



European Marine Observation Data Network - EMODnet Physics

Giuseppe M.R. Manzella (1), Antonio Novellino (1), Paolo D'Angelo (1), Patrick Gorringe (2), Dick Schaap (3), Sylvie Pouliquen (4), Thomas Loubrieu (4), and Lesley Rickards (5)

(1) ETT, Genova, Italy (giuseppe.manzella@ettsolutions.com), (2) EuroGOOS, Bruxelles, Belgium (patrick.gorringe@eurogoos.eu), (3) BV MARIS, Voorburg, The Netherlands (dick@maris.nl), (4) Ifremer, Brest, France (sylvie.pouliquen@ifremer.fr), (5) NERC BODC, Liverpool, UK, (ljr@bodc.uk)

The EMODnet-Physics portal (www.emodnet-physics.eu) makes layers of physical data and their metadata available for use and contributes towards the definition of an operational European Marine Observation and Data Network (EMODnet). It is based on a strong collaboration between EuroGOOS associates and its regional operational systems (ROOSs), and it is bringing together two very different marine communities: the "real time" ocean observing institute/centers and the National Oceanographic Data Centres (NODCs) that are in charge of ocean data validation, quality check and update for marine environmental monitoring.

The EMODnet-Physics is a Marine Observation and Data Information System that provides a single point of access to near real time and historical achieved data (www.emodnet-physics.eu/map) it is built on existing infrastructure by adding value and avoiding any unless complexity, it provides data access to users, it is aimed at attracting new data holders, better and more data. With a long-term vision for a pan European Ocean Observation System sustainability, the EMODnet-Physics is supporting the coordination of the EuroGOOS Regional components and the empowerment and improvement of their data management infrastructure. In turn, EMODnet-Physics already implemented high-level interoperability features (WMS, Web catalogue, web services, etc. . .) to facilitate connection and data exchange with the ROOS and the Institutes within the ROOSs (www.emodnet-physics.eu/services).

The on-going EMODnet-Physics structure delivers environmental marine physical data from the whole Europe (wave height and period, temperature of the water column, wind speed and direction, salinity of the water column, horizontal velocity of the water column, light attenuation, and sea level) as monitored by fixed stations, ARGO floats, drifting buoys, gliders, and ferry-boxes.

It does provide discovering of data sets (both NRT - near real time - and Historical data sets), visualization and free download of data from more than 1500 platforms.

The portal is composed mainly of three sections: the Map, the Selection List and the Station Info Panel. The Map is the core of the EMODnet-Physics system: here the user can access all available data, customize the map visualization and set different display layers. It is also possible to interact with all the information on the map using the filters provided by the service that can be used to select the stations of interest depending on the type, physical parameters measured, the time period of the observations in the database of the system, country of origin, the water basin of reference. It is also possible to browse the data in time by means of the slider in the lower part of the page that allows the user to view the stations that recorded data in a particular time period. Finally, it is possible to change the standard map view with different layers that provide additional visual information on the status of the waters. The Station Info panel available from the main map by clicking on a single platform provides information on the measurements carried out by the station. Moreover, the system provides full interoperability with third-party software through WMS service, Web Service and Web catalogue in order to exchange data and products according to the most recent interop standards. Further developments will ensure the compatibility to the OGS-SWE (Sensor Web Enablement) standard for the description of sensors and related observations using OpenGIS specifications (SensorML, O&M, SOS). The full list of services is available at www.emodnet-physics.eu/services.

The result is an excellent example of innovative technologies for providing open and free access to geo-referenced data for the creation of new advanced (operational) oceanography services.