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Intra-seasonal variability of precipitation over the Guinean coast and Central Africa: Predictability perspective from TIGGE forecast dataset

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We have analyzed the skill of TIGGE multi-model forecast ensemble to predict the rainfall activity during northern spring over the gulf of Guinea. These evaluations have been performed by applying standard analysis of intraseasonal variability to these forecast products. The analysis have been conducted on a set of 6 data sets, 4 from individual models and 2 other respectively built by arithmetic mean (Ensemble) and by a linear combination of simulations of each member of the Ensemble (Super-Ensemble). We have considered forecasts at 1, 5 and 10-day ranges. The skill of these multi-runs models, has been evaluated by comparing their results with those of FEWS rainfall from satellite observations, in terms of predicting intra-seasonal variability, high events, and how they represent equatorial wave's dynamics (especially the kinematic and spatial pattern of Kelvin's wave).
The Ensemble model seems to be the most able to predict the strong events of the intra-seasonal variability, while the Super-Ensemble has the lower bias in the representation of scales of variability and equatorial wave dynamics.

Keywords: TIGGE forecast data set, Gulf of Guinea, Spring, Regression Analysis, Intraseasonal Variability

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