



Joint retrieval of aerosol load and surface reflectance using MSG/SEVIRI observations: towards a high temporal resolution product.

S.C. Wagner (1) and Y. Govaerts (2)

(1) Consultant, EUMETSAT, Darmstadt, Germany (sebastien.wagner@eumetsat.int), (2) EUMETSAT, Darmstadt, Germany (yves.govaerts@eumetsat.int)

The Land Daily Aerosol algorithm has been recently developed at EUMETSAT to derive the mean daily tropospheric aerosol load and surface reflectance from observations acquired by the SEVIRI radiometer on-board the Meteosat Second Generation satellites. Based on the Optimal Estimation method, this algorithm infers the aerosol optical depth from a forward radiative transfer model against daily accumulated observations in the 0.6, 0.8 and 1.6 SEVIRI bands. These daily time series provide the angular sampling used to discriminate the radiative effects that result from the surface anisotropy, from those caused by the aerosol scattering. However, such an approach is limited to track sharp daily variations of the aerosol atmospheric load, in particular in the case of quickly developing dust storms fronts. New efforts are now spent to make use of the high temporal resolution of the SEVIRI radiometer. In order to assess the possibility of increasing the temporal resolution of the current algorithm, the retrievals performed over the daily accumulated data, together with their associated errors, are used as prior information for a higher resolved observation time series. Comparisons are made against AERONET observations, and the first results of this feasibility study are presented here.