Establish an Enhanced Climate Change resilience over Lake Kivu basin

by Amos Uwizeye /Meteo Rwanda

Email: amosuwizeye@gmail.com

Phone No:+250788981683

Outline

- **Project Objectives:**
- **Project overview**
- **Impacts of climate change**
- **Climate data trending**
- **Proposals/Recommendations**

Project objectives

The project aims at:

- Create an intervention plan
- Hold stakeholder workshops
- Provide specific recommendations for conservation action

Afforestation

planned settlements

terraces

weather forecast

The project implementation will include the community empowerment, education and outreach and land and forest restoration

Project overview

- The Lake Kivu is very important for biodiversity and provides many ecosystem services such as supply of freshwater, food from fishing and agriculture, pollination, soil fertility and erosion control, carbon sequestering, the provision of non-timber forest products, as well as providing aesthetic and recreation experiences. These landscapes are currently facing a multitude of threats arising from and need sustainable practices on land and catchment management. The research shows that relative humidity decreased significantly by 4.5% and 7% at Gisenyi and Kamembe, respectively; the wind speed decreased by 3 m/s. These changes resulted in a decrease of 0.58 m in water level of the lake, followed by periods of declines in catches of Limnothrissa miodon, the major lake's commercial fish (Ref; Climate change and its impact on the fisheries in Lake Kivu, East Africa).

Project overview

- Many of these threats, such as erosion, landslides and sedimentation in the rivers and lakes are affecting the surrounding area due to climate change. This project is intended to improve climate change resiliency in the Lake Kivu Basin by organizing outreach and workshops to develop site-specific interventions by developing an Intervention Plan and proposing mitigations that can be taken. The concept applies various conservation approaches and activities, such as integrated water management; ecosystem-based adaptation to climate change; soil erosion, pollution and forest management; and community livelihoods, which have impact across a landscape gradient in ways that directly benefit human wellbeing and environmental biodiversity.

