



Bulletin N°02/2021

Issued on 05 March 2021

Climatological Bulletin of February 2021

1. INTRODUCTION

The bulletin has three main components, which include: (i) the review of climate conditions observed over Rwanda in February 2021, (ii) the prediction of the March 2021 rainfall and (iii) the highlights on the socio-economic impacts associated with both observed and predicted climate conditions.

2. HIGHLIGHTS

- **Rainfall performance in February 2021:** The accumulation of observed rainfall during this month was above the Long Term Mean (LTM) in most parts of the country except at some stations of Western and Eastern provinces that recorded below normal rainfall.
- **Rainfall expected during March 2021:** During the month of March 2021, accumulated rainfall ranging between 50mm and 250mm expected over the country will result from the increased advection of moisture from Indian Ocean due to northward migration of Inter-Tropical Convergence Zone (ITCZ).
- **The impact associated with both observed and predicted climate conditions:** in February 2021, above normal rainfall was observed in most parts of the country, this was good for land preparation for the second agricultural season.

3. CLIMATE PATTERNS

This section provides the climatological summary of rainfall and temperature of February 2021 in comparison to the Long Term Mean over Rwanda.

3.1 Rainfall amounts in February 2021

During the month of February, rainfall amount recorded over Rwanda was ranging between 50.4mm and 233.9mm. The highest rainfall amounts of 233.9mm recorded at Kamembe Airport station in the Western Province. The Western and Southern parts were wet comparatively to other parts of the country.

- The Central region represented by Gitega and Kigali International Airport weather stations of Kigali City recorded 111.6mm and 87.2mm respectively.
- Weather stations of the Southern Province recorded rainfall as follows: Nyamagabe and Byimana stations recorded 138.5mm and 227.2mm respectively,
- Weather stations of the Western Province also recorded rainfall as follow: Kamembe Airport 233.9mm, Gisenyi Airport 56.5mm, Rubengera 210.1mm and 75.1mm recorded at Bugarama stations,
- Weather stations of the Northern Province recorded rainfall as follows: Gicumbi 116.9mm, Busogo 111.8mm and Musanze Airport stations recorded 111.8mm respectively,



- Weather stations of the Eastern Province recorded rainfall ranging between 86.2mm at Ngoma-Kazo, 75.9mm at Nyagatare and 50.4mm at Kawangire stations.

3.2 Rainfall performance in comparison to the Long Term Mean

Comparing the performance of the rainfall during the month of February 2021 with the Long Term Mean (LTM) for the same period, it has observed that the cumulative rainfall of February 2021 was above normal range of Long Term Mean (LTM) in most parts of the country.

The Table and histogram below indicate the rainfall performance of February 2021 compared to the Long Term Mean for the same period over many years.

Stations	Feb. 2021	Feb. LTM
Kigali Aero	87.2	88.5
Gitega	111.6	102.8
Nyamagabe	138.5	132.5
Byimana	227.2	108.5
Gicumbi	116.9	103.1
Busogo	111.8	107.2
Musanze Aero	111.8	100.7
Kamembe Aero	233.9	130.4
Gisenyi Aero	56.5	86.4
Bugarama	75.1	128.7
Rubengera	210.1	136
Ngoma-Kazo	86.2	97.9
Kawangire	50.4	65.8
Nyagatare	75.9	42.1

