

Improving the accuracy of essential African weather forecasts

February 6 2017, by Anna Martinez



Credit: University of Leeds

A comprehensive new handbook about weather forecasting in West Africa could help safeguard lives and resources in the region.

Meteorology of Tropical West Africa: The Forecasters' Handbook was coordinated by the University of Leeds in collaboration with international researchers and meteorological agencies to help the region's [weather forecasters](#). It results from the African Monsoon

Multidisciplinary Analysis (AMMA), the biggest research programme into African [weather](#) and climate ever conducted.

The handbook includes theory, weather [forecasting methods](#), and case studies of West African weather systems. It follows 15 years of collaborative international research.

Handbook editor and coordinator, Professor Douglas Parker a meteorologist at Leeds' School of Earth and Environment, said: "Accurate weather forecasts are essential for early warning systems that can protect lives, property, and water and food resources. The handbook is the first time any global region has produced a definitive document for forecasting.

"Not only is this handbook a way for new research to be brought rapidly into practice it represents an international effort to disseminate important information to a region that has been neglected in the past."

Handbook co-editor Dr Mariane Diop-Kane, Director of Meteorology at the Agence Nationale de L'Aviation Civile et de la Meteorologie (ANACIM) in Senegal added: "West Africa has a large population dependent on agriculture and rural transport infrastructure, both of which are vulnerable to weather systems.

"Abrupt changes in weather can have devastating consequences to populations, their health and economies. The use of the handbook as a training tool will provide a new resource for forecasters to help safeguard this region."

Many of the new forecasting methods described in the handbook were developed as part of the training and coordination of 15 West African forecasters by Jean-Philippe Lafore from Météo France. These West African forecasters provided support during a four month AMMA field

campaign in 2006 by producing bespoke weather forecasts used in the deployment of research instruments such as weather balloons and research aircraft.

West African forecasters further developed these new forecasting methods at the University of Leeds in 2012 during a three month stay. The forecasters interacted with researchers from the UK, France and Germany, to combine the latest theoretical data with the experience weather forecasters have gained from professional practice.

The Met Office in the UK has actively supported the project, contributing to the scientific workshops and leading two of the book's 11 chapters. The Met Office is providing funding to purchase copies of the book and ensure the distribution of Meteorology of Tropical West Africa: The Forecasters' Handbook to West African forecasters and training centres. The book will be used by the Met Office as a resource for the training of [forecasters](#) in African and tropical weather prediction.

More information: Meteorology of Tropical West Africa: The Forecasters' Handbook. www.wiley.com/WileyCDA/WileyTitle.wileyCDA-1118391306.html

Provided by University of Leeds

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