your Citizen Science project** Moderator • Jan Seys, Flanders Marine Institute Speakers: • Nancy Fockedey, Flanders Marine Institute • Sonia Liñán Moyano, Institute of Marine Sciences (ICM-CSIC) • Elena Santini, Life Conceptu Maris project • Eva Chatzinikolaou, Hellenic Centre for Marine Research (HCMR) • Maria Vicioso, Institute of Marine Sciences (ICM-CSIC)
12:45 – 13:45	Session 3 - **Integrating communication in fieldwork** Moderator • Kelle Moreau, Institute of Natural Sciences, Belgium Speakers: • Juan Moreno Navas, Spanish Institute of Oceanography (IEO-CSIC) • Özgün Evrim Sayılkan, METU Institute of Marine Sciences • Kelle Moreau, Institute of Natural Sciences, Belgium • Rebecca Pflanz, ERINN Innovation • Andrea Magugliani, University of Bergen • Michela Giusti, ISPRA
13:45 – 15:00	***Lunch & exhibition*** **Pitch presentations by** *Please note that the order, date and hour of the presentations may change depending on practical organization* • Bart De Smet, Flanders Marine Institute • Ikram Bghiel Bensalah, Universitat Politècnica de Catalunya • Kais Jacob Mohamed Falcon, Campus do Mar – University of Vigo • Lucia Fanini, University of Salento • Kirsty Bradley, Centre for Environment Fisheries and Aquaculture Science (CEFAS) • Kirsty Bradley, Centre for Environment Fisheries and Aquaculture Science

	(CEFAS) • Lucía López López, on behalf of Andreu Blanco, Sea Unicorn • Marina Torres Gibert, Institute of Marine Sciences (ICM-CSIC) • Meritxell Turó Silanes, Institute of Marine Sciences (ICM-CSIC) • Kais Jacob Mohamed Falcon, on behalf of Marta Crespo, Campus do Mar – University of Vigo • Iwona Gin, Nausicaa, Centre National de la Mer • Lucía López López, Spanish Institute of Oceanography (IEO-CSIC) • Lucía López López, Spanish Institute of Oceanography (IEO-CSIC) • Agnieszka Jędruch, Institute of Oceanology Polish Academy of Sciences (IOPAN)
15:00 – 16:00	Session 4 - **Inspirational examples of engagement in international initiatives using story-telling** Moderator • Ángel Muñiz Piniella, European Marine Board Speakers: • Elsa Vercellino & Emma Verron, University of Bretagne Occidentale (UBO) • Juanita Zorrilla, SUBMON • Juliana Corrales, International Alliance to Combat Ocean Acidification (OA Alliance)
16:00 – 17:00	Close day 1 - Key note: **10 Ways to Succeed on Social Media When Reach is Declining** – *Joanne Sweeney, CEO, Digital Training Institute* New data shows that reach and engagement on social media is declining. This spells bad news for the science community. However, what if there were proven ways to be a social media outlier? Social media author, practitioner and trainer, Joanne Sweeney from Digital Training Institute has studied hundreds of public sector accounts and has 10 proven steps for social media success. This session is practical, actionable and will inspire you to improve your science comms online. Each recommended social media tactic is accompanied by a case study of Joanne's work. - Practical information: Tymon Zielinski, EMBCP Chair
	Group picture
20:00 – 00:00	Conference dinner **El Balneario de los Baños del Carmen** C/ Bolivia, 26, Málaga-Este, 29018 Málaga, Spain

Day 2 (27 November)

08:00 - 09:00	***Arrival by participants***
09:00 – 10:00	Session 5 - **How to engage younger audiences with the help from ECOPs and what they need** Moderator • Tymon Zielinski, Institute of Oceanology Polish Academy of Sciences (IOPAN) Speakers: • Natalie Fox, ECOP Programme • Izabela Kotyńska-Zielińska, Today We Have • Amanda Leslie, Ocean Tracking Network
10:00 – 11:00	Session 6 - **How to write an engaging script for an animation** Moderators: • Jess Allen, Lauren Noakes, Elaine Maslin & Dan Bourne, National Oceanographic Centre (National Oceanography Centre), UK
11:00 – 11:30	***Coffee break & exhibition***
11:30 – 12:30	Session 7 - **What makes you better in communicating science?** What are the key elements to consider when presenting on ocean science? Is it the speaker? Is it what you see? Or is it the key message? Or a combination of all these and more? This interactive session will make participants pay attention to the basics of good oral presentation, and which little details make an excellent oral presentation. Speakers: • Laura Secorun, Meridian Agency • Tiago Garcia, +ATLANTIC CoLAB
12:30 – 13:30	Session 8 - **Sound & Vision** This session focuses on showcasing diverse creative approaches science communicator took to bring marine science to their audiences and allows us to come along on their journey that included artist collaboration, utilising music and dance, creating music, developing podcasts, creating visual stimulation, exhibitions and narrating through story maps. Moderator: • Kathrin Kopke, MaREI, Environmental Research Institute, Ireland - Sound • Geraint Rhys Whittaker, Helmholtz Institute for Functional Marine Biodiversity + Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research • Kirsty Bradley, Centre for Environment Fisheries and Aquaculture Science (CEFAS) • Maria Vittoria Marra, Galway Atlantaquaria Q&A

