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## **An assessment of the skill, sources of predictability and the climatological biases within sub-seasonal precipitation hindcasts over Africa**

As part of the GCRF project “African Science for Weather Information and Forecasting”(African-SWIFT), this study assesses the sub-seasonal precipitation hindcast quality over Africa using three operational ensemble prediction systems (ECMWF, UKMO, and NCEP) from the S2S database. Deterministic forecast quality is quantified using different metrics, such as linear correlation and mean squared skill score (MSSS), comparing the observation datasets at consecutive four weekly lead times. The correlation scores are higher during the first week and drop as lead time increases, maintaining reasonable skill over west and east tropical Africa, particularly during transition seasons. Systematic errors are measured through MSSS, exhibiting large errors after the first week. To improve our understanding of the forecast skill for the ECMWF model we analyse the bias and model’s representation of the teleconnection from major drivers of S2S predictability, specifically with reference to the Madden-Julian Oscillation (MJO) and the El Niño-Southern Oscillation (ENSO). ENSO and MJO phase dependent skill analysis is conducted in order to examine the influence of these particular climate drivers on forecast quality over this region.

**Primary authors:** THOMPSON, Elisabeth M. (National Centre for Atmospheric Science, University of Reading); DE ANDRADE, Felipe M. (National Centre for Atmospheric Science, University of Reading); DUNNING, Caroline (National Centre for Atmospheric Science, University of Reading); YOUNG, Matthew (National Centre for Atmospheric Science, University of Reading); HIRONS, Linda (National Centre for Atmospheric Science, University of Reading); BLACK, Emily (National Centre for Atmospheric Science, University of Reading); WOOLNOUGH, Steve (National Centre for Atmospheric Science, University of Reading)

**Presenters:** THOMPSON, Elisabeth M. (National Centre for Atmospheric Science, University of Reading); DE ANDRADE, Felipe M. (National Centre for Atmospheric Science, University of Reading)

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