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EOSC-FUTURE –ENVRI-FAIR SP Environmental Indicators –Ocean

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In the EOSC-Future project, ENVRI-FAIR partners are involved in developing two Science Projects (SPs), one about Invasive Species, and one about a Dashboard of the State of the Environment. The Dashboard should provide easy means to users to determine the state of the environment and follow trends of our Earth system for a selected number of parameters within the Earth components of Atmosphere, Ocean, and Biodiversity.

MARIS leads the development of the Ocean component in cooperation with IFREMER, OGS and NOC-BODC. It consists of a Map Viewer that displays in-situ measurements of selected Essential Ocean Variables (EOVs), namely Temperature, Oxygen, Nutrients and pH. These measurements are retrieved from selected Blue Data Infrastructures (BDIs) such as Euro-Argo and SeaDataNet CDI using tailor-made APIs for fast sub-setting at data level. The user interface is designed for citizen scientists and allows them to interact with the large data collections retrieving parameter values from observation data by geographical area and using sliders for date, time and depth. The in-situ values are co-located with product layers from Copernicus Marine, based upon modelling and satellite data.

Performance is a major challenge as users should not wait too long for on-the-fly retrieving and displaying the data in the Map Viewer following their selection criteria. This requires intense cooperation between marine researchers and EOSC computing experts.

In-situ data sets are also used in algorithms to generate aggregated values as dynamic trend indicators for sea regions. These are displayed at the Environmental Indicators dashboard and provide ocean trend indicators for the selected EOVs for designated areas. While, users can then click on such an indicator guiding them to the Map Viewer to browse deeper into the data and details facilitating the trends. Also, for this step use will be made of selected EOSC services.

Any relevant links

Topic

EOSC Compute Platform

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