

Mediterranean Sea multiscale variability: knowledge, impacts, and road ahead”

Workshop agenda

Lisbon – Portugal

Hosted by CoLAB +ATLANTIC

[R. do Instituto Industrial 16, 1200-225 Lisboa, Portugal](#)



Wednesday 3 December 2025

8:30 - 9:00 Registration

09:00 - 10:30 Session 1: *Observing systems for monitoring the Mediterranean Sea multiscale variability*

09:00 – 09:15 **Sustained glider observations reveal multiscale physical-biogeochemical interactions in the Western Mediterranean Sea** – *Nikolaos D. Zarokanellos* (SOCIB, Spain)

09:15 – 09:30 **High-resolution air-sea CO₂ observations during the ATL2MED mission: data correction and process variability across the Eastern Atlantic Ocean and the Mediterranean Sea** – *Riccardo Martellucci* (OGS, Italy)

09:30 – 09:45 **Bathymetric and stratification effects on local dynamics from long-term deep-sea time series** – *Beatrice Giambenedetti* (INGV, Italy)

09:45 – 10:00 **Twenty-first century Mediterranean changes as seen by Argo data: from salinization at the surface towards deep water changes** – *Elena Terzić* (Institut Ruđer Bošković, Croatia)

10:00 – 10:15 **A multi-data approach for long term assessment of the Mediterranean outflow water** – *Marjahn Finlayson* (INGV, Italy)

10:15 – 10:30 **Subsurface ventilation processes in a wind-driven coastal system: insights from the Gulf of Oristano (Italy)** – *Andrea Cucco* (CNR-IAS, Italy)



10:30-11:00 Coffee break and posters

11:00-12:30 Session 1 (cont'd) : *Observing Systems for Monitoring the Mediterranean Sea Multiscale Variability*

11:00 – 11:15 **Long-term variability of eddy kinetic energy in the Mediterranean Sea: A multi-product altimetry perspective** – *Paul Hargous* (IMEDEA (CSIC-UIB), Spain)

11:15 – 11:30 **Revealing deep-sea warming in the Ionian Sea through novel smart cable technology observations** – *Nadia Lo Bue* (INGV, Italy)

11:30 – 11:45 **Climate change and sea level rise in the North Adriatic Sea** – *Sara Morucci* (ISPRA, Italy)

11:45 – 12:00 **Multi-scale interactions in Mediterranean health and biodiversity through innovative Biogeochemical-Argo floats and interdisciplinary cruises** – *Emanuele Organelli* (CNR-ISMAR, Italy)

12:00 – 12:15 **Multiscale Wave Variability from High-Resolution Buoy Networks: Insights into Spectral Coherence and Observational Uncertainty** – *Carlo Brandini* (CNR-ISMAR & Consorzio LaMMA, Italy)

12:15 – 12:30 **SHARE4MED - Shared Action Plan for the EU Ocean Mission in the Mediterranean basin.** – *Antonio Novellino* (ETT S.p.A., Italy)

12:30 - 14:00 Lunch and posters

14:00 - 15:15 Session 1 (cont'd): *Observing Systems for Monitoring the Mediterranean Sea Multiscale Variability*

14:00 – 14:15 **Impactful coastal marine heatwaves in the Mediterranean Sea: multiscale drivers, observation networks and future strategies** – *Nathaniel Bensoussan* (IFREMER-LOPS, France)

14:15 – 14:30 **Assessing SWOT-Derived Surface Currents against HFR Data in the Western Mediterranean** – *Guiomar López* (SOCIB, Spain)

14:30 – 14:45 **A multiplatform analysis of wind- and river-driven surface circulation in the Gulf of Trieste (northern Adriatic Sea)** – *Davide Lombardo* (OGS, Italy)

14:45 – 15:00 **Observed multiscale variability in the South Adriatic pit over the past two decades** – *Julien Le Meur* (OGS, Italy)

15:00 – 15:15 **Swarms of landers for sustained long-term ocean monitoring** – *César González-Pola* (CSIC, Spain)

15:15– 15:45 Session 2: *Advances in Mediterranean Sea Modelling Capabilities*

15:15 – 15:30 **The Black Sea oil pollution incident in December 2024** – *George Zodiatis* (ORION, Cyprus)



15:30 – 15:45 **OCEAMMUR project: Advancing High-Resolution modelling for sustainable management of the Region of Murcia coast (SE Spain) – Cintia Bonanad** (+ATLANTIC CoLAB, Portugal)

15:45 - 16:15 Coffee break and posters

16:15– 17:45 Session 2 (cont'd): *Advances in Mediterranean Sea Modelling Capabilities*

16:15 – 16:30 **The Copernicus Mediterranean Analysis and Forecasting Physical System: recent upgrades and validation – Emanuela Clementi** (CMCC, Italy)

16:30 – 16:45 **Improving the Mediterranean Forecasting System model via updated vertical and horizontal physics – Lucia Gualtieri** (CMCC, Italy)

16:45 – 17:00 **Validation of Mediterranean Sea biogeochemistry in an operational framework, from basin-wide to process oriented metrics – Anna Teruzzi** (OGS, Italy)

17:00 – 17:15 **Marine machine learning applications for sea level and wave forecasting and sparse satellite data reconstructions – Matjaz Licer** (Slovenian Environment Agency)

17:15 – 17:30 **Assessment of a high-resolution numerical model's ability to reproduce the dynamics shaped by the Pelops (Ionian Sea) anticyclonic eddy – Victor Quilfen** (SHOM, France)

