

EGU24-18613, updated on 23 Jul 2024

<https://doi.org/10.5194/egusphere-egu24-18613>

EGU General Assembly 2024

© Author(s) 2024. This work is distributed under the Creative Commons Attribution 4.0 License.



How to benefit from multi-sensor synergy using open Ocean Virtual Laboratory tools

Lucile Gaultier¹, Fabrice Collard¹, Craig Donlon², Ziad El Khoury Hanna¹, Sylvain Herlédan¹, and Guillaume Le Seach¹

¹OceanDataLab, Brest, France

²ESA

In the past decade, the emergence of new satellites and sensors has facilitated the observation of a diverse range of oceanic physical variables across various scales. For instance, the Sentinel 1-2-3-6 program encompasses sensors like SAR, Ocean Color, Temperature brightness, or altimeter, each with an individual long revisit time but a rapid revisit from a constellation perspective. Additionally, geostationary sensors such as SEVIRI contribute by providing Infra Red SST every hour, significantly enhancing coverage in cloudy areas. These variables contain crucial information about the ocean's state.

Despite the wealth of data, discovering, collocating, and analyzing a heterogeneous dataset can be challenging and act as a barrier for potential users wishing to leverage Earth Observation (EO) data. Accessing low-level data and preparing them for analysis requires a diverse set of skills. Addressing this challenge, the Ocean Virtual Laboratory Next Generation (OVL-NG) project has developed two tools, which will be introduced.

Firstly, online data visualization websites, such as <https://ovl.oceandatalab.com>, have been made publicly accessible. These platforms empower users to explore various satellite, in-situ, and model data with just a few clicks. Users can navigate through time and space, easily compare hundreds of products (some in Near Real-Time), and utilize drawing and annotation features. The OVL web portal also facilitates sharing interesting cases with fellow scientists and communicating about captivating oceanic structures.

Secondly, a complementary tool named SEAScope offers additional features for analyzing pre-processed data and user-generated data. SEAScope is a free and open-source standalone application compatible with Windows, Linux, and macOS. It allows users to collocate data in time and space, rendering them on a 3D globe. Users can adjust rendering settings on the fly, extract data over a specific area or transect, and interface with external applications like Jupyter notebooks. This functionality enables users to extract data on a shared grid, analyze them, and import the results back into SEAScope for visualization alongside the input data.

The OVL-NG tools will be showcased at the OceanDataLab booth

