

Essential Climate Variables in the Copernicus Global Land Service

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Abstract:

The Copernicus Global Land Service (CGLS) provides continuously a set of bio-geophysical variables describing, over the whole globe, the vegetation dynamic and the energy budget at the continental surface. These generic products serve numerous applications such as agriculture and food security monitoring, weather forecast, climate change impact studies, water, forest and natural resources management.

The CGLS portfolio includes a number of Essential Climate Variables like the Leaf Area Index (LAI), the Fraction of PAR absorbed by the vegetation (FAPAR), the burnt areas, the surface albedo, the Land Surface Temperature (LST), the soil moisture, and the areas of water bodies. The LAI, FAPAR, burnt areas, albedo, and areas of water bodies are derived every 10 days from PROBA-V sensor data, the LST is derived from geostationary sensor data every hour while the soil moisture is derived from active microwave sensor data every day. Besides the timely NRT production, the available historical archives of sensors data (e.g. the SPOT/VEGETATION images) are processed, using the same innovative algorithms, to get consistent time series as long as possible.

All Copernicus Global Land Service products are accessible, free of charge after registration through FTP/HTTP (<http://land.copernicus.eu/global/>) and through the GEONETCast satellite distribution system. The products are provided with documents describing the physical methodologies, the technical properties of products, and the results of validation exercises.

This talk will present the status of the ECVs into the CGLS, including the results of their quality assessment. We will introduce as well the planned evolutions of the CGLS like the addition into the portfolio of new ECVs (e.g. the land cover), and the future use of Sentinel-3 data to ensure the continuity of the service and the extension of the time series.