



## **The West African Monsoon simulated by global and regional climate models**

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We present results from two ensembles of global and regional climate simulations with a focus on the West African Monsoon (WAM). The first ensemble includes eight coupled atmosphere ocean general circulation models (AOGCMs) from the CMIP5 project, namely: CanESM2, CNRM-CM5, HadGEM2-ES, NorESM1-M, EC-EARTH, MIROC5, GFDL-ESM2M and MPI-ESM-LR. The second ensemble consists of corresponding downscaling of all 8 AOGCMs by a regional climate model - RCA4 produced at the Rossby Centre (SMHI) in the Africa-CORDEX activities. Spatial resolution varies from about 1° to 3° in the AOGCM ensemble while all regional simulations are at the same 0.44° resolution. To see what added value higher resolution can provide ability of the eight AOGCMs and the downscaled RCA4(AOGCMs) to simulate the key characteristics of the WAM rainy season are evaluated and then inter-compared between the global and regional ensembles. The main focus in our analysis is on the WAM rainy season onset, cessation, length, total precipitation, its mean intensity and intraseasonal variability. Future climate projections under the RCP45 and RCP85 scenarios are analyzed and again inter-compared for both ensembles in order to assess uncertainties in the future projections of the WAM rainy season from the global and regional ensembles.