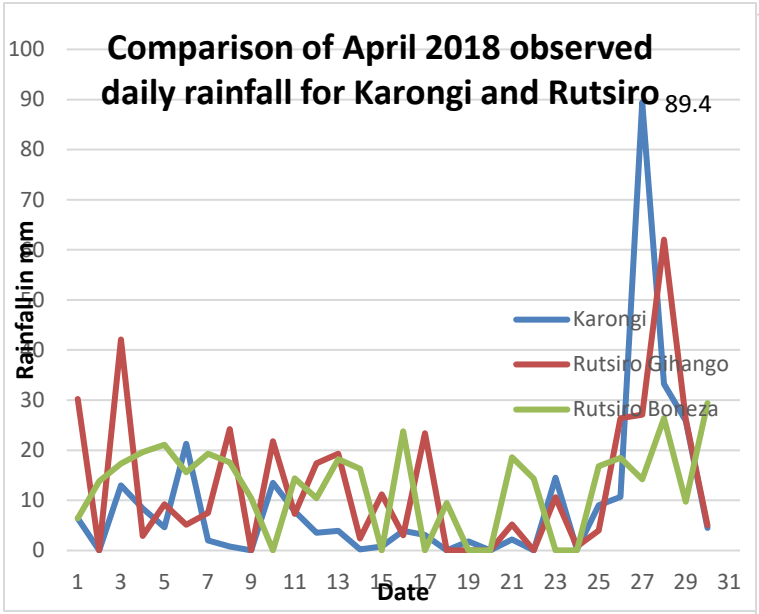
Impacts of climate change

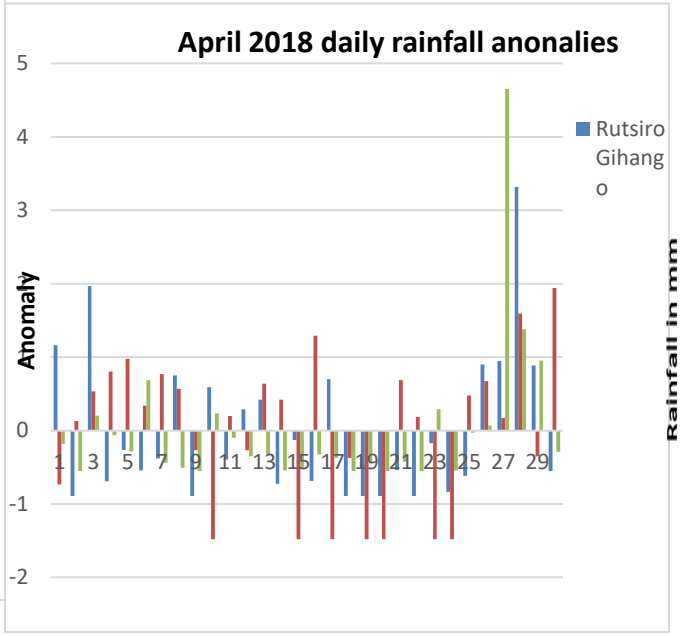
Figure 1: Landslide in Karongi

Figure 2: Flooding at Nyundo

From January to end April 2018, heavy rain has been pouring in the whole country especially in Lake Kivu basin and surrounding areas. This heavy rain caused different disasters including floods, landslides, thunderstorms and strong winds among others. This happened in Rubavu, Karongi and Rutsiro districts nearby Lake Kivu

Climate data trending





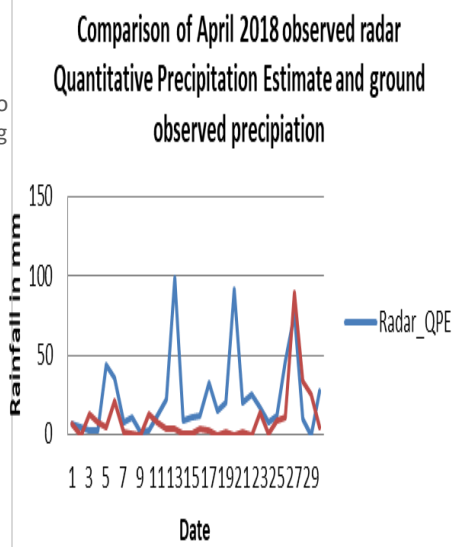
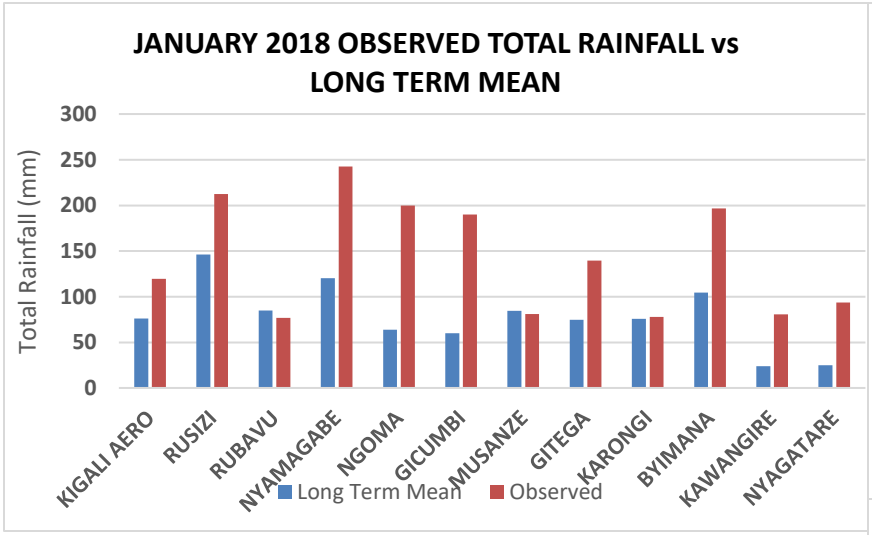


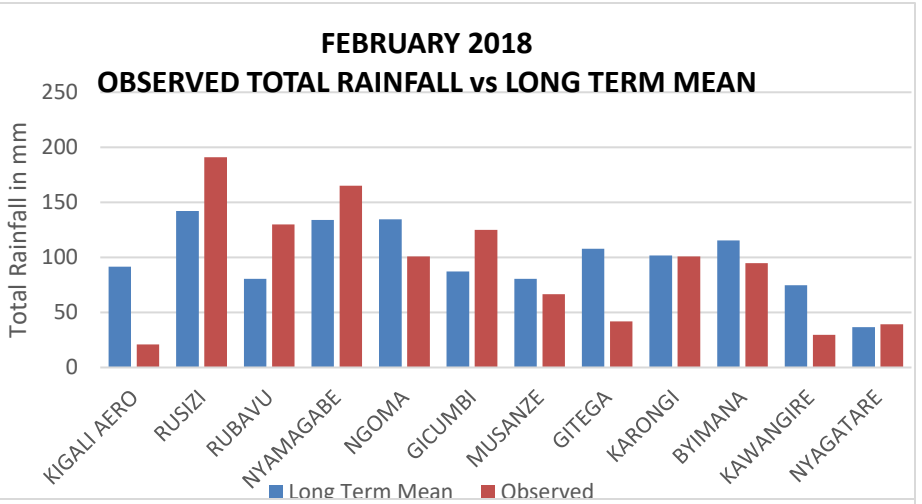
Figure 1 shows that in April 2018 Karongi and Rutsiro districts experienced rainfall greater that 20mm per day. Rainfall caused problems increases from 20 to 30 April 2018. We observed maximum rainfall of 89.4 mm on 27th April 2018.

