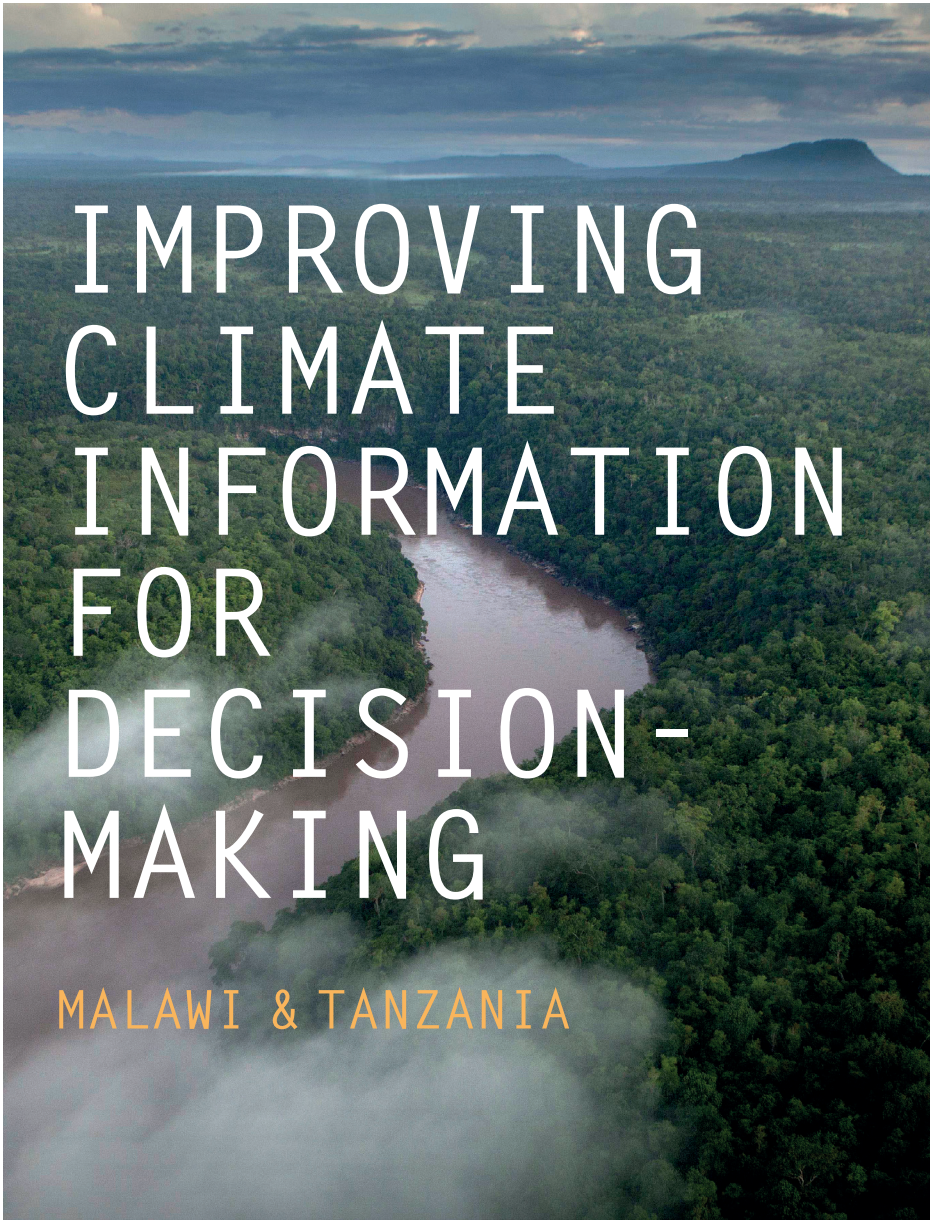


IMPROVING CLIMATE INFORMATION FOR DECISION-MAKING

MALAWI & TANZANIA

FUTURE CLIMATE FOR AFRICA

UKaid from the British people

NERC SCIENCE OF THE ENVIRONMENT

THE PROJECT "UNCERTAINTY REDUCTION IN MODELS FOR UNDERSTANDING DEVELOPMENT APPLICATIONS" IS ALSO KNOWN AS UMFULA ("RIVER" IN ZULU). IT WILL IMPROVE CLIMATE INFORMATION FOR DECISION-MAKING IN CENTRAL AND SOUTHERN AFRICA.

The project is generating new insights and more reliable information about climate processes and extreme weather events in central and southern Africa – and their impacts on water and agriculture. These insights will support the more effective use of climate information in national and local decision-making. We hope to support planning decisions that will make development more resilient in a changing climate.

How UMFULA will make climate information more useful for planners in Africa

Higher quality, more useful information about the future climate and its impacts

Global climate models cannot currently capture, in full, the complex drivers of central and southern Africa's climate. To gain a better understanding of how the climate could evolve in the future, UMFULA is investigating which models most effectively simulate the regional climate. Our goal is to have a clearer description of how the climate will change over the next 5–40 years, and how these changes will vary from region to region. Our results will improve the understanding of potential changes in water availability, which is relevant for planning investments in water infrastructure and agriculture.

