

Session 1 (10:00-11:00)

Accessible technology: Needs of the ocean observing community

This opening session aims to understand the technology needs of the ocean observing community, and how accessible technologies can be key in efforts to realise the fully operational **European Ocean Observing System** (EOOS). Accessible ocean observing technologies are those that are readily available to the community, and present high value with regards to investment and data provision.

Accessible technologies present a means to observe the ocean, meeting the needs of all users, in an affordable, reliable, manner, with solutions that are easy to deploy and maintain, adaptable to changing needs, able to evolve with new developments, avoiding redundancy. To truly meet the needs of the ocean observing community, it is essential that the data quality of observations is known. Technologies must also be sustainable, both in terms of their environmental impact, and their long-term prospects in the business models of manufacturers and service providers.

This session will set the scene for the **EOOS Technology Forum 2024**, detailing the technology needs of developing observing networks or systems at regional and global scales.

Laurent Delauney

JERICO COORDINATOR AND RESEARCH AND DEVELOPMENT ENGINEER IN OCEANOGRAPHIC INSTRUMENTATION

Laurent Delauney is the coordinator of the EU projects dedicated to establishing the Joint European Research Infrastructure for Coastal Observation (JERICO). He has worked at Ifremer for 30 years on in-situ monitoring systems development. Laurent Delauney's fields of interest are sensor development for coastal autonomous monitoring stations and seabed observatories, biofouling protection for marine in situ sensors and transfer from research to PMEs of marine sensors developments and In situ Observation harmonisation process (Best Practices). He is co-chair of the EuroGOOS Technological plan Working Group and Chair of the EOOS Operation Committee



Moderator

Virginie Van Dongen-Vogels

SCIENCE OFFICER AT THE EUROPEAN GLOBAL OCEAN OBSERVING SYSTEM (EUROGOOS) SECRETARIAT IN BRUSSELS

Virginie facilitates and coordinates operational oceanographic related activities and projects within the European ocean community and is an active member of the Ocean Best Practice System committee. She has extensive sailing and multidisciplinary background (Ecology, Environmental Science, Oceanography (PhD)) and more than 15 years of experiences in the ocean observing realm. Virginie provided her expertise to various national and international research projects (US, EUR, AUS) and has been supporting and actively engaged in the Australian National Mooring Network of the Integrated Marine Observing System (IMOS) since its implementation.



Moderator

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Accessible technology: Needs of the ocean observing community

Joseph Nolan

SCIENCE OFFICER AT THE EUROPEAN GLOBAL OCEAN OBSERVING SYSTEM (EUROGOOS)
SECRETARIAT IN BRUSSELS

Working to facilitate collaboration across the European ocean observing and operational oceanography community, Joseph supports the European Ocean Observing System (EOOS) Steering Committee including in strategic development and interaction liaison with policymakers. With a background in polar science, Joseph has several years of experience working at the interface of science, observations, policy and technology at European and international levels and across environmental domains.



Speaker

Patrick Gorringe

MANAGER OF INTERNATIONAL OCEAN RELATIONS AT THE SWEDISH METEOROLOGICAL AND
HYDROLOGICAL INSTITUTE (SMHI)

Patrick has devoted a lot of his work in bringing together diverse ocean observing communities and building partnerships in order to enhance the cooperation and by this increase the accessibility of oceanographic data. This includes emerging low-cost observing technologies and initiatives together with citizen science communities to democratize access to the ocean and ocean data.



Speaker

Viviana Piermattei

SCIENTIST IN OCEAN OBSERVATIONS AND RESPONSIBLE OF THE ADVANCED OBSERVING SYSTEMS
RESEARCH UNIT OF THE GLOBAL COASTAL OCEAN (GOCO) DIVISION AT CMCC FOUNDATION

The current research activity is focused on the development of very low-cost sea level sensors and innovative animal tags, on the use of cost-effective autonomous oceanographic platforms for the study of coastal processes and marine habitats and on the development of a low-consumption and easy-to-install systems toward the spreading of coastal fixed stations.



