MELOA Catalogue and Geoportal: A modern approach for open access and visualization of in-situ drifter data

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Abstract

The MELOA project proposes to develop a low-cost, easy-to-handle, wave resilient, multi-purpose, multi-sensor, extra light surface drifter for use in all water environments: The WAVY drifters. The data products generated by the MELOA project are openly accessible through standard-based Catalogue and Geoportal to promote the availability of the data to other communities such as GEOSS, Copernicus or EMODNet.

MELOA will provide an effective way to monitor surface currents and surface dynamic features and temperature at different levels. A complete Software Ecosystem is developed in MELOA to manage the transmission of data from the WAVY drifters (Argos, GPRS; Wi-Fi), raw files collection (WavyHub App), campaigns operation and data curation (WAVY Operation SW); and consolidation of data products (L1 Processor) to finally make the data openly accessible through the Catalogue and Geoportal. This article focuses on these last two components.

Driven by FAIR data-sharing principles and state-of-the-art data visualization technologies, the following components are developed: 1) A Data Catalogue to make WAVYs data and metadata openly accessible in standard formats such as CSV, O&M, DCAT, GeoDCAT; allowing interoperability and connection with other EO catalogues. 2) A Data Geoportal, exposing interoperable Web Services such as OGC WFS and OGC SWE/SOS and effective data visualization taking advantage of Vector Tiles technology.

The MELOA Catalogue and Geoportal are developed and described as a modern approach for data sharing and visualization of marine in-situ drifter data.