Aims

The project will support planning around resource use, infrastructure investment and cross-sectoral growth priorities. It will help identify robust and resilient options for adapting to climate change and to other, non-climate pressures, such as demographic change.

Making climate information more accessible and tailored for planners

A changing climate in the next few decades will affect some of the infrastructure and development programmes that are being designed and financed today. However, for now, climate information is seldom used in planning processes. UMFULA aims to address this gap. With an understanding of which decisions are made, by whom, and how, the project team will use new climate information to target and inform planning processes.

Supporting robust decisions for an uncertain future

The climate is one aspect of a country's future which is uncertain: other examples of future uncertainties include aspects of international trade and commodity prices,

Applying climate information in practice

Our two real-life examples will trial the use of new climate information offer contrasting locations and development priorities:

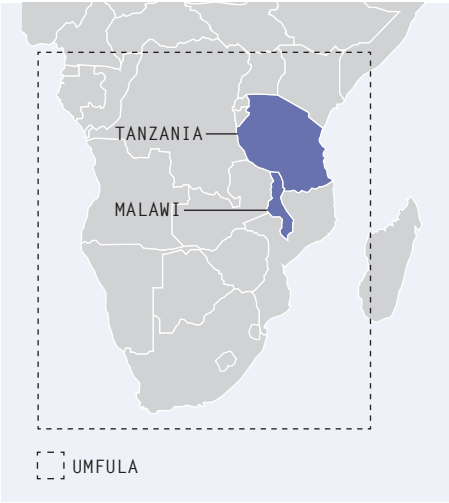
Rufiji river basin, Tanzania

The Rufiji produces half of Tanzania's river flow, supplying water for 4.5 million people, water for irrigation and livestock and generating roughly 80% of the country's hydropower. Many different stakeholders across multiple sectors are affected by planning and decisions about the industrial and agricultural investment required to meet the 2025 Development Vision aims.

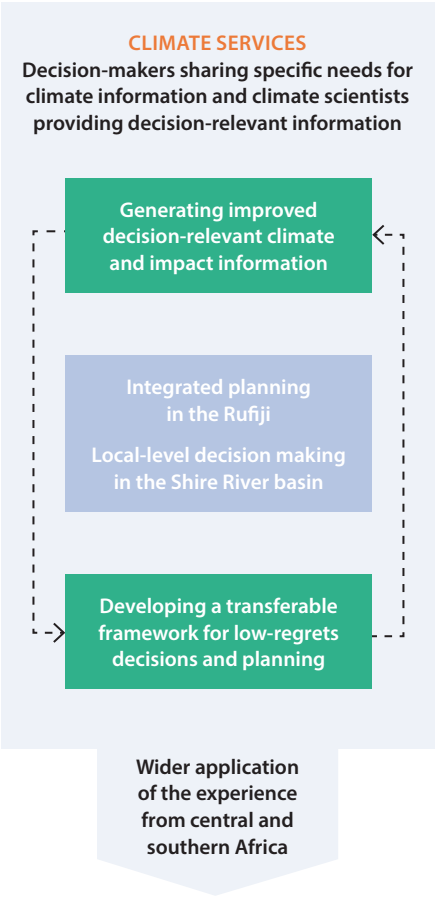
District level planning in the Lower Shire river basin, Malawi

Water availability is critical in southern Malawi. Pressures on water resources are projected to increase as a result of climate change, combined with population growth and development. The government's commitment to decentralisation means that increasing numbers of decisions are taken at a district level. UMFULA is working to integrate information about the future climate into water and agricultural planning, focusing in the districts of Chikwawa, Nsanje and Thyolo.

and political cycles. Planners need to make decisions about their country's future in the face of such uncertainties, and with imperfect information. At a country or regional level, climate scientists may foresee future trends in rainfall, temperatures and related impacts, such as sea level rise, droughts and flooding. However, even with information on trends, scientists cannot predict exactly when, where and how changes in the climate will happen. As part of the UMFULA project, researchers and decision-makers will partner in a collaborative dialogue to identify critical vulnerabilities and thresholds where climate change may pose unacceptable risks to planned development activities. The team will support a range of actors involved in development decisions to evaluate future climate scenarios and identify various adaptation options. Decision-makers can use this information to consider which options are most appropriate to help them fulfil their medium to long term planning goals.



How UMFULA will work



UMFULA project team

A global consortium of institutions specialising in cutting edge climate science, impacts modelling, and integrating climate information into decision-making to enable adaptation to climate change

- Grantham Research Institute on Climate Change and the Environment (London School of Economics and Political Science) – UK
- Kulima Integrated Development Solutions – South Africa
- University of Oxford – UK
- University of Cape Town – South Africa
- Sokoine University of Agriculture – Tanzania
- Lilongwe University of Agriculture and Natural Resources – Malawi
- University of Leeds – UK
- Council for Scientific and Industrial Research – South Africa
- University of Manchester – UK
- University of KwaZulu – Natal – South Africa
- University of Sussex – UK
- University of Dar es Salaam – Tanzania
- University of Yaoundé – Cameroon
- Tanzanian Meteorological Agency
- Mozambique National Institute of Meteorology

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