

Climate Data Rescue in Selected Countries in Africa

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Outline

- The problem
- Proposed solution
- Implementation
- Scaling up

The problem

- Number of weather stations not adequate, and deteriorating
- Most stations located in the cities along main roads
 - Limited data over most of rural Africa
- Serious gaps in observations (missing data)
- Quality of available data not very good
- Limited access and use of the available data

Proposed solution

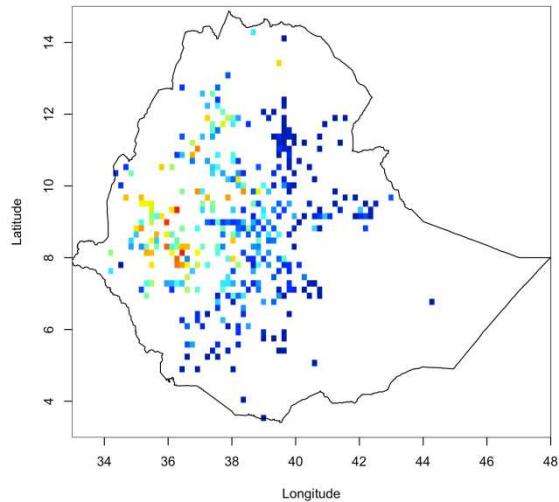
Improving availability:

- Rescue available data, quality control and combine local observations with global products such as satellite proxies and model reanalysis data
- Global products help in filling spatial and temporal gaps

Improving access and use:

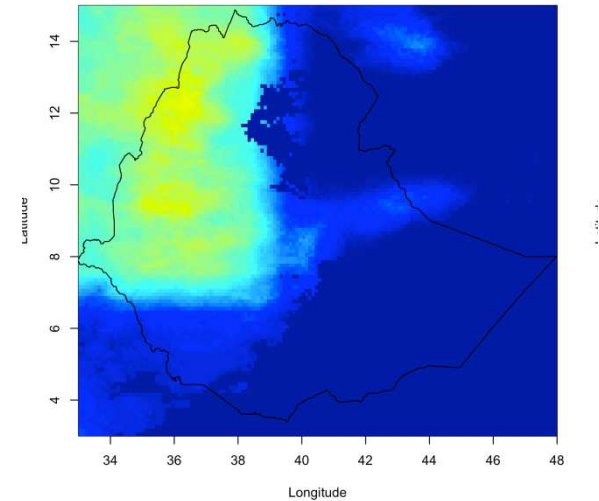
- Provide online-access to data, analysis tools, and products
- Develop products for specific applications
- Train users to understand, demand, and use climate data
- Facilitate the formation of community of practice

The Concept of Blending



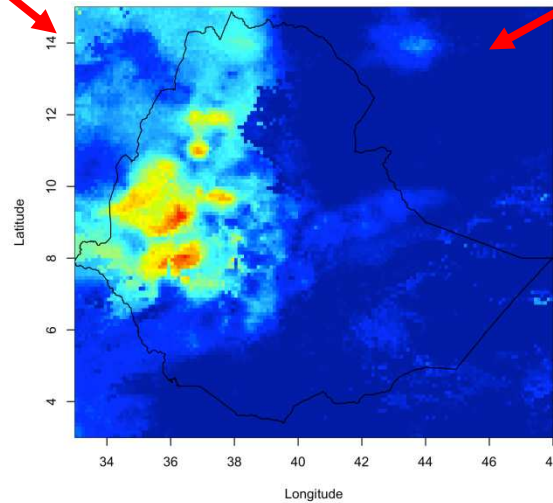
Conventional stn data

Less spatial coverage



Satellite data

Smooth out peak rain



Blended

Better estimation and spatial coverage

Implementation


In Ethiopia

- New high quality dataset at 10-daily time scale and 10km spatial resolution
 - Rainfall: 1983 to Current
 - Temperature: 1981-2010
- IRI, Reading University and EUMETSAT involved
- Huge data rescue, quality control and processing
- Online information presentation and analysis tools
- Capacity built at NMA to carry the work on operational level (calibration, grid, merge)
- Technology transfer: The IRI-Digital library tools customized and installed at NMA

Online access

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Location: Head Office | Photo Courtesy by NMA on October


