

Cross-institutional development of knowledge and capacity building amongst African climate scientists partnering in AMMA-2050

March 2018

Project:

AMMA-2050

Authors:

Dr Adama Bamba,
Dr Rory Fitzpatrick,
Dr Youssouph Sane and
Dr Siny Ndoye

IMPACT

By the conclusion of the training course, participants had received sufficient tuition to complete the climate atlas metrics with sporadic advice available from UK-based scientists when requested. The training course allowed for the successful completion of the climate atlases, as well as improving the ability of African researchers on AMMA-2050 to interrogate climate data for themselves, and provide training at their own institutions on computer programming.

The training project also allowed early career researchers from AMMA-2050 to become better acquainted. Outside of annual meetings, there are not many opportunities to build personal relationships between early career researchers within AMMA-2050. The personal relationships built during this workshop have developed throughout the timeframe of AMMA-2050 and have led to several collaborative projects between attendees that may not have otherwise taken place.



THE CHANGE STORY

Part of the co-production of climate information in AMMA-2050 included the development of an atlas containing information about projected future climate changes in West Africa, or climate metrics, that are relevant to supporting medium-term decision making. Such metrics included information on annual rainfall and the number of extreme precipitation days per year.

In line with the capacity building aims of AMMA-2050, it was decided that the production of this atlas would be undertaken by African climate scientists who would be trained and supervised by UK-based climate scientists with more coding experience. The decision was made to combine production of the climate change atlases with a Python scientific language training course for African climate scientists involved in AMMA-2050. The week-long training course was planned and overseen by scientists from the Met Office, the Centre for Ecology and Hydrology – Wallingford, and the University of Leeds with the course held in Leeds in December 2016. Eight African climate scientists were invited to the course with the aim of learning the required skills to produce the climate metrics atlases for AMMA-2050.

Training African scientists in the scientific coding methods needed to analyse ensemble climate data has allowed for improved capacity to interrogate climate change impact projections within the AMMA-2050 scientific team, as well as providing strengthened scientific capacities across a number of West African countries.



FURTHER RESOURCES

[Early career researchers boost skills in climate modelling](#)

[Building research capacity in Early Career Researchers – insights from an international climate research programme](#)

FCFA area of change 2:

Strengthening scientists' capacities to develop decision-relevant climate information.

LEARNING

While co-production of climate information often focuses on interactions between scientists and decision makers, it also entails the ability of scientists from across different institutions to bring together their respective areas of knowledge. Moreover, sustainable capacities for co-production necessitate the establishment of the required national and regional expertise.

Whilst production of the climate atlases could have been undertaken quicker by the three workshop supervisors (given their prior experience of Python and ability to produce the metrics quickly), such a method would not have improved the capacity of African scientists to expand their own analysis and education. The effort required to organize and lead the Python training workshop, as well as the time spent overseeing the production of atlas metrics by African scientists was substantial.

However, the benefits to partnering institutions and the wider West African region are significant. Such investment in training courses, whilst taking time and effort, provide enough positive outcomes in terms of capacity building to demonstrate the sustainable strengthening of African climate science expertise, one of the principal desired outcomes of the FCFA programme.

Future Climate for Africa's Areas of Change are:

1. Enhancing scientific knowledge and prediction of African climate and new understanding of the resulting impact on the robustness of future climate change scenarios.
2. Strengthening scientists' capacities to develop decision-relevant climate information.
3. Increasing the capacities of users/decision making bodies/institutions to appropriately integrate climate information within medium-term decision-making.
4. Approaches that support co-production of decision-relevant climate information and enable channels for on-going dialogue between the providers and users of climate information.
5. Identifying social, political, behavioural and economic barriers to the use of climate information in long-term decision-making, working to elicit solutions which support effective integration of climate risks within decision making across scales, sectors and social groups.
6. Approaches to climate science research and climate-sensitive risks within medium-term decision making which enable active participation and address the specific concerns of women and marginalised groups.

Funded by:



**Natural
Environment
Research Council**

Disclaimer

This document is an output from a project funded by the UK Government's Foreign Commonwealth and Development Office (FCDO) and the Natural Environment Research Council (NERC) for the benefit of developing countries and the advance of scientific research. However, the views expressed and information contained in it are not necessarily those of, or endorsed by FCDO or NERC, which can accept no responsibility for such views or information or for any reliance placed on them. This publication has been prepared for general guidance on matters of interest only, and does not constitute professional advice. You should not act upon the information contained in this publication without obtaining specific professional advice. No representation or warranty (express or implied) is given as to the accuracy or completeness of the information contained in this publication, and, to the extent permitted by law, the Future Climate for Africa's members, UK Government's Foreign Commonwealth and Development Office (FCDO), the Natural Environment Research Council (NERC), their advisors and the authors and distributors of this publication do not accept or assume any liability, responsibility or duty of care for any consequences of you or anyone else acting, or refraining to act, in reliance on the information contained in this publication or for any decision based on it. Copyright © 2021, Future Climate for Africa. All rights reserved.