

The FAO African Rainfall Estimate FAORFE

J. Grieser, S. Alessandrini, M. Evangelisti, R. Gommès, M. Bernardi, J. Ticheler, S. Cofield

Food and Agriculture Organization of the UN, FAO, Italy (juergen.grieser@fao.org / Phone: +39 06 570 54467)

Rainfall is the most important single meteorological variable in Africa. Extreme rainfall on the one hand can cause severe local damages to human property and infrastructure. Lack of rainfall during the growing season may lead to decreased yield and even to yield loss. Locust swarms are following the rain. Therefore precise and timely knowledge of daily rain pattern and amount is of high interest to many stakeholders.

FAO started an initiative to estimate daily rainfall pattern on a fine grid (3km resolution) for the whole African continent based on a combination of several precipitation estimates from different satellite data (microwave and infrared) and ground observations at rain gauges. The satellite estimations are the MPE algorithm, provided by Eumetsat and a specific application developed by FAO of the operational GOES infrared rainfall estimation technique (Vicente et al., 1998) that in our case takes into consideration the ECMWF analysis of humidity and atmospheric water vapour content. The highly configurable integration of the available estimations aims to combine the advantages of the different single products and by the same time reducing the overall error.

We present the different sources of information, the way they are combined, first examples of resulting precipitation fields and the web application that allows to browse and zoom the maps for different days and to download the data directly from the web server that hosts the outputs.

References:

Vicente, G.A., R.A. Scofield, W.P. Menzel, 1998: The operational GOES Infrared Rainfall Estimation Technique, BAMS 79, 9, 1883 - 1898.