

INFLUENCE OF SEA SURFACE TEMPERATURE IN CLIMATE NUMERICAL SIMULATIONS OVER BRAZILIAN NORTHEAST

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In the last years the limited area models became an efficient tool for studying and forecasting regional climate. The performance of the model depends on its ability in reproducing the climatic characteristics of the region of interest, what can be obtained through tests and adjustments. This work evaluated the RAMS performance in simulating the rainiest period of northern Brazilian Northeast (NEB) for two years of extremes rainfall anomalies: 1983 (dry) and 1986 (rainy). For each year two simulations were carried out, one forced by climatological SST and another forced by observed SST. The role SST on these long term simulations was verified through precipitation, precipitable water content and vertically integrated water vapor flux. The responses of the model forced by the SST observed during the dry year were the enhanced convective precipitation over the north coast, the reduced precipitation over the interior, as well the enhanced total precipitation over the sea. For the rainy year it was verified the enhanced convective precipitation over the north coast, the enhanced resolved precipitation over the highest areas, the enhanced total precipitation over the sea, as well the reduced precipitation over the east coast. The results showed that improvements in the configurations and/or parameterizations are necessary in order to obtain a more realistic representation of the rainiest period of the NEB.