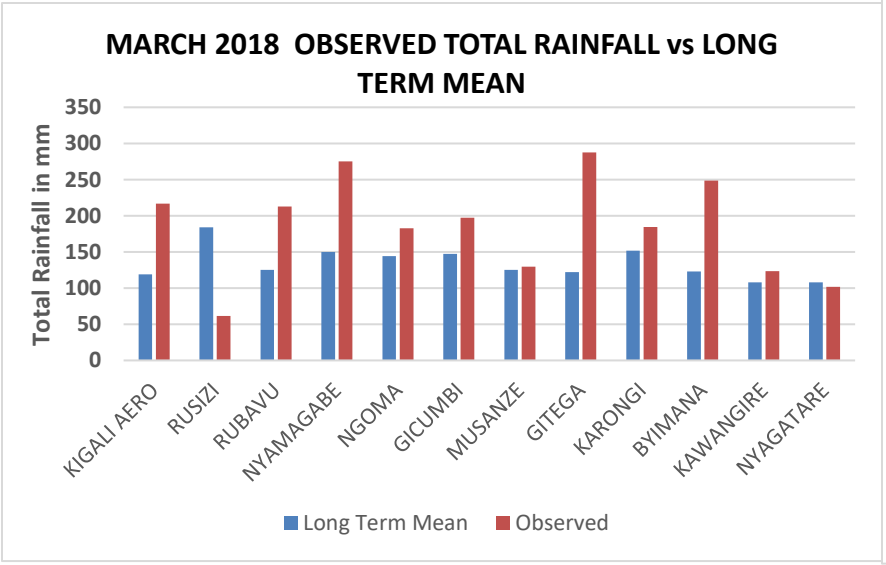
Looking at the anomaly plot Fig 2, we may say that rainfall were temporal fairly distributed except from 26 to 29 April 2018 where we had threshold greater than 1 for all stations

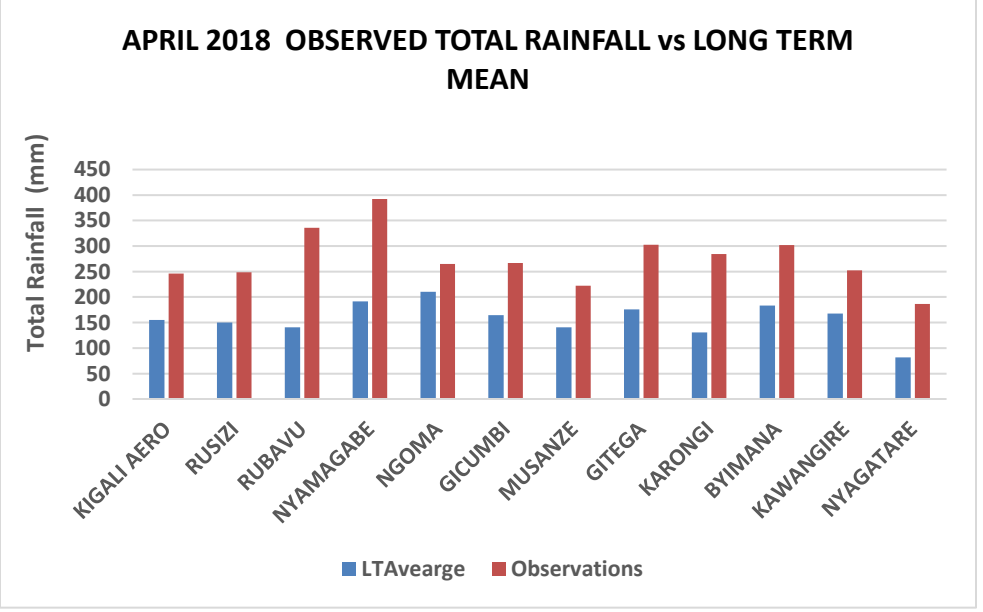
From 26 to 30 April 2018, radar and Stations were in agreements. This needs further deep analysis

