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An introduction to the Biogeophysical Parameter Core Service of the GEOLAND project

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The European GMES (Global Monitoring of the Environment and Security) initiative provides a political framework for future implementations of Service Centers in charge of the provision of products and services related to environmental applications. GEOLAND is an Integrated Project of the European Commission concerned with the land cover and vegetation thematic area of GMES. The main goal of GEOLAND is to address global and regional land surface monitoring issues to support international and European policies as well as European directives. The "global" activity has been structured in GEOLAND in one Core Service, the *Biogeophysical Parameter Core Service*, and three Observatories related to carbon flux, crop production and land cover change estimates. The function of the Core Service is to provide value-added remote sensing products needed as input in the Observatories ; the latter provide end users (including policy makers) with appropriate thematic products. The Core Service generates a number of bio-geophysical products at continental and global scales, in three categories : vegetation (leaf area index, vegetation fraction cover, fraction of absorbed PAR, burnt areas), radiation (downwelling flux at surface level, surface temperature, albedo) and water (soil moisture, water bodies, evapotranspiration, and precipitation). Multi-year, multi-sensor products will be produced in the project lifetime, from a variety of spaceborne instruments including VEGETATION, METEOSAT, AVHRR, ERS / Scatt, and AMSR. The goal of the Core Service is to demonstrate pre-operational capabilities by establishing strong and efficient producer / user relationships, with the objective of implementing a GMES operational service of provision of biogeophysical parameters in 2008 and beyond. The paper describes the Core Service objectives, structure and products, and concludes that its services will be highly beneficial for the scientific community involved in the study of Biogeochemical Cycles.