

Seasonal forecast of extreme events over South America using physical ensemble approach

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The seasonal forecast of precipitation and temperature on a regional scale are very useful, mainly for the regions affected by extreme events: such as droughts and floods. These events are commonly associated to global scale phenomena (e.g. El Niño/South Oscillation). The objective of this work is to improve the performance of seasonal regional forecast of extreme events over South America using a mixed physics ensemble approach. For this purpose, seasonal simulations using the ETA regional climate model (ETACLIM) of the Center for Weather Forecast and Climate Studies (CPTEC) were carried out for the austral summer 1997/1998 (El Niño). The different convection schemes available in the model were used to constitute the members of the ensemble. The model was initialized and updated at the lateral boundaries by the National Centers for Environmental Predictions (NCEP)/Department of Energy (DOE) reanalysis II data each 6 hours. The model results of precipitation and temperature over select regions of South America are compared with Global Precipitation Climatology Project (GPCP) and Climate Research Unit (CRU) data and are discussed.