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Climate Analysis



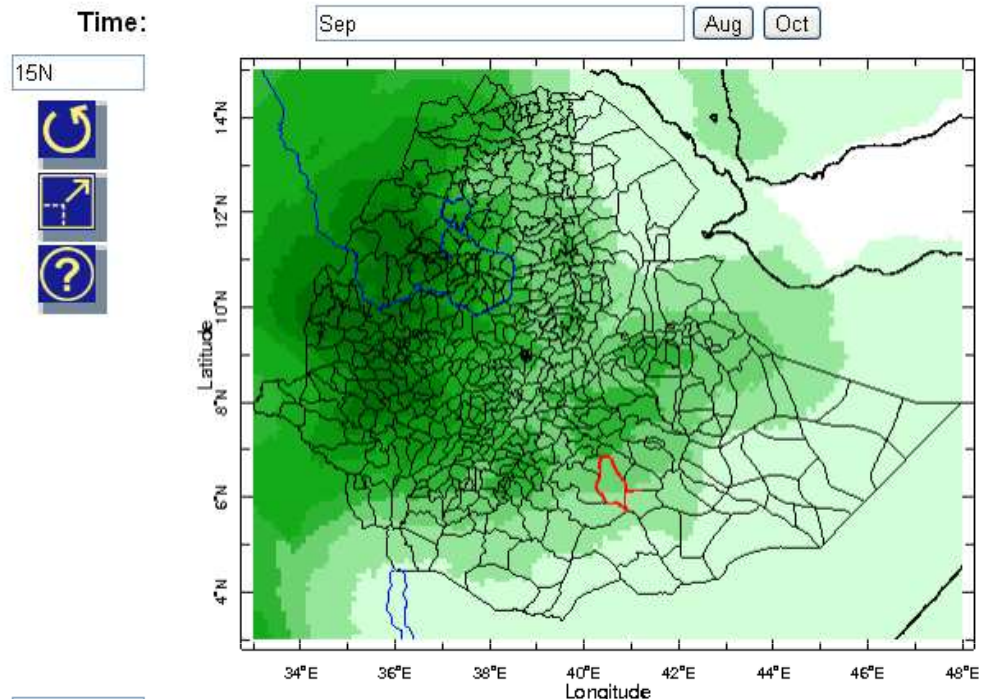
Rainfall and temperature time series (1983-2010) reconstructed from station observations and remote sensing proxies. This interface allows users to view rainfall, maximum and minimum temperature climatologies and anomalies.

