Enhancing National Climate Services for Development in Africa

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Outline

I. Major Challenges (ENACTS strives to address)

II. The ENACTS Approach
   1. Improving Data Availability
   2. Improving Access to Climate Information
   3. Improving the Use of Climate Information

III. Major Outputs

IV. What is next for ENACTS?
I. Major Challenges

- Number of weather stations inadequate and declining
- Most stations are located along main roads ➔ Limited availability climate information and services to the rural community
- Serious gaps in observations (missing data)
- Questionable data quality
- Limited access to and use of the available data
Major Challenges: Data Availability

Average (2001 to 2010) number of stations per 100km X 100km grid box used by GPCC gridded rainfall product
Major Challenges: Data Availability

Average number of reporting weather stations in *Rwanda* during 1981 to 2013.

Average number of reporting weather stations in *Madagascar* during 1971 to 2014.
II. The ENACTS Approach

- Strives to simultaneously improve availability, access and use of climate information.
- Works with NMHS to quality-control all available station data and combine them with satellite and reanalysis products.
- The main focus of ENACTS is creation of reliable climate information for local decision-making.
The Three Pillars ENACTS

**ENACTS**

**Improve Availability**
- Build capacity of NMHS
- Quality Control station data
- Combine station data with proxies
- Improve seasonal forecast

**Enhance Access**
- Install IRI Data Library
- Develop online tools for data analysis and visualization
- Create mechanisms for data sharing

**Promote Use**
Engage users:
- Raise awareness
- Build capacity of users to understand and use climate info
- Involve users in product development
1. Reconstructing Climate Time Series

Data Quality Control

i. Identifying and correcting unlikely values

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Reconstructing Climate Time Series

Data Quality Control

i. Identifying and correcting unlikely values

October
Reconstructing Climate Time Series

Data Quality Control

i. Identifying and correcting unlikely values

![January temperature graph](image-url)
Data Quality Control

ii. Identifying and fixing breaks in station time series
Reconstructing Climate Time Series

Data Quality Control

Identifying and fixing breaks in station time series
Merging data from different sources

Station

Elevation

Satellite

Reanalysis

Combined

?
2. Improving Access: Map Rooms

Data + IRIDL =

Monthly Climate Analysis
Rainfall and temperature time series (1983-2010) reconstructed from station observations and remote sensing proxies. This interface allows users to view rainfall, maximum and minimum temperature climatologies and anomalies.

Dekad Climate Analysis
Rainfall and temperature time series (1983-2010) reconstructed from station observations and remote sensing proxies. This interface allows users to view rainfall, maximum and minimum temperature climatologies and anomalies.
3. Improving Use

i. Awareness raising

ii. Training

iii. Involving users in product generation
Major Outputs

• Over 30/50-years of climate time series for every 4km grid across each country:
  o Now data available where there are no stations

• Installation of the IRI Data Library at NMHS
  o A powerful tool for generating climate information

• Unprecedented online access to information products:
  o Satisfies the needs of many users
  o Overcomes (partly) the challenges of data access

• Built capacity at NMHS and some user communities
ENACTS Countries

Next(?):
Malawi
Mozambique
Kenya
Burkina

ENACTS* IN AFRICA

Deployed Nationally
Deployed Regionally

(Mauritania, Senegal, Guinea Bissau,
Burkina Faso, Niger, Chad)

*Enhancing National Climate Services

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IV. What is Next?

1. Add more climate variables (RH, PET/ET, ...)

2. Include seasonal prediction at national level
   - Evaluate; Improve; Implement

3. Add sector-specific Maprooms: Health, Agriculture, Water, Disaster, ..

4. Continued iterative user engagement
Thank You