

Agriculture and Rural Development in Africa

Walker Institute research

Satellite monitoring of rainfall for agriculture in Africa

The TAMSAT group has developed rainfall monitoring methods for agriculture in Africa on Meteosat imagery. Recent research shows that this method works better than other more sophisticated approaches for sub-Saharan Africa.

We now have a 15 year archive of rainfall estimates covering most of Africa and are attempting to extend this to cover the full

time span of Meteosat imagery (about 30 years).

Current partners include Ethiopia Met Service, Uganda Met Service, World Food Programme in the Sudan and Agrhymet.

<http://www.met.reading.ac.uk/tamsat/about/>

Using climatic data effectively for agriculture

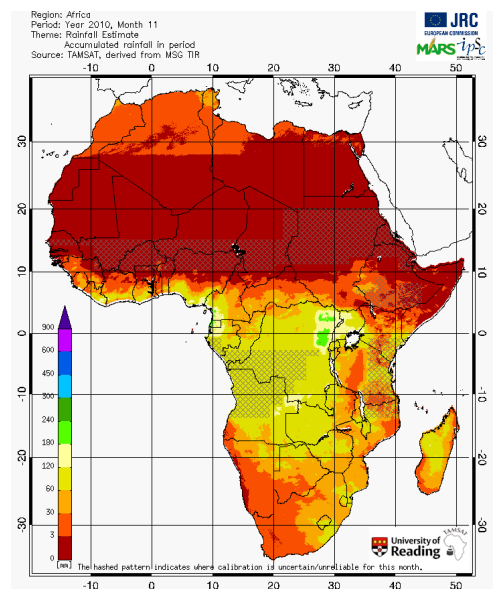
National Meteorological Services and other bodies routinely record and store climatic data. Appropriate statistical analyses of these datasets provide essential information for agricultural activities, for food security and in disaster planning. For example, information on climate variability is important to prepare for the impact of future climate change. Increasingly, statistical analyses are yielding benefits in other sectors such as health, construction and tourism.

Statistics in Applied Climatology (SIAC) courses have been developed by the Statistical Service Centre to give people working with climatic data the skills they

need to use historical datasets effectively and to produce relevant, tailored outputs that can assist end-users in making better decisions.

The **e-SIAC** programme is an innovative, web-based, e-learning venture which has been developed to make the SIAC training more widely available – both to National Meteorological Service staff, and to climatic data users in other sectors. E-SIAC is directed primarily – but not exclusively – towards climatic data users and producers in Africa.

<http://www.reading.ac.uk/ssc/courses/siac/>



Rainfall estimate derived from Meteosat thermal infra-re channels based on the recognition of convective storm clouds and calibration against ground-based rain gauge data. Year 2010, Month 11

Food crops in a changing climate

The Crops and Climate Groups has developed a new combined climate and crop forecasting system that captures the impacts of climate variability and change on crops.

Our research provides country- and region-level forecast of these climate impacts on seasonal to decadal timescales allowing a range of adaptation options to be examined.

We authored a Royal Society statement tabled at the G8 Summit in Gleneagles in 2005 that concluded that:

“world leaders, along with other government and non-governmental organisations, need to take actions to understand, monitor and adapt to the impacts of climate change on food crops.”

“This is particularly vital in the case of Africa where there is a need to develop innovative solutions and adaptive strategies that deliver long-term, sustainable livelihood in an era of climate change.”



Disaster risk reduction, institutional learning, development frameworks and improving communication for farmers

Research in the Livelihoods Group addresses issues of governance, conflict and justice in the process of adaptive response to climate change. It includes assessments of resilience in social-ecological systems and projects in Africa to explore effective livelihood adaptation and transitions.

Our scientists have developed, used and trained others in using participatory research methods to explore rural information systems and communication networks. Through this systems and networks land users can access knowledge to support sustainable changes in livelihoods in the face of changes in the physical and economic environment.

We are providing support to governments, international agencies and NGOs to develop tools and guidelines to integrate disaster risk management, adaptation and sustainable poverty-reduction.

Recent customers include the British Red Cross/Red Crescent, DFID, UNDP and the World Bank



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