

Seasonal prediction of the intraseasonal variability of the West African summer monsoon precipitation

Luis Ricardo LAGE RODRIGUES

*Catalan Institute of Climate Sciences (IC3), Spain, luis.rodriques@ic3.cat
Javier Garcia-Serrano, Francisco J. Doblas-Reyes*

Presenter :

Luis Ricardo Lage Rodrigues

More than half of the world's population lives in regions affected by monsoons. In these regions the year-to-year climate variability has important implications for agriculture, economy and society. Therefore, predicting the evolution of the rainy season is of great interest. As one of the most relevant monsoon systems, the West African monsoon (WAM) rainy season peaks in boreal summer. Its variability can be understood as the result of two rainfall regimes: the Guinean and the Sahelian regimes. In this study, three operational dynamical forecast systems are used to assess the current seasonal forecast quality of these two modes of the WAM rainfall variability. A simple statistical-empirical model based on lagged regression, which has the equatorial Pacific and Atlantic Ocean sea surface temperature as predictors, is used to predict the principal components associated with these two modes of variability. Decision makers usually require a single source of probabilistic information instead of a set of uncalibrated predictions. The multimodel technique has been widely used to combine several sources of information into a single forecast. The Forecast Assimilation, which is a Bayesian approach for calibrating and combining predictions from different sources, is used to combine the four forecast systems. The skill of this combination is compared to the skill of a simple multi-model where all single forecast systems are merged with equal weight. The forecast quality assessment of the deterministic and probabilistic predictions of the two modes of variability is assessed for the combinations and the single forecast systems.