Speaker

Session 1 (10:00-11:00)

Accessible technology: Needs of the ocean observing community

Dominique Durand

FOUNDER / EXECUTIVE DIRECTOR OF COVARTEC AS

Dominique Durand is a recognized marine science expert. In 2015, he founded COVARTEC AS (Norway), a SME providing consulting on ocean governance and sustainable blue economy. He has a PhD in information technology for ocean science. After having trained professionals in Earth Observation, worldwide (1991-1996), he developed satellite-based warning system for coastal environments, at NERSC/Norway. Then, he headed the oceanography department at NIVA/Norway, developing the European Ferrybox capacity. In 2012, he became EVP at IRIS/Norway, leading the Environment & Biotechnology branch. The last 25 years, Durand has been working on bridging industry, academia and public bodies through large RD&I projects.



Speaker

Zdenka Willis

PAST PRESIDENT, MARINE TECHNOLOGY SOCIETY

Zdenka Willis, L.L.D is the Immediate Past President of the Marine Technology Society and CEO of Veraison Consulting, LLC. Ms. Willis retired from NOAA's Senior Executive Service and was the founding Director of the United States Integrated Ocean Observing System Office. She had a 25 year career as a Meteorology and Oceanography officer, retiring with the rank of Captain.



Speaker

Session 2 (11:30-13:00)

Opportunities and challenges for accessible ocean observing technologies

Within this session, the invited panellists represent both new and well-established ocean observation technologies and networks, with a lens toward 'low-cost', accessible instrumentation.

This session will overview the current challenges confronting the field of accessible ocean observing technology (i.e., sensors and platforms), and highlight current innovations and successes that are expanding the field and progressing towards an accessible ocean.

The session will culminate in assessing future collaboration and technological opportunities within a global context, identifying priorities for accessible design, effective low-cost alternatives, and broadening participation within ocean research.

Jean-François Rolin

MARINE TECHNOLOGY DESIGN ENGINEER

His last position was at Ifremer (F): responsibility of subsea observatories and deputy management of the Technological R&D unit. As head of the instrumentation design teams of Ifremer, he participated in the development of tens of profiling floats, landers, benthic stations, buoys and instruments for coastal and deep seas. Involved in a number of EU research projects: final ESONET coordinator, EMSO PP deputy coordinator, leader of marine subdomain of ENVRI+ (EU environment large research infrastructures), etc. While retired, he serves as vice-president of a nonprofit organization training people starting small businesses in Brittany, France.



Moderator

Jessica Sandoval

FOUNDER AND CEO OF AQUAVELA

Dr. Jessica Sandoval is the Founder and CEO of AquaVela, an ocean technology consulting company. She serves as the Lead Network Coordinator for the Deep Ocean Observing Strategy (DOOS), with a lens towards synergizing global efforts for low-cost ocean technology. She serves as the Director of Engineering to the Ocean Discovery League, where she leads the planning and development of accessible ocean sensors. She has 8 years of experience as a pilot and technician of deep-sea Remotely Operated Vehicles (ROVs). She has her Bachelor's from MIT, Master's and PhD from the University of California, San Diego.



Moderator

Session 2 (11:30-13:00)

Opportunities and challenges for accessible ocean observing technologies

Carlos Dominguez-Carrió

INSTITUTE OF MARINE SCIENCES – OKEANOS, UNIVERSITY OF THE AZORES

Carlos Dominguez-Carrió is a deep-sea scientist focused on better understanding the ecology of deep-sea benthic species and communities using underwater imaging technology as the main sampling device. He aims to decipher what are the ecological processes that shape the diversity and spatial distribution of deep-sea fauna at different spatial scales, from small patches to larger geomorphological units, such as submarine canyons and seamounts. In recent years he has also worked on the development of affordable camera systems for the exploration of deep-sea habitats, such as the Azor drift-cam, in order to facilitate the access to the deep sea.



