

Mesoscale rain rate initialization , using satellite based precipitation estimates , and monsoon forecast impacts

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Rainrate initialization for a mesoscale model is the theme of this proposal. Following our previous studies on global models, we have now designed a physical initialization for mesoscale models. This makes use of a blend of TRMM 3 B42 data sets and Indian rain gauge data sets to define the observed rainfall estimates. The physical initialization utilizes a newtonian relaxation scheme to initialize these observed rainfall estimates within a mesoscale model. The study focuses on Indian summer monsoon rains. Results of 3 to 5 day long forecast experiments with and without the rain rate initialization are compared. The forecast validations also utilize the same observed blended product. Evaluations of forecasts utilize the equitable threat scores that permits a distinction among light and heavy rains. We shall illustrate the strong positive impacts on precipitation forecasts from the deployment of rain rate initialization on the mesoscale.