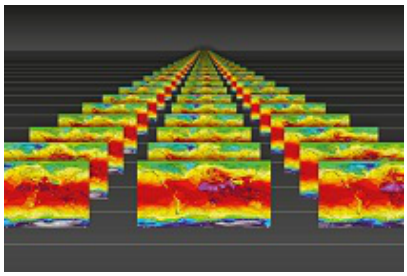

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INTRASEASONAL VARIABILITY OVER SOUTH AMERICA USING REFORECASTING MODELS AT SUB-SEASONAL TO SEASONAL TIMESCALE

Climate forecasts at subseasonal to seasonal (S2S) timescales have received little attention until recently, even though research focused on seasonal forecasting are already being developed for several decades. The S2S forecasts seek to fill a significant gap between short and long-term forecasts, and its applicability can be seen in several social and economic sectors. In this context the objective of this work is to evaluate the response of six S2S models in representing the intrassazonal signal on South America, using the Multivariate Intraseasonal Rainfall index over South America (MIRI.SA) for the period of 1999 to 2010. The models from S2S project are: ECMWF, NCEP, UKMO, ECCC, CNRM and BOM. The majority of models were able to represent the spatial patterns associated with the intraseasonal precipitation signal over South America, mainly the first mode of variability, and the explained variances were close to the values found in the observed data. The spatial pattern of the second mode was not represented in all models, possibly because it is a transition mode of the first. The analysis of autocorrelation and cross-correlation showed that the models capture very well the signals of the smaller lags. Some models register longer cycle than the observed one. In the cross correlation evaluation the models show similar cycles, and loses the signal after 15 days. The initial evaluations show that the results are promising, especially when dealing with the South American rain associated with the sign and the representation of the regional summer precipitation.

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