Speaker

Thibaut Pollina

CEO OF FAIRSCOPE

He leads the development of the PlanktoScope, a tool he designed to meet the scientific community's need for reliable and consistently benchmarked microscopy equipment. Launched in 2023, FairScope aims to provide scientists, educators, students, and citizen scientists worldwide with the PlanktoScope, enabling them to broaden their research and educational efforts. The device is already in use by over 50 leading research institutions globally, including NOAA and the Scripps Institute of Oceanography. FairScope's mission extends to building the largest plankton monitoring network and ensuring equitable access to advanced scientific tools, emphasizing open-data, transparency, and collaboration.



Speaker

Breanna Motsenbocker

PHD CANDIDATE AT THE UNIVERSITY OF RHODE ISLAND

Her research is focused on the development of cost-effective technology for the deep sea. She is particularly interested in using additive manufacturing to produce sensing/imaging systems that are simple to replicate even with limited resources. The primary goal of her work is to increase the accessibility of deep-sea research and technology development. This also involves engaging in outreach and education initiatives to engage young students from diverse backgrounds to participate in and eventually lead research in this field.



Speaker

Session 2 (11:30-13:00)

Opportunities and challenges for accessible ocean observing technologies

Inger M. Graves

DIRECTOR OF ENVIRONMENTAL SALES IN EUROPE FOR XYLEM

Inger M. Graves has worked in the ocean industries for over 20 years in technology development, product management and sales. Along with the team in Xylem – Aanderaa, she has taken on numerous projects to collect ocean data in observatories, from buoys and for industries like Aquaculture, Offshore Energy and Ports and Harbours. The special focus for her work has been on ocean currents, waves, salinity and oxygen, and data delivery to reliably provide this data to the end user. During the EuroSea project, two buoys were installed that served the end users with operational data for aquaculture, while also providing the data to CMEMS.



Speaker

Yves Dégrés

MANAGING DIRECTOR OF NKE INSTRUMENTATION

Graduating with an engineering degree in 1985, he is specialised in electronics and mechanics. He was the Head of the oceanographic instrumentation department at Nke in 2001, in charge of sales, marketing and R&D.

Yves is the Managing Director of Nke instrumentation since 2012, whose aim is designing, manufacturing and selling instruments for the measurement and the monitoring of oceans and fresh waters. The fields of applications are rivers, lakes, estuaries, oceans and deep sea.



Speaker

Carles Castro

CHIEF TECHNICAL OFFICER AND CO-FOUNDER OF OCEAN DATA NETWORK

He is also part of the Fishing Vessel Ocean Observing Network (FVON) which is a project under the GOOS CoastPredict UN Decade programme. He holds a dual masters degree in industrial and electrical engineering specializing in automation and robotics. Carles handles the systems automation and data management processes that keep ODN's data flowing seamlessly to ocean modelers and other end users. Based in Valencia, Spain, he also directs operations and fleet outreach in Europe.



Speaker

Session 2 (11:30-13:00)

Opportunities and challenges for accessible ocean observing technologies

Collin Closek

STAFF SCIENTIST AT STANFORD UNIVERSITY'S HOPKINGS MARINE STATION

Ph.D. (he/him) is a Staff Scientist at the Stanford Center for Ocean Solutions (COS) at Stanford University's Hopkins Marine Station. Collin's research background includes development of technologies that reduce barriers to access as well as applying molecular and ecological methods to determine the health and physiological state of marine organisms in aquaculture, coastal, and open ocean systems. He serves as principal investigator on two environmental DNA (eDNA)-focused projects in Monterey Bay and the Republic of Palau. Collin also serves as the Co-design and Low-Cost Technology Manager at Synchro, a consortium of institutes that accelerates ocean technology solutions.



