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1 SAF programme on Land Surface Analysis:

An operational production of surface parameters over Africa based on MSG observations

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The SAF (Satellite Application Facility) programme on Land Surface Analysis (LSA) aims at generating in an operational fashion surface variables from the observations of EUMETSAT satellites, MSG first, then later on EPS. LSA SAF is placed under the control of EUMETSAT who gave responsibility for piloting and production to the Institute of Meteorology of Portugal. The consortium encompasses 8 cooperative entities with 4 representing National Meteorological Services (Belgium, Finland, France, Portugal). The project moves into the operational phase in March 2007.

The project includes 5 categories of products: operational, internal operational, candidate operational, demonstrative, experimental. They are generated at the nominal spatial resolution of 3 km MSG and at the finer temporal resolution as possibly. Only operational products are available over the MSG disk and of public access (*www.landsaf.meteo.pt*). It concerns the albedo, the surface temperature, the shortwave and long-wave radiation fluxes, and the snow cover.

In particular, Météo France is in charge of the algorithmic development for albedo and short-wave radiation flux products for which it ensures the validation. This latter relies mainly upon a comparison with in situ measurements and equivalent satellite products like MODIS. Data collected over West Africa in the frame of the AMMA project allowed to start the validation of the SAF LSA products in this region, taking as reference the sites of Agoufou (Mali) and Niamey (Niger). This latter hosted an ARM Mobile station (Radagast) project. A satisfactory agreement is obtained between in situ measurements and MSG products for albedo and short-wave radiation flux. Some discrepancies outline however the difficulty for ground truth to represent the coarse resolution of MSG pixel. The impact of aerosol episodes and rainfall events on time series of MSG surface albedo products in 2006 is analyzed.