



The ocean covers 71% of the Earth's surface and drives global systems that make the Earth habitable for humankind. It provides food, materials, energy, and transportation. Weather, climate, and coastlines are ultimately linked to and regulated by the sea. Despite the worldwide recognition that the ocean provides life-sustaining services to society, human impacts are driving major changes on the ocean, which are putting liveability at risk. Our ability for sustainable management of the ocean will depend on the data collected and the information and knowledge derived from it.

EMSO-PT INITIATIVE

The Atlantic dimension of Portugal, with c. 1,700,000 km² maritime area, led to the prioritization of the European Multidisciplinary Seafloor and water column Observatory - Portugal (EMSO-PT) in the national scientific infrastructures' roadmap. The EMSO-PT initiative is a research consortium joining 15 Portuguese research institutions, with the aim of implementing a network of multidisciplinary underwater observatories in the Atlantic, as well as laboratories and data processing support infrastructures. EMSO-PT is the Portuguese counterpart of European Multidisciplinary Seafloor and Water Column Observatory – European Research Infrastructure Consortium (EMSO ERIC).

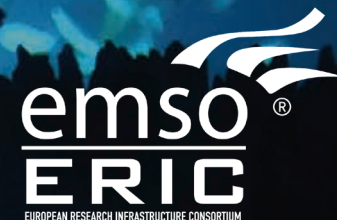
PARTNERS Portuguese Institute for Sea and Atmosphere, I.P. (Coordinator) • Instituto Superior de Engenharia do Porto • Institute for Systems and Computer Engineering, Technology and Science • Task Force for the Continental Shelf Extension Project • Interdisciplinary Centre of Marine and Environmental Research • Centre of Marine Sciences • Faculty of Engineering of the University of Porto • Centre for Environmental and Marine Studies • Faculty of Sciences of the University of Lisbon • Instituto Superior Técnico • Centro de Investigação Tecnológica do Algarve • Space & Earth Geodetic Analysis Laboratory • CEiiA • University of Évora University of the Azores



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EMSO-PT INITIATIVE

Fostering ocean observation in Portugal

Coordinated by Portuguese Institute for Sea and Atmosphere, I.P (IPMA)

THE GOAL

EMSO-PT's priority is to generate continuous scientific data on marine environmental processes related to the interaction between the geosphere, biosphere, and hydrosphere, and to develop new sensors and platforms which will extend ocean monitoring in the near future. Monitoring variables will include biotic and abiotic variables of the ocean floor and water column, namely temperature, salinity, turbidity, acoustics, currents, and dissolved oxygen.

STAKEHOLDERS

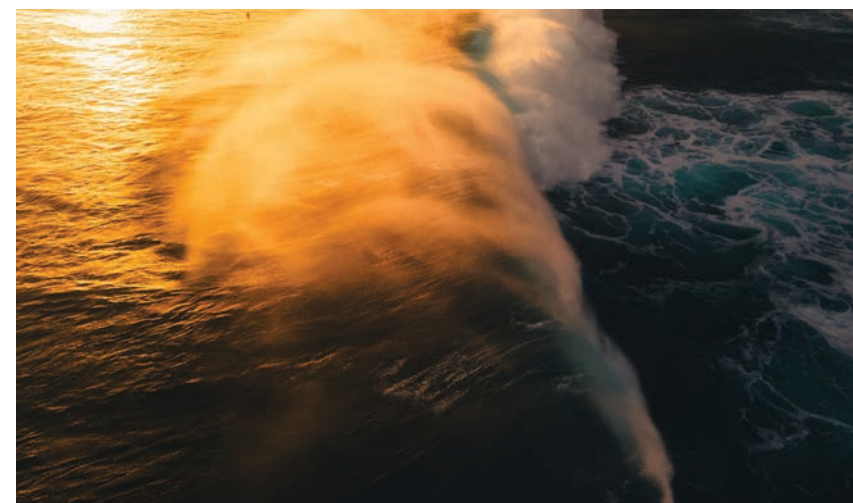
EMSO-PT main stakeholders are the R&D community, national administration entities related with ocean policy and governance, and the economic sector.



OBSERVATORIES AND LABORATORIES TO SUPPORT SCIENCE-BASED SERVICES

EMSO-PT will be focusing on the Iberian Margin as it is one key area for the monitoring of climate change. Iberian Margin is characterized by wind-induced coastal upwelling controlling fisheries, the presence of Mediterranean outflow with implications on deep ocean circulation, and it provides excellent sites to study the variations in the hydrologic cycle. The focus of EMSO-PT is related with the monitoring of the Essential Ocean VariableS (EOVs) in the Iberian Margin focusing on the Gulf of Cadiz and NE Atlantic, and also related with the application of the European Marine Strategy Framework Directive.

To achieve these goals the land-based analytic and engineering network that supports data collection efforts were upgraded during the 2019– 2021 period. Main equipment includes a mass spectrometry with inductively coupled plasma (ICP-MS) ICP PlasmaQuant, a MCSL-XCT, a X-ray fluorescence (XRF) core scanner, EMSO Generic Instrument Module (EGIM), gliders, a1 plankton multinet, a multibeam for the deepsea remote operated vehicle (ROV) Luso, a long endurance autonomous surface vehicle, a water column profiler, and a pressurized bioreactor system.



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DATA DISSEMINATION

Data will be disseminated through EMSO ERIC channels, allowing for the integration and open access of data acquired by all partners of EMSO ERIC, and by the research community at large. EMSO-PT outputs are also share through IPMA's platform for data sharing being developed in the scope of the "Atlantic Observatory – Data and Monitoring Infrastructure" project funded by the "Blue Growth" Program of the EEA Grants Portugal 2014–2021.

FUNDING

European Regional Development Fund (ERDF): 5,271,377 €
National Public Funds - Portuguese National Funding Agency for Science, Research and Technology (FCT): 3,747,461 €
Total Public Investment: 9,018,838 €