

Poster.2: . **Analysis of model WRF sensibility on extreme events in the mountains of Rio de Janeiro**

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Abstract

The South Atlantic Convergence Zone (SACZ) is described as the meteorological phenomenon that most impacts the rainfall region in the southeastern and central-west regions of Brazil on the late Spring and Summer. Furthermore, these events usually cause great impacts due to their intense precipitation rate and accumulation. In this way, their prediction is of paramount importance. This prediction is made using global models, such as European Centre for Medium-Range Weather Forecasts (ECMWF) and Global Forecast System (GFS) , and regional models such as Weather Research and Forecasting (WRF). Thus, model improvements and their performance evaluation is useful and should be considered. This work aims to evaluate the impact of different initial conditions for the WRF model using high-resolution simulations for a severe precipitation event in the Rio de Janeiro State. The event occurred during SACZ period in February of 2022. The simulations start on February 11, 2022 at 00Z and end on February 18, 2022 at 00Z using the ERA5 reanalysis data as the first initial condition and the prediction data from the GFS model in order to observe the impacts and difficulties of forecasting data in identifying such extreme events.