



## Core Service Bio-geophysical Parameters

The Biogeophysical Parameter Core Service (CSP) supplies generic information on biogeophysical attributes of land surfaces at regional and global scales, which are relevant in several fields of GMES applications such as carbon flux estimations for climate modelling, crop monitoring for food safety, and ecosystem degradation.

The teaming of the CSP has been conceived in order to favor the integration of existing research & development and service providers at the European level. It uses the output of existing European projects (Land SAF / Eumetsat, Cyclopes / FP5, Globcarbon / ESA, Eldas / FP5). At the same time, it builds on national initiatives, such as GeoSuccess in Belgium (<http://www.geosuccess.net>), and Postel in France (<http://medias.obs-mip.fr/postel>).

The goal of CSP and **geoland** is to build a first product catalog during the course of the project, demonstrate pre-operational capabilities, and conceive an operational scenario for the future. The pre-operational work made within CSP and **geoland** will be followed by the onset of appropriate



**Vegetation over Africa**

operational services of product distribution following the general evolution of GMES.

### CSP organisation

The CSP structure is made of a network of Researchers (Météo-France, U. Wien, TU Wien, U. Karlsruhe, U. Bonn, Noveltis), who conceive and validate the methodologies, and a network of Service Providers (IM Portugal, VITO, MEDIAS-France, EARS, GPCC), who build processing lines of operational quality and perform the production. CSP is managed by MEDIAS-France, whose role is to define the Service Portfolio in relation with all

concerned stakeholders, coordinate the network, and be an entry point for the user community.

CSP is the first and unique European project to set up a visible network to serve the future GMES Services in biophysical parameters. The added value relative to other operational efforts existing in Europe is the integration of existing activities at European level, oriented towards this new objective.

### CSP Portfolio

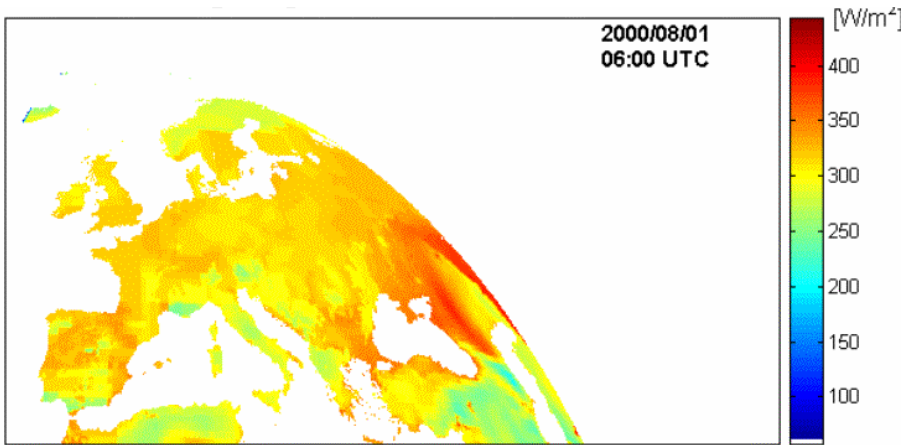
The description of the existing **geoland**-CSP product catalog is summarized in the table below. It contains vegetation variables (leaf area index, fraction of vegetation cover, fraction of absorbed photosynthetically active radiation, burnt areas), radiation variables (downwelling radiation flux, land surface temperature, albedo), and water variables (soil moisture, precipitation, evapotranspiration, water bodies).

Since the CSP project results from an integration of existing activities, such products already exist at some stage of development. On the other hand, some methodological improvements have been undertaken during the **geoland** project. Novel methods are being developed for the downwelling shortwave radiation, land surface temperature, soil moisture from passive microwave measurements, and precipitation products.

For all other products, a strong emphasis is given during **geoland** in efforts aiming at customizing the products to user needs (projection, resolution, coverage, etc), and providing an improved accuracy level assessment to the users.

Product	Parameter	Space Coverage	Time Coverage	Space Resolution	Time Resolution	Sensor
Vegetation	LAI	Continent	1998 - 2003	1 km	1 day	VEGETATION
	Fcover FAPAR Burnt Area	to Global			to 10 days	
Radiation	Surface Reflectance	Continent	1993 - 2003	1 km	½ hour	METEOSAT GOES – GMS VEGETATION AVHRR
	Surface Albedo Downwelling Shortwave radiation Downwelling Longwave Radiation Land Surface Temperature	To Global		to 50 km	to 10 days	
Water	Precipitation	Continent	1992 - 2004	1 km	1 day	METEOSAT ERS/Scatt AMSR VEGETATION
	Soil Moisture Evapotranspiration Water Bodies	To Global		to 1°	to 10 days	

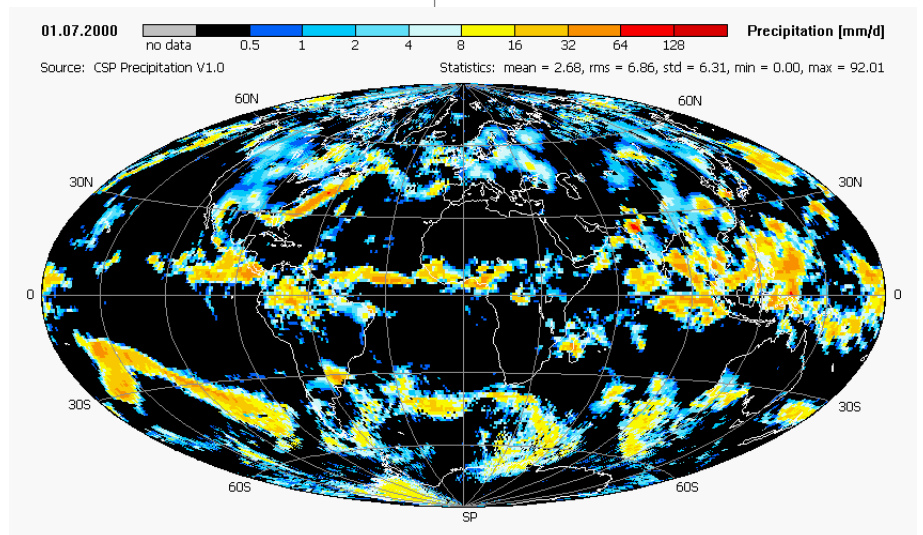
### CSP Service Portfolio



**Downwelling Longwave Radiation from METEOSAT-7**

Further information on CSP can be found at <http://www.gmes-geoland.info/cs/csp.html>.

The existing CSP product catalog has been determined through the interaction between the CSP team and the teams from other [geoland](#) sub-projects - Observatory of Natural Carbon (ONC), Observatory of Land cover change and Forest monitoring (OLF), Observatory of Food security and crop Monitoring (OFM) - aiming at the preparation of future GMES services. However, the user community goes beyond GMES and the CSP products can be of interest also for the European and international science community.



**Combined satellite gauge precipitation for July 2000.**

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