Speaker

Session 3 (14:00-15:30)

Data quality aspects of accessible ocean observing technologies

We need the best data to do the best science. But to what extent should data quality be balanced with other considerations for ocean observing technologies (cost, environmental impact, etc.)? In recent years, the question has evolved from “What to do with our data?” to “How to deal with our data?”. This is due in part to the transformative call of the UN Ocean Decade for “The science we need for the ocean we want”, catalysing a paradigm shift from “observing what we can” to “observing what we need”. Accessible ocean observing technologies play a key role in this shift, but understanding data quality remains imperative.

In this session the panel will explore the whole ocean data value chain, covering preparation and calibration, collection and acquisition, data management, transformation to information (product and service development), and advice to society and information decisions.

Lucie Cocquempot

FRENCH RESEARCH INSTITUTE FOR EXPLOITATION OF THE SEA (IFREMER)

Lucie Cocquempot is in charge of the coordination of observation networks within French Research Institute for Exploitation of the Sea (Ifremer), and an executive board member for national research infrastructures dedicated to the understanding of the oceans. She has recognized skills in leading cross-disciplinary groups, in co-construction of observation strategies and in marine data management. As an engineer in physical oceanography by training, she developed interests in the coordination of multidisciplinary systems, participatory sciences including the valorization of indigenous knowledge, low-tech labs and other open science projects. Within the European projet JERICO-S3, she is leading the work package on Sustainability.



Moderator

Patrick Gorringe

MANAGER OF INTERNATIONAL OCEAN RELATIONS AT THE SWEDISH METEOROLOGICAL AND HYDROLOGICAL INSTITUTE (SMHI)

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Moderator

Session 3 (14:00-15:30)

Data quality aspects of accessible ocean observing technologies

Dick M.A. Schaap

DIRECTOR MARIS

Coastal engineer with major expertise in marine data management. Founder of MARIS, spin-off from a Netherlands governmental initiative. Very experienced in managing EU projects for development and operation of networks and infrastructures for marine data. MARIS is engaged in many EU projects and initiatives, aimed at improving FAIRness and coverage of leading marine data infrastructures, like EMODnet, ENVRI, JERICO, EuroFleets, and EOOS. Technical coordinator of SeaDataNet, pan-European network of data centres; technical coordinator of EMODnet Bathymetry and Chemistry; coordinator of EMODnet Ingestion. Core initiator of the Blue-Cloud initiative, acting as technical coordinator of Blue-Cloud 2026.



Speaker

Sue Hartman

MARINE BIOGEOCHEMIST AT THE NATIONAL OCEANOGRAPHY CENTRE

Dr. Sue Hartman is a marine biogeochemist at the NOC (National Oceanography Centre, UK), with over 30 years' experience in carbonate and nutrient chemistry. She is a work package leader within the EU project MINKE (Metrology for Integrated Marine Management and Knowledge-Transfer Network) minke.eu. MINKE aims to improve data quality through linkages with Metrology laboratories. Sue has specialist knowledge in the use of biogeochemical sensors on various platforms, including the Porcupine Abyssal Plain Sustained Observatory (PAP-SO), noc.ac.uk/pap.



Speaker

Anahita Laverack

FOUNDER OF OSHEN

Holding a degree in Aeronautical Engineering from Imperial College London, Anahita completed her Master's in the design and navigation of transatlantic autonomous micro-vessels. In early 2022, she founded Oshen, a startup focused on the mass deployment of autonomous, micro-vessels for ocean data collection. Along with co-founder and partner Ciaran, she initially developed the micro-vessel technology in North Wales, living on a 25ft sailboat and using it as a base to test their technology at sea. Anahita currently oversees Oshen's strategic development and hardware design, applying her specialised knowledge to advance autonomous marine sensing technologies.



Speaker

Session 3 (14:00-15:30)

Data quality aspects of accessible ocean observing technologies

Justin Buck

ROBOTICS ENGINEER IN THE NATIONAL OCEANOGRAPHY CENTRE

Dr Justin Buck has recently taken on a new role as a principal robotics engineer in the National Oceanography Centre (NOC) for the Marine Autonomous Robotic Systems (MARS) group and their groundbreaking vehicles. Dr Buck focuses on the development of digital systems and services for users of marine autonomous systems in the fast-growing field of marine autonomy. Prior to this Dr Buck has a wealth of experience processing and understanding ocean derived data, having spent 16 years as a data scientist in the British Oceanographic Data Centre specialising in the end-to-end data workflows needed for autonomous ocean observing.



