Rain-gage based rainfall products for the MT ground validation in West Africa

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Abstract

In-situ ground rainfall measurements are required to calibrate and validate satellite products. Rainfall products based on rain gage measurements used for the Megha-Tropiques cal/val process in West Africa are presented here.
Daily rain fields are generated based on the CILSS/AGRHYMET daily rainfall network at the regional scale. High resolution rain fields from 5-minutes to daily time steps are also produced over the three AMMA-CATCH observatory sites (Niger, Benin and Mali) from dense recording rain gages networks.

Geostastical kriging methods are used to spatially interpolate the rain gage data: from the basic ordinary kriging used at regional scale to interpolate daily data to a more elaborated lagrangian kriging able to take into account the kinematic of the rainy systems in the interpolation process of 5-minutes rain fields.
The rain fields can be generated at various spatial resolutions in order to match with the resolution of the satellite products. Interpolation uncertainties are also provided when possible.

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