Climate data trending

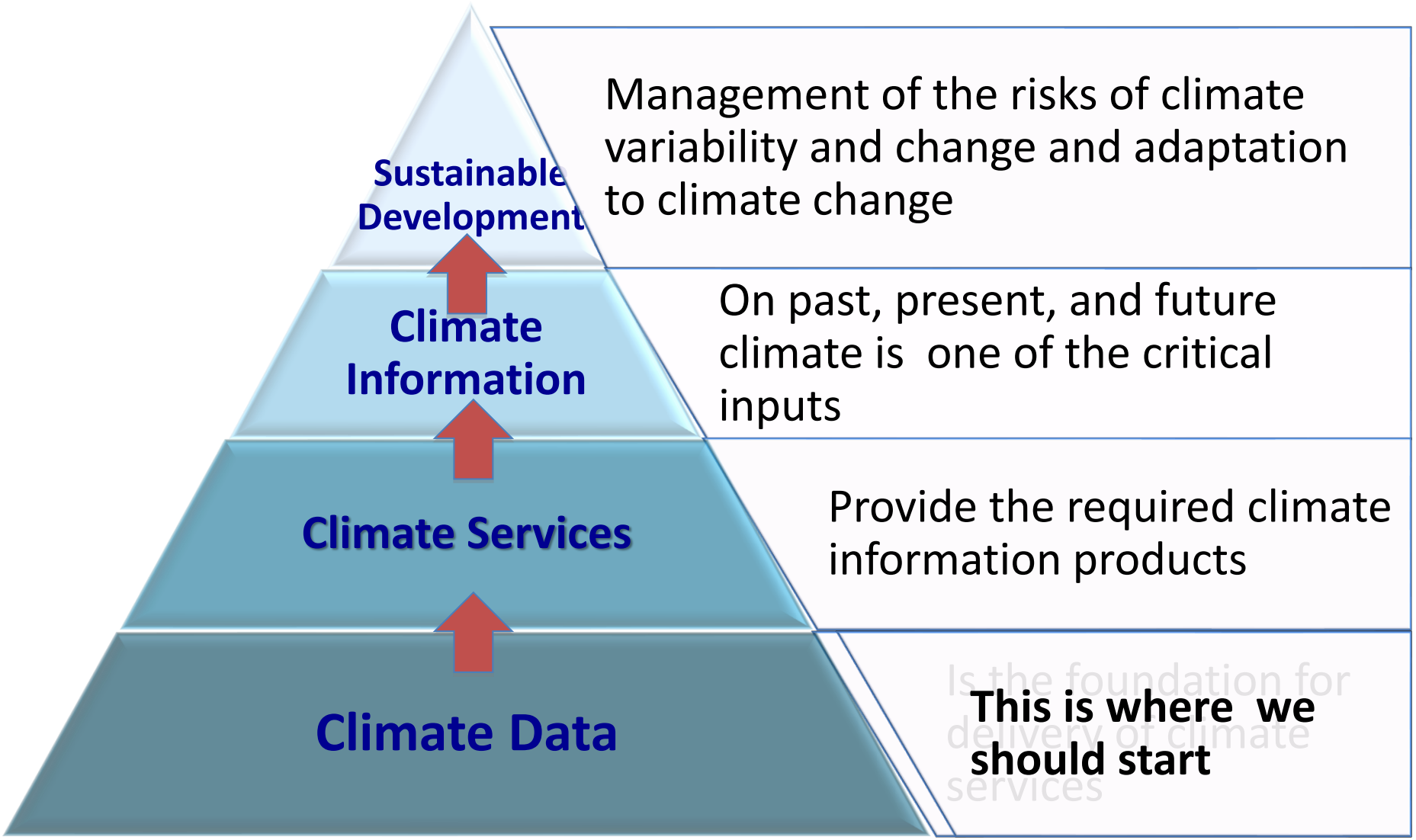








Generally, all Representative Stations across the Country experienced total amount of rainfall above LTM in January This abnormal Rain was induced by the occurrence of a tropical cyclone near Madagascar which provided important moisture budget in the atmosphere of Rwanda.


Sustainable Development
Management of the risks of climate variability and change and adaptation to climate change
Climate Information
On past, present, and future climate is one of the critical inputs
Climate Services
Provide the required climate information products
Climate Data
Is the foundation for delivery of climate services
This is where we should start

Every project should start with climate data

Good data:

➔ **Strong foundation**

➔ **Reliable climate information services**

Bad/No data:

➔ **Weak foundation**

➔ **Unreliable climate information services**

Recommendation

- There is a need to develop a contingent plan to restore the environment in the area including forest restoration, applying terraces,..
- Community engagement and education shall contribute a lot in environment conservation in the area
- Improve on prediction and forecast especially in Lake kivu area
- There is a need of mosaicked Weather radar and water level equipments to monitor the weather and water level conditions over the area
- Establish an early waning system over the area

Thank you