Speaker

Rob Craft

CALIBRATION MANAGER FOR THE NATIONAL OCEANOGRAPHY CENTRE

Rob Craft is the Calibration Manager for the National Oceanography Centre, home of the UK's National Maritime facilities. He has been a Calibration Engineer and Technician for the last 30 years and is key to the accuracy and quality of NOCs Data generation.

With over 10 years' experience in mainstream Laboratories, he has taken that experience and applied it to the Oceanographic and Metrological field. Having been involved with the development and deployment of various items of survey equipment and platforms at different TRL levels, Rob is an expert in his field.



Speaker

Antoine Cousot

FOUNDER OF OCEANO VOX

He is a French former yacht captain and expedition leader. He holds a Msc Earth Sciences from The Open University.

He founded Oceano Vox in 2022, the future largest ocean citizen science driven community. With partnership from Ifremer, Oceano Vox combines world class research on ocean sciences and New Space technology to reduce sensors cost and access to quality in situ ocean data using sailing boats. During summer 2024 more than 100 sailing boats will be collecting in situ real time data to chasing extreme weather events.



Speaker

Session 3 (14:00-15:30)

Data quality aspects of accessible ocean observing technologies

Theo Moura

FOUNDER OF COASTAL-E SOLUTIONS

Theo Moura is a physical oceanographer and holds a PhD in wave mechanics and coastal processes, with experience in physical and numerical modeling, in-situ data collection, analysis, and interpretation. In recent years, he has founded Coastal-e Solutions, a company dedicated to developing complete IoT solutions (hardware and software) for Coastal and Ocean Observing Systems.



Speaker

Session 4 (16:00-17:30)

Sustainability aspects of accessible ocean observing technologies

This session addresses three dimensions of sustainability related to ocean observing technology with a specific focus on how these might be affected through a change towards more accessible solutions. The first dimension represents (i) economical sustainability and viability of ocean observing products. The second one comprises (ii) the environmental sustainability and footprint or the greening of ocean observations. While the third dimension covers (iii) political and regulatory sustainability related to observations of the ocean.

Short impulse presentations will set the scene and be followed by a panel discussion that also engages the audience.

Interested Ocean Enterprise stakeholders with private, public or academic job affiliations are invited to join and contribute to the discussion. Ocean observing technology developers, data users, blue economy company representatives, innovation enablers, members of the science and ocean literacy community, to select some examples, are all invited to listen and add to the discussion on sustainability aspects of ocean observing technology.

Peer Fietzek

SENIOR BUSINESS DEVELOPMENT MANAGER OCEAN SCIENCE AT KONGSBERG DISCOVERY

Peer Fietzek works as a Senior Business Development Manager Ocean Science at Kongsberg Discovery with a focus on innovative applications for quantitative acoustic sensors and for comprehensive digital ocean data solutions. He is a convinced advocate for science-industry collaboration to mature the Ocean Enterprise and grow the New Blue Economy. Peer supports research projects and community activities through work in advisory boards/groups and technical committees. After having graduated in physics, he has been spending his entire career in the marine sector working for a research institute, a start-up, an SME, and a global corporation.



Moderator

Dominique Durand

FOUNDER / EXECUTIVE DIRECTOR OF COVARTEC AS

Dominique Durand is a recognized marine science expert. In 2015, he founded COVARTEC AS (Norway), a SME providing consulting on ocean governance and sustainable blue economy. He has a PhD in information technology for ocean science. After having trained professionals in Earth Observation, worldwide (1991-1996), he developed satellite-based warning system for coastal environments, at NERSC/Norway. Then, he headed the oceanography department at NIVA/Norway, developing the European Ferrybox capacity. In 2012, he became EVP at IRIS/Norway, leading the Environment & Biotechnology branch. The last 25 years, Durand has been working on bridging industry, academia and public bodies through large RD&I projects.



