

ENHANCING NATIONAL CLIMATE SERVICES

A New Climate for Social and Economic Growth in Rwanda

Rwanda's 2020 vision for development is positioning it to become a knowledge-based economy. Major improvements in health, agriculture, energy and other climate sensitive sectors, are underway, supported by extensive investments in data and information and communication technology. To support this vision, Meteo Rwanda has partnered with the International Research Institute for Climate and Society and others to meet the increasing demand for better climate information. The Enhancing National Climate Services (ENACTS) initiative delivers robust climate data, targeted information products and training specifically relevant to the needs of public, private and civil society actors, enabling them to apply climate information to manage short and long term risks with confidence.

Why Quality Climate Data Is Needed

In Rwanda, a country of "a thousand hills" and famously varied topography, incorporating the climate into development decisions is critical. Where to grow specific crops, when to release water stored in a hydro-power dams, when to initiate disaster response, how to measure the impact of malaria interventions – all can benefit from climate information on the past, present and likely future conditions. Quality climate data enables analysis of climate data at multiple scales to enhance development decisions.

It uses detailed historical climate data to:

- + Understand natural variability in temperature and rainfall over national, regional and district scales and assess the impacts on development outcomes.
- + Understand climate sensitivity to map populations and systems at risk of climate variability and change.
- + Improve the timing and scale of climate-sensitive interventions.

It provides the ability to monitor current climate and to develop forecasts to:

Trigger early warning systems to alert for potential food insecurity, infectious disease epidemics and hydro-meteorological disasters.

- + Strengthen activities to support climate-smart sustainable development, including multi-sectoral approaches.

The Climate Data Challenge

Using climate information, however, requires quality assured data at the appropriate spatial and temporal scales. Many countries in Africa have gaps in climate observational records which result in poor quality data, undermining the reliability of climate analysis, short-term forecasts and seasonal predictions.

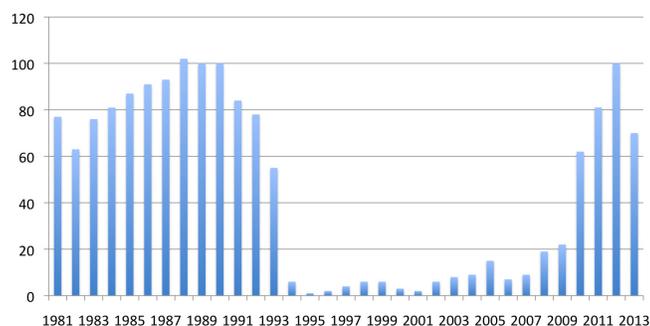
Rwanda, however, faces a unique challenge owed to the long-term disruption in its observational network as a result of the 1994 genocide (figure). Furthermore, technical constraints limit what little is available. Global

climate products – derived from satellite data, model outputs (reanalysis) or interpolated sparse station data – may provide information on the historical climate, but data quality issues severely limit their use in local analysis in Rwanda.

Overcoming the Challenge

To overcome challenges in the availability, access and use of climate data and information, the Enhancing National Climate Services (ENACTS) initiative has been launched in partnership with a number of National Meteorological Agencies in Africa (incl. Meteo Rwanda), supported by the International Research Institute for Climate and Society and its partners.

By integrating ground-based observations with proxy satellite and other data, ENACTS products and services overcome



The number of reporting stations in Rwanda dropped precipitously in 1994, have only recently been restored.

ENACTS

Learning from Rwanda

This new approach, developed specifically for Rwanda, gives hope to other countries whose climate observations have been disrupted for various reasons. The methodology developed for generating temperature time series over Rwanda are now being used to improve the length and quality of temperature data for countries where ENACTS has already been implemented.

“ We have to cultivate cross-sectoral efforts and broad partnerships in the years ahead so that we can accelerate synergies...”

President Paul Kagame
Co-Chair, Millennium Development Goals Advocacy Group

issues of data scarcity and poor quality, introducing quality-assessed and spatially complete data services into national meteorological agencies to serve stakeholder needs. One of the strengths of ENACTS is that it harnesses all local observational data, incorporating high definition information that globally produced or modelled products rarely access. The resulting spatially and temporally continuous datasets allow for the characterization of climate risks at a local scale. The ENACTS initiative improves the:

Availability of data is enhanced by blending data from the national observation network with those from satellite and proxy climate reanalysis and elevation maps. In order to overcome the huge observation gap between 1994 and 2010, specific methodologies were developed for Rwanda. As a result, over thirty years of rainfall and temperature data are now available every 5km across Rwanda, enabling high definition climate analysis from community to national levels.

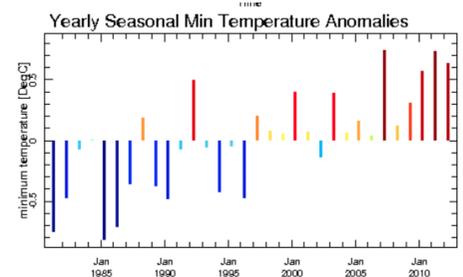
Access is improved by making information available online. An online mapping service, populated and customized using the powerful IRI Data Library, is installed at

national meteorology services with user-friendly tools for the analysis, visualization and downloading of climate information.

Use of climate information is enhanced by practitioners and decision-makers identifying their information needs to guide development of products and training. This user-led approach ensures ENACTS builds capacity and empowers users to apply climate information with confidence.

Added value of ENACTS to Rwanda's development agenda

The ENACTS initiative strengthens policy analysis, relevant for multiple sectors, by providing relevant data with national coverage with much greater accuracy at smaller spatial and temporal scales. ENACTS is particularly important to the development of climate services in Rwanda, where it is helping to overcome the historical data gaps, while providing improved information and products that respond to present and future decision-maker needs.



CONTACT

ENACTS@IRI.COLUMBIA.EDU

<http://iri.columbia.edu/>