

Copernicus Ground-Based Observations for Validation (GBOV): a dedicated webservice providing EO Land Products validation data

C. Lerebourg¹, G Bai, E Ronco, V Bruniquel, M Clerici, N Gobron, J.P. Muller, R Song, J Dash, L Brown, E Lopez-Baeza, E Albero, D Ghent, E Dodd

1) christophe.lerebourg@acri-st.fr, ACRI-ST

Abstract

For several decades, ground-based monitoring sites have been established as part of wider thematic observation networks, providing a wealth of highly relevant information for the assessment of earth environment. These data have proved to be fundamental for the validation and quality assurance of Earth Observation (EO) data. However, the uptake of these valuable in situ observations is hampered by several issues such as access restrictions, insufficient standardization, inconsistent quality, lack of spatial or temporal coverage. In addition, data acquisition strategy of these sites has generally not been designed to support EO data validation activities.

GBOV (Ground-Based Observations for Validation, <https://land.copernicus.eu/global/gbov>), as part of the Copernicus Global Land Service (CGLS), aims at addressing these two issues through the following objectives:

- To collect multi-year ground-based observations from existing network and make the most of it for the needs of EO data validation. These ground-based observations are collected over a series of selected sites operated by international research networks (such as AERONET, ARM, BSRN, FluxNet, NEON, OZFlux, SurfRad, TERN, USRCN, ...).
- To deploy and maintain ground instrumentation specifically designed to respond to EO validation needs on existing or completely new sites.
- To implement and maintain a database for the distribution of Reference Measurements (RMs) and the corresponding Land Products (LPs).

The initial focus of GBOV is on providing the information required for in depth quality assessment of the products offered through the global component of the Copernicus Land Monitoring Service (CLMS), i.e. the Copernicus Global Land Service (CGLS): top-of-canopy reflectance, surface albedo, leaf areas index, fraction of absorbed PAR, fraction of vegetation cover, land surface temperature and soil moisture. Obviously, the information offered through GBOV may also be used for a wide range of applications beyond the CGLS. Sentinel-2 and Sentinel-3 land products validation is indeed within the scope of GBOV. This talk will present the GBOV infrastructure, provide an overview of the service and

products offered and conclude with the strength and weaknesses of existing infrastructure as well as the needs and requirements for future EO validation.

Keywords - Product Validation