17:30 – 17:45 **High-resolution numerical modeling of the Strait of Gibraltar: Exploring fine-scale dynamics – Jean-Baptiste Rouston** (SHOM, France)

20:00 Dinner in Lisbon city center (self-paid)

Thursday 4 December 2025

09:00 - 10:45 Session 3: *Advances in Mediterranean Sea Modelling Capabilities and Applications*

09:00 – 09:15 **A cloud-based multi-source approach to estimating ocean heat content – Enrico Baglione** (INGV, Italy)

09:15 – 09:30 **About the use of temperature climatologies for the study of the Spanish Mediterranean tropicalization – Manuel Vargas-Yáñez** (CSIC, Spain)

09:30 – 09:45 **What can we learn from the extraordinary mucilage event in the northern Adriatic in 2024? – Ivica Vilibić** (Institut Ruđer Bošković, Croatia)

09:45 – 10:00 **High-Resolution Digital Twins for Crete: Powering Maritime Safety, optimal ship routing and AI-Driven oil spill response – Antonios Parasyris** (Foundation for Research and Technology-Hellas, Institute of Applied and Computational Mathematics, Greece)



10:00 – 10:15 **Citizen Science and Digital Twin Integration for Coastal Resilience: Lessons from Cala Iris (Morocco)** – *Houssine Nibani* (AGIR Al Hoceima Marine Observatory, Morocco)

10:15 – 10:30 **From saltwater Intrusion to freshwater plumes: Modeling the Adriatic coastal response to drought and flood extremes (2022–2023)** – *Alejandro Paladio-Hernandez* (CNR, Italy)

10:30 – 10:45 **Assimilation of SWOT satellite observations in high-resolution Western Mediterranean simulations** – *Baptiste Mourre* (IMEDEA (CSIC-UIB), Spain)

10:45 - 11:15 Coffee break and posters

11:15 - 12:45 Session 3 (cont'd): Advances in Mediterranean Sea Modelling Capabilities and Applications

11:15 – 11:30 **Assimilating nadir SLA at multiple resolutions in the Western Mediterranean Sea** – *Maximo Garcia-Jove* (SOCIB, Spain)

11:30 – 11:45 **December 2019 seiche episodes in the Adriatic Sea** – *Marco Bajo* (CNR-ISMAR, Italy)

11:45 – 12:00 **Oil hazard mapping of the Mediterranean Sea** – *Marco Seracini* (UNIBO, Italy)

12:00 – 12:15 **Integrating observations, models, and theory to characterize multi-scale ocean dynamics in the Northwestern Mediterranean** – *Jordi Isern-Fontanet* (FICM-CSIC/ICATMAR, Spain)

12:15 – 12:30 **Leveraging Objective Eulerian Coherent Structures to reduce drift-forecast errors for operational applications** – *Christian Mario Appendini* (Universidad Nacional Autonoma de Mexico, Mexico / Aarhus University, Denmark)

12:30 – 12:45 **Coastal Digital Twin: A science-based framework for sustainable resilience and adaptation** – *Jacopo Alessandri* (CMCC, Italy)

12:45 - 14:00 Lunch and posters

14:00 - 15:30 Session 4: EDITO TRAINING (*Joint with EuroGOOS Coastal Working Group*)
Training sessions: Explore, Create, Contribute

15:30-16:00 Coffee break and posters

16:00 - 17:30 Session 4 (cont'd): EDITO TRAINING
Hands-on session

17:30 End of MonGOOS workshop

Posters (displayed on 3 and 4 December)

1. **Scaling multiscale coastal observing: Lessons from Global Networks for the Mediterranean** – *Tom Parry* (Sofar Ocean, Netherlands)
2. **Measurements and analysis of medicanes and meteotsunamis in the Strait of Sicily** – *Gabriele Nardone* (ISPRA, Italy)
3. **Enhancing marine monitoring through linked open data: innovations from the PNRR MER Project for Italian Coastal and Offshore Ocean Observation Networks** – *Marco Picone* (ISPRA, Italy)
4. **HPC-enabled oil-spill hazard mapping along shipping lanes in the Italian Seas** – *Juliana Ramos* (CMCC, Italy)
5. **Predicting short-term pollution in coastal zones: an integrated modelling approach** – *Alessandro Alabiso* (DHI, Italy)
6. **FLORETHA, a high-resolution operational system for bay-scale management: early validation in Alfacs Bay, Ebro Delta** – *Maria Liste* (UPC, Spain)
7. **Multi-year observations of the Adriatic Sea: hydrological pattern and variations in summer period** – *Simona Saviano* (Stazione Zoologica Anton Dohrn, Italy)
8. **A Year's Echo: Tracking MOW at 1000 m depth at the North Atlantic gateway** – *Carlos Sousa* (IPMA, CCMAR, Portugal)
9. **C-SWOT2023 field experiment. Mesoscale dynamics under SWOT swaths in the Mediterranean Sea** – *Margot Demol* (IFREMER-LOPS, France)
10. **LisOcean: An operational modelling system for coastal risk management and Blue Economy support in the Lisbon metropolitan area** – *Soraia Romao* (CoLAB +ATLANTIC, Portugal)
11. **Downscaling techniques for the service of the Spanish ports** – *Anna Matulka* (Puertos del Estado, Spain)
12. **Chasing Mediterranean outflow water with Argo floats** – *A. Miguel Piecho-Santos* (IPMA / CCMAR-Centre of Marine Sciences of the Univ. Algarve, Portugal)