

# THE MODULE FOR OCEAN OBSERVATORY DATA ANALYSIS OF EMSO

Bardaji, R., CSIC, Spain, [bardaji@icm.csic.es](mailto:bardaji@icm.csic.es)  
Bartolomé, R., CSIC, Spain, [rafael@icm.csic.es](mailto:rafael@icm.csic.es)  
Dañobeitia, J., CSIC, Spain, [jjdanobeitia@cmima.csic.es](mailto:jjdanobeitia@cmima.csic.es)  
García, O., UTM - CSIC, Spain, [ogarcia@utm.csic.es](mailto:ogarcia@utm.csic.es)  
Del Rio, J., UPC, Spain, [joaquin.del.rio@upc.edu](mailto:joaquin.del.rio@upc.edu)  
Piera, J., ICM - CSIC, Spain, [jpiera@icm.csic.es](mailto:jpiera@icm.csic.es)

## Abstract:

The European Multidisciplinary Seafloor and water-column Observatory (EMSO) is a large-scale, distributed, Marine Research Infrastructure (RI). EMSO consists of ocean observation systems for long-term, high-resolution, (near) real-time monitoring of environmental processes including natural hazards, climate change, and marine ecosystems. EMSO observatory nodes are at key sites around Europe, from the Arctic to the Atlantic, through the Mediterranean, to the Black Sea. To analyse the EMSO data, we develop the Module for Ocean Observatory Data Analysis (MOODA). MOODA is a software with a Graphical User Interface (GUI) developed for scientists. The software helps to facilitate data access (mainly off-line) for further analysis by the scientific community. Some of the features the MOODA offers are: (1) Direct data access with complex query capabilities; (2) Data filtering methods based on metadata information; (3) Complex visualization tools; (4) Summary reports of the validated data generated from a specific query, including event annotations; (5) Specific data analysis tools for different scientific disciplines; (6) The system will be designed to be open, adaptable and scalable allowing future contributions from researchers and developers from all the disciplines associated to the EMSO observatories. The code is written in Python, and it is available on GitHub. MOODA aims to make informative plots as a central part of exploring and understanding data.

<http://www.emso-eu.org/>