



Validation and inter-comparison of medium resolution LAI and fAPAR products derived from MODIS, MERIS and VEGETATION

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The principles used to derive LAI and fAPAR products from medium resolution satellite sensors such as MERIS, MODIS and VEGETATION are first presented. Then these products are inter-compared over a set of CEOS-BELMANIP sites proposed by the community as a benchmark for product evaluation. The products considered include the 1km resolution products from MODIS 8 days composite (collection 4), 1km 10 days composite VEGETATION_CYCLOPES products (version 2), and the Reduced resolution MERIS CVEG (version 1). The whole 2003 year is used to evaluate the smoothness of the products, as well as the consistency between their seasonality. The relationships between LAI and fAPAR are also investigated to understand the internal consistency of the products.

Direct validation was finally conducted by comparing the satellite products to ground measured LAI and fAPAR values. This was achieved over a subset of the VALERI sites for which high spatial resolution maps were computed from the local ground measured LAI and fAPAR values, up-scaled to the whole $3 \times 3 \text{ km}^2$ site using a SPOT/HRV high spatial resolution image. The results are discussed with regards to the individual performances of each product, as well as possible improvements in the methodology used for this direct validation.