

Cumulus Parameterization Impact of the Simulation of the Dry to Wet Transition using Period in 2002 in the SW Amazon

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The transition of the dry to wet season in the Southern Amazon is characterized by the sudden increase of the latent heat source. In large scale models the parameterization of the latent heat source is considered to be a major source of uncertainty. Thus, it is reasonable to consider the impact of different cumulus parameterizations in the transition process in the CPTEC global circulation model. A set of experiments, based on the operational seasonal forecasting cycle, were performed with the traditional Kuo (K) scheme, as the control, and two experiments with the Relaxed Arakawa-Schubert (RAS). It is shown that the diurnal cycle of precipitation in the control produces maximum values in the morning while the RAS delays the maximum precipitation to the afternoon. Thus, the RAS is shown to produce more realist results. Significant differences are also found in the surface fluxes of heat and moisture as the RAS is shown to be more realist that the traditional Kuo scheme. Further experiments with the Grell scheme will also be shown and compared to the other two schemes.

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