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UCT research improves understanding of seasonal climate prediction

Focusing on dissimilarity in computer simulations can improve understanding of the variability and predictability of seasonal climate in Africa, according to new research in Environmental and Geographical Science at the University of Cape Town. Kamoru Lawal's PhD thesis, "Understanding the variability and predictability of seasonal climates over West and Southern Africa using climate models", investigates the extent to which seasonal climate can be predicted over West Africa and Southern Africa.

The thesis uses discrepancy in a large array of climate simulations as a tool to investigate variability in dominant seasonal rainfall and temperature patterns over two regions, to examine the capability of climate models in reproducing the variability, and to study the seasonal climate predictability. The study shows that some simulations perform substantially better and others substantially worse than the average of all the simulations, but the best simulations for a particular region/variable combination may not be exceptional for another region/variable. While identifying the best simulations can provide substantial improvement over usage of the average of all the simulations, the possibility of misidentifying those simulations poses a serious risk to seasonal forecasting.

Lawal has BTech and MTech degrees from the Federal University of Technology Akure, Nigeria. He graduated from UCT on Saturday, 19 December 2015. His doctoral research emerged as a result of his seasonal forecasting experience at the Nigerian Meteorological Agency, where he has been a member of research and forecasting staff since 1997. His PhD research was supervised by Dr Babatunde Abiodun in the Environmental and Geographical Science Department at UCT, and Dr DA Stone of the Lawrence Berkeley National Laboratory in the USA.

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