Moderator

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Speaker

Océane Barre

Océane BARRE - SALES & MARKETING MANAGER AT SEABER

Océane is Sales and Marketing Manager at SEABER and has been immersed in the field of oceanography since completing her Business Development studies in 2018. She is passionate about new technologies to explore the depths of the ocean and has a keen interest in bridging the gap between business and science. Objective achieved, as SEABER is committed to making AUV technology accessible to all by setting the standard of underwater exploration.



Speaker

Brian Connon

VICE PRESIDENT OF OCEAN MAPPING AT SAILDRONE

Captain Brian Connon, US Navy (Ret) is Vice President, Ocean Mapping at Saildrone, Inc. and President of The Hydrographic Society of America. A certified hydrographer, he holds a BS in Geography from the University of South Carolina, an MS in Oceanography and Meteorology from the Naval Postgraduate School in Monterey, CA, and an MS in Hydrography from the University of Southern Mississippi. He is a Chartered Marine Scientist (Hydrography) and Fellow of the Institute for Marine Engineering, Science and Technology. Brian served for over 28 years as an oceanographer and hydrographer in the US Navy and is passionate about mapping, exploring, and protecting our oceans.



Speaker

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Lucie Cocquempot

FRENCH RESEARCH INSTITUTE FOR EXPLOITATION OF THE SEA (IFREMER)

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Speaker

Amy West

SYNCHRO PROGRAM MANAGER

Amy's journey into the deep-sea and technology realm began in 2001 as an engineering intern at the Monterey Bay Aquarium Research Institute (MBARI), where she studied remote underwater video techniques in Monterey Bay and New Zealand's fiords. With a background spanning two decades as a marine scientist, she embarked on field expeditions from Antarctica to the Arctic, driven by a passion for deep-sea ecology and fisheries. After many outreach roles to excite non-scientists about the ocean, she pursued a second career as a science communicator and science journalist, creating multimedia stories for universities, newspapers, print, and government.



Speaker

James Kirkbride

SENIOR SCIENTIST CHELSEA TECHNOLOGIES

James is senior scientist at Chelsea Technologies working on testing and development of new and existing products as well as running R&D programs. He has a DPhil in laser spectroscopy from the University of Oxford following a Masters in Chemical Physics from Edinburgh University and has worked in technology development since leaving academia. He has now been with Chelsea for 7 years, has deep knowledge of the technical aspects of sensor development and is passionate about increasing the capabilities and accessibility of the technologies we offer.



Speaker

Session 4 (16:00-17:30)

Sustainability aspects of accessible ocean observing technologies

Greg Johnson

PRESIDENT OF RBR

A familiar face in the oceanographic community, Greg has served as President of RBR for the last 13 years. His deep technical background and never-ending curiosity has allowed RBR to grow rapidly under his leadership. Greg is a natural teacher with a unique ability to make complex technical topics accessible to everyone. His PhD in Material Science from the University of Manchester complemented his Bachelors in Electrical Engineering from McGill University in Montreal.



Speaker

Closing session (17:30-17:45)

Henning Wehde

PROGRAMME DIRECTOR FOR THE ECOSYSTEM NORTH SEA

Henning Wehde is a Programme Director for the Ecosystem North Sea at the Institute of Marine Research in Bergen Norway. He holds doctoral degree on physical oceanography from Hamburg University from 2001. Focal point for his activity was to integrate biological and physical observations with numerical modelling and was involved in and led many projects contributing to the development of observation methodology. In addition he has been involved in the European branch of the GOOS activities by chairing the activities for the North West European Shelf (NOOS) for 8 years followed by the involvement and later chairing of the EuroGOOS Board of Directors earning a deep understanding of the challenges and opportunities within that environment.



Moderator

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Moderator