



IASI-derived Surface Temperature Under Dusty Conditions: Application to the West Africa Region.

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Giving access to energy and water budgets, Surface Temperature (ST) is considered as a key variable for a wide range of applications in particular for meteorology and climatology.

An accurate knowledge of this variable should significantly improve the monitoring of numerous atmospheric and surface processes as well as their interactions.

Even-though satellite sensors bring ST global fields at different spatial and temporal scales, the accuracy of these products is still questionable especially over land or for complex atmospheric conditions (presence of clouds, of aerosols, etc.).

At LMD, the ST is determined through the simultaneous “Look-up-Table” inversion of satellite METOP/IASI radiances in terms of Aerosol Optical Depth (AOD), dust layer mean altitude and surface temperature .

The main aim of this work is to validate IASI ST product and to analyze its spatial and temporal variability, in particular in the presence of dust aerosols.

This approach has been first applied to the West Africa region.

The accuracy of this ST product will be assessed in terms of bias and standard deviation against ST products from ECMWF forecast, from other satellite products (MODIS AQUA/TERRA, AATSR,...) and from in-situ measurements for different periods ranging from July 2007 to today according to the availability of these validation data.