



2021
2030 United Nations Decade
of Ocean Science
for Sustainable Development

PLOCAN Plataforma Oceánica
de Canarias



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ERIC
EUROPEAN RESEARCH INFRASTRUCTURE CONSORTIUM



EMSO TIME SERIES CONFERENCE 2021 “OBSERVING OCEAN SOUND”

20-22 OCTOBER 2021, CANARY ISLANDS, SPAIN

On October 20, 2021, the first edition of the EMSO Time Series conference (EMSO TSC) will start in PLOCAN in Gran Canaria in the Canary Islands, Spain.

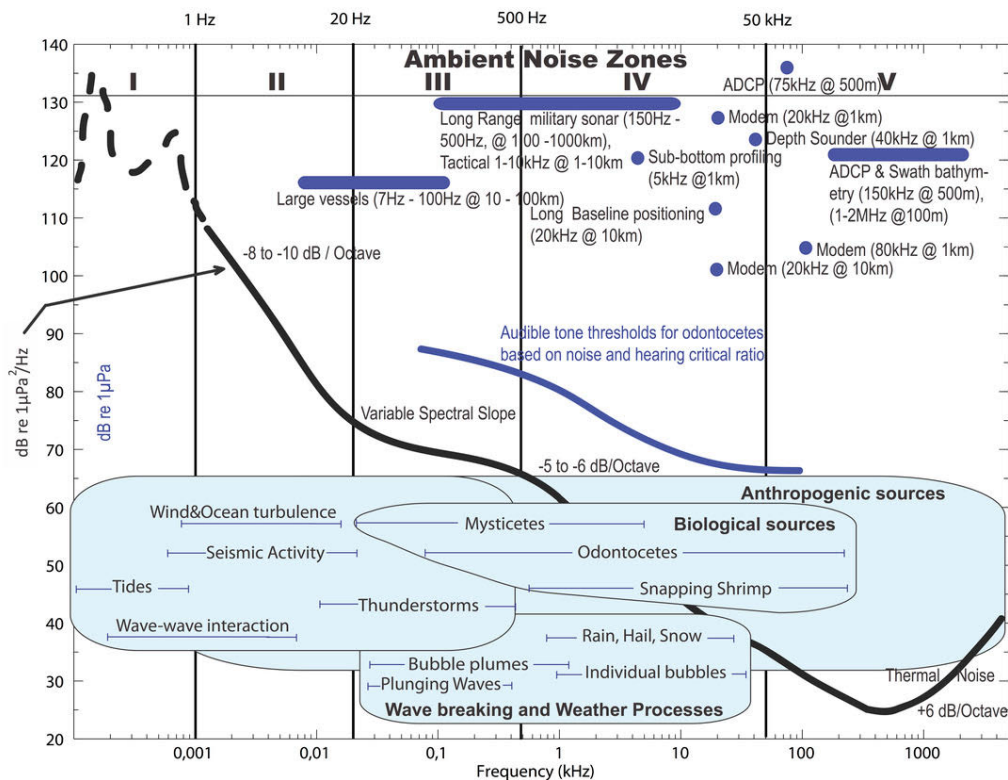
The conference is an officially endorsed Ocean decade activity as part of the “One Ocean Network for Deep Observation” action led by the Institut Français de Recherche pour l’Exploitation de la Mer (IFREMER) and EMSO ERIC, the Japan Agency for Marine-Earth Science and Technology (JAMSTEC) and Ocean Network Canada (ONC) as key partners.

The conference aims to inform and train the ocean science community on the latest advancements in detecting and monitoring underwater sound for environmental and industrial purposes.

The increasing need to observe and monitor underwater sound for environmental and industrial purposes is faced with the challenge of the vastness of the marine space, the broad frequency spectrum of sound sources and receptors, and the high costs of acquiring representative and useful time-space resolution. This challenge calls for cost-effective solutions that need to address the whole acquisition chain, from sensors to platforms, communication, processing and data delivery. Acoustic data acquisition devices and the processing to deliver meaningful time series data remain costly due to acquisition costs and the need for experts at each stage. Methods and technologies need to be improved to respond to legal and international recommendations and prescriptions to reduce the impact of anthropogenic noise in the ocean. The European Marine Strategy Framework Directive asks the Member States to report on the state of underwater noise in their surrounding seas on a regular basis, and at the international level, the International Quiet Ocean Experiment calls for improvements in our understanding of ocean soundscapes. The Global Ocean Observing System recently adopted ocean sound as an Essential Ocean Variable (EOV), with two sub-variables, sound pressure and sound particle velocity, necessary to characterise ocean sound and potential impacts on marine life.

Underwater sound can also provide useful information for the assessment of marine mammal populations, the detection of fish reproduction areas, the detection of greenhouse gas seeps from pipelines and deep-sea carbon storage, gasification of methane clathrates, adverse

meteorological conditions, detection of low-frequency seismic events, ice-cracking, ocean basin sound-velocity tomography and acoustic communication.



Sound sources in the ocean (Delory, 2010)

During this three-day event, there will be plenary and training sessions covering the scope of underwater sound study areas. Six renowned keynote speakers and twelve well-known scientists will present the cutting-edge research activities, tools and techniques to detect and monitor underwater sound for environmental and industrial purposes.

During the conference the following topics will be addressed: anthropogenic noise & other environmental sounds, acoustic, acoustics for studying marine geophysics, bioacoustics, technologies for underwater sound observing, from acoustic data acquisition to products, sound fields in harbours and other constrained spaces, acoustic observation device & autonomous surface vessels – Observation of abyssal sperm whale foraging activity. Training activities include passive acoustic monitoring for Python, methods for the detection and identification of marine mammals sounds, methods for the detection and analyses of anthropogenic sound in the oceans, data FAIRness and standard formats, methods for the acquisition of ocean sound,

In addition, to the events and training program, we will present the “One Ocean Network for Deep Observation” action endorsed by the United Nations under the Decade of Ocean Science for Sustainable Development. The action proposes a step-change in deep-sea science through connecting inter-/multi-disciplinary observatories and surveying technologies at various sites in the global ocean. The coordination will contribute to integrating knowledge on deep-sea ecosystems functioning under global changes, advancing hazard mitigation from natural

hazards and engaging citizens with the deep ocean that faces growing pressure from human activities.

The conference is supported by:



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