Climate Monitoring

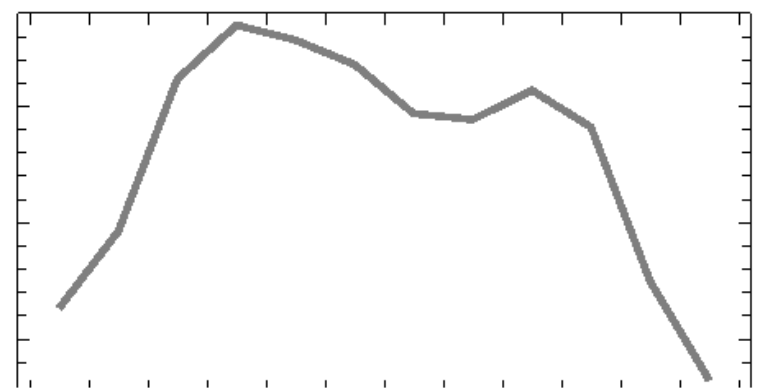
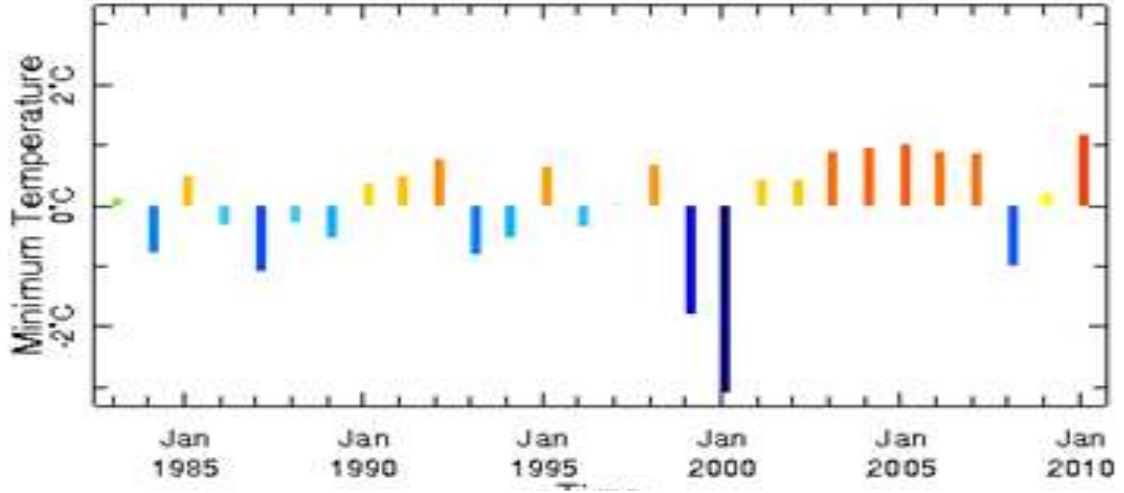
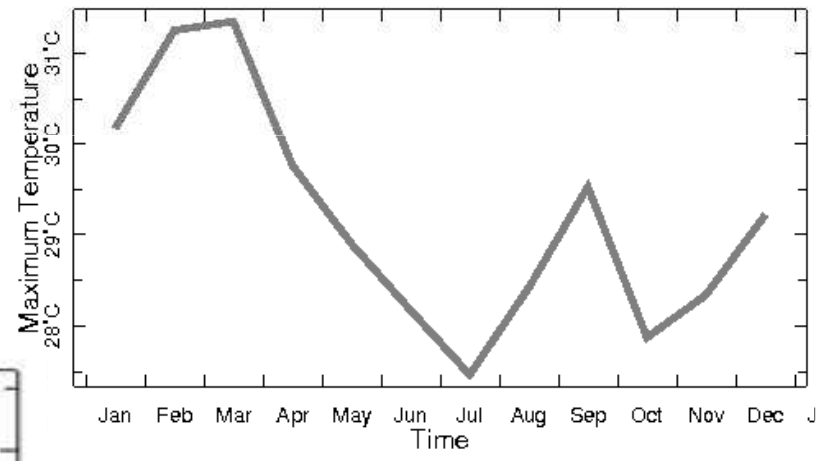
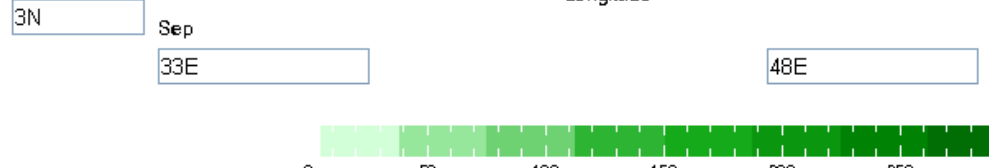
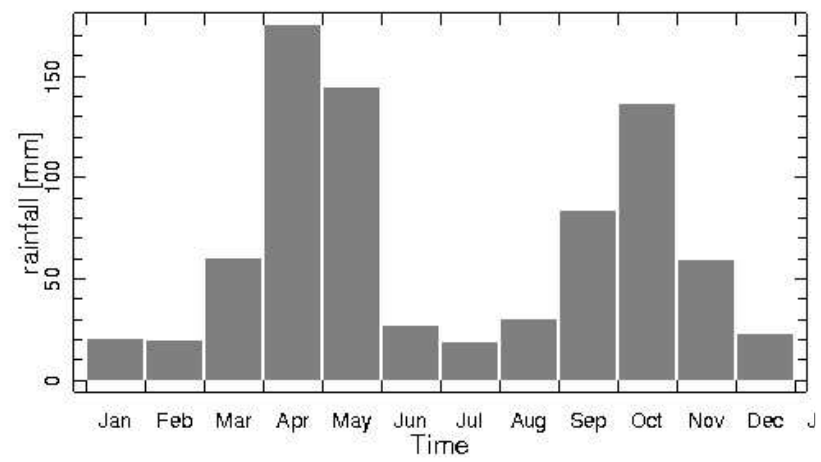


This is a rainfall-monitoring product based on dekadal rainfall. The interface allows users to view recent rainfall with a seasonal and recent historical perspective. Time series analyses of rainfall data are generated based on user-selected parameters.

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Monthly Climatologies for Guradamole, Bale, Oromiya



Scaling up

Ethiopia

- 10-daily level completed
- Daily level continued

Tanzania and Madagascar

- In the process

- Burkina , Mali and Niger

- Initiated, will begin soon

- Advantages

- The two major component of this works is done for Africa

- Obtaining and processing raw satellite data
- Developing methodology & Computer codes

Thanks