	- Vision • Lisa Picatto, JPI Oceans • Remco Lameijer, GRID-Arendal Q&A
13:30 – 15:00	***Lunch & exhibition*** **Pitch presentations by** *Please note that the order, date and hour of the presentations may change depending on practical organization* • Pablo Otero, Spanish Institute of Oceanography (IEO-CSIC) • Ewa Korejwo, Institute of Oceanology Polish Academy of Sciences (IOPAN) • Daria Ezgeta-Balic, Institute of Oceanography and Fisheries (IOF) • Alexia Pigeault, Nantes Université, LETG • Elena Martinez Batalla, Institute of Marine Sciences (ICM-CSIC) • Marko Mlinar, Hydrographic Institute of the Republic of Croatia • • Silvia Merlino, CNR-ISMAR Istituto di Scienze Marine • Jose M. Bellido, Spanish Institute of Oceanography (IEO-CSIC) • Maria Vicioso, Institute of Marine Sciences (ICM-CSIC) • Mišo Pavičić, Institute of Oceanography and Fisheries (IOF) • Lizzie Murray, A Liquid Future • Cristina Alonso Moreno, Spanish Institute of Oceanography (IEO-CSIC)
15:00 – 16:30	Session 9 - **Bridging Science and Media: What's Needed for Success?** Co-organized with the Centre for Mediterranean Cooperation of the International Union for Conservation of Nature (IUCN) This session will debate in a roundtable format the key challenges and tips for successful communication. Different media stakeholders will bring their perspectives and discuss the key factors affecting a successful implementation of storytelling and scientific media news coverage particularly related to marine related contents and the new restoration efforts in place across the Mediterranean. One of the outcomes of the session will be to gather insights from the experts around obstacles and solutions and the dissemination of the Creating Effective Environmental Communication Strategies: A Ten Step Guide for Practitioners promoted by the IUCN Commission on Education and Communication (CEC). The objectives of the session are to foster debate and share examples from experimented journalists and communicators around marine and restoration stories in the Mediterranean; promote the exchange of knowledge and lessons learned on effective and successful communication among practitioners, bringing the perspective from both North and Southern stakeholders; and gather insights and expert advice from panellists and participants regarding the gaps and challenges faced by project communicators and press representatives. Moderator: • Chantal Menard, Independent Consultant Speakers: • Manfred Oepen, IUCN Commission on Education and Communication (CEC): Tips for strategic communications

	• Denis Loctier, Euronews: The European perspective • Rehab Abdalmohsen, Science, Environment and Health Journalist: The Southern Mediterranean focus • Xavier Aldekoa / Laura Aragó, La Vanguardia: Images and storytelling Graphic facilitation by Yorgos Konstantinou More information about this session is available here.
	Short break
16:30 – 18:00	Close day 2 • **Award ceremony** best digital entry and 1-min pitch presentation – handed over by David Macías, Director, Málaga Oceanographic Centre, Spanish Institute of Oceanography (IEO-CSIC) • Key notes: **"AI's Role in Expanding the Frontiers of Science Communication"** - *Nikola Balić, Head of Growth, Daytona* Artificial intelligence (AI) is revolutionizing how content is created and communicated. In this session, we will explore the incredible potential of AI in producing captivating and easily understandable content across different formats, cultures, and audiences. We will discuss how AI can simplify scientific language, enhance data visualization, and elevate storytelling. Participants will also learn about the challenges associated with AI, including biases, ethical considerations, and the risk of spreading misinformation. We will provide best practices for using AI responsibly in science communication to ensure accurate and effective messaging. **"Harnessing the power of AI and storytelling in marine science filmmaking for social media"** - *Dávid Kulcsár, David's SciComm Lab* In the dynamic field of marine science communication, storytelling through video production plays an increasingly important role in engaging diverse audiences and promoting the sustainable use of ocean resources. This presentation explores the innovative approaches employed in crafting compelling videos for social media platforms, focusing on the integration of emerging artificial intelligence (AI) tools to enhance workflow efficiency and product quality. • Close of conference: Tymon Zielinski, EMBCP Chair

Day +1 (28 November)

9:00 - 18:00	2nd Mission for Natural Heritage Institutional Dialogue **Marine and Coastal Restoration: Discussing Policy Solutions for the Euro-Mediterranean Region** *Organized by the IUCN Centre for Mediterranean Cooperation* More information available below. Participants of the CommOCEAN 2024 can apply to attend by pre-registering on the following page: https://commocean.org/commocean-2024-back-back-event

Conference Photos: Dan Bourne / National Oceanography Centre

2024 COMMOCEAN

6th International Marine Science Communication Conference

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