

Validation of the BRAMS high resolution simulations by satellite radiance comparison.

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This study presents the first results obtained by the analysis of the Brazilian developments on the Regional Atmospheric Modeling System (BRAMS) high resolution (1 km) simulations, done as part of the CHUVA project. The analysis has been made by the comparison of simulated radiances, calculated using the Radiative Transfer Model for TOVS (RTTOV) with the BRAMS atmospheric profiles as input data, with their respective real satellite measurements. Infrared and microwave radiances of many radiometers aboard satellites were simulated (GOES-imager, MSG-SEVIRI, AVHRR, AMSU-A/B, TRMM, SSMI-S). The comparisons has been made by the statistical way (not a pixel based comparison), looking if the model reproduces the general morphological and microphysical aspects of the convection. The final objective of this study is to provide a validation of the BRAMS's CHUVA high resolution simulations data set as well a compilation of the best cases. This data set can be used in future studies aiming to the characterization of the warm clouds microphysics.