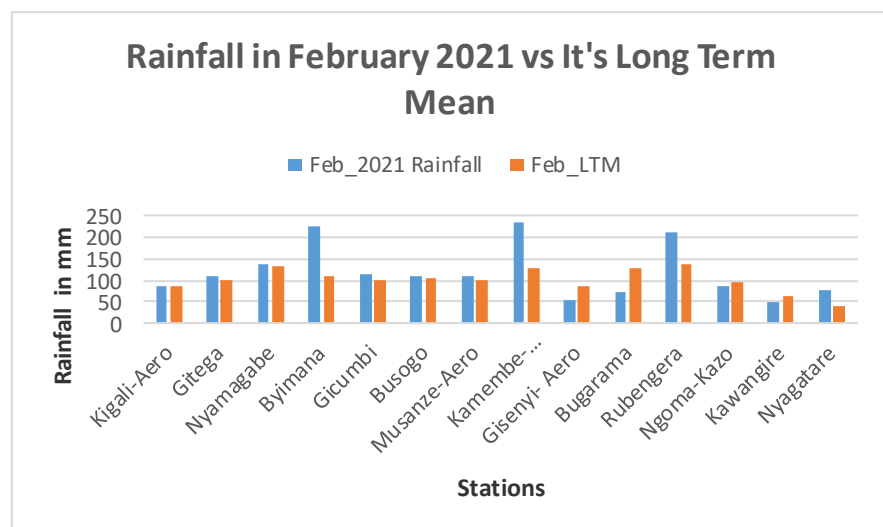
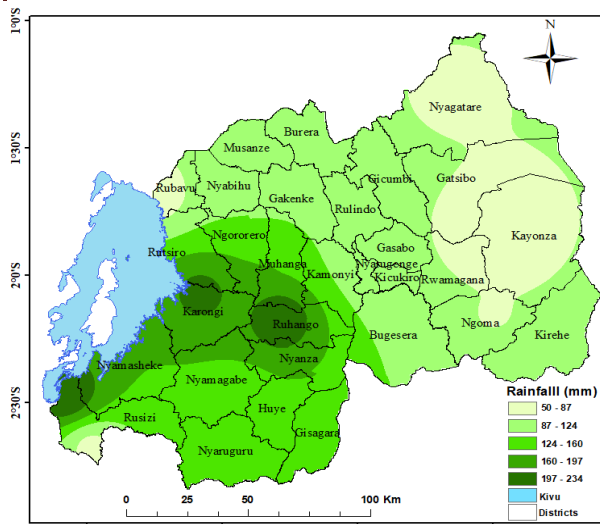


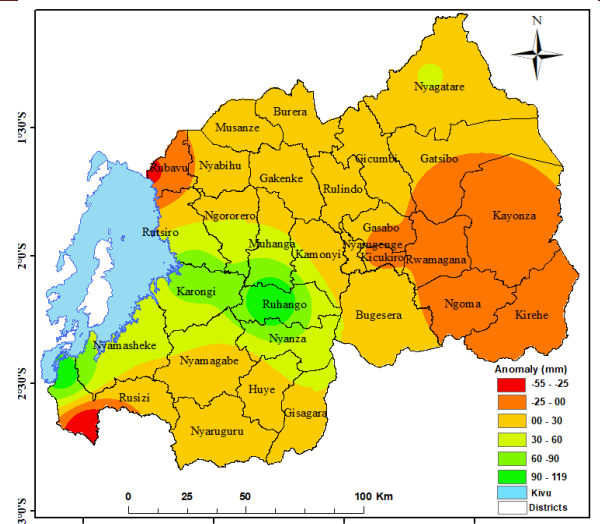
Figure1: Rainfall performance as Compared to the Long Term Mean

Table1: Cumulative rainfall recorded as compared to the LTM

Map 1 & 2 below show rainfall distribution during February 2021 and the deviation from Long Term Mean for the same period.



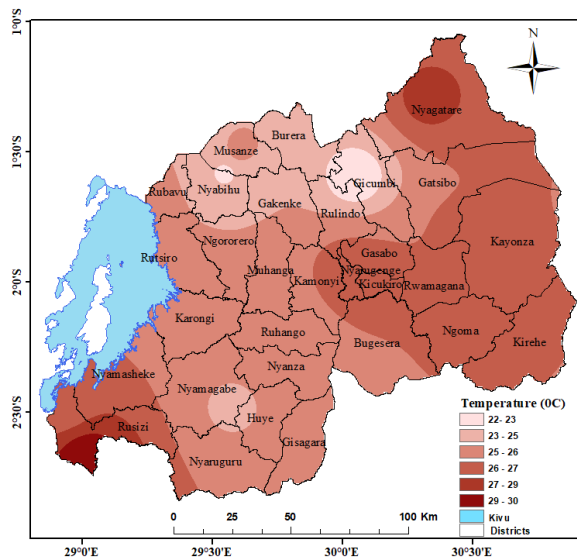
Map1: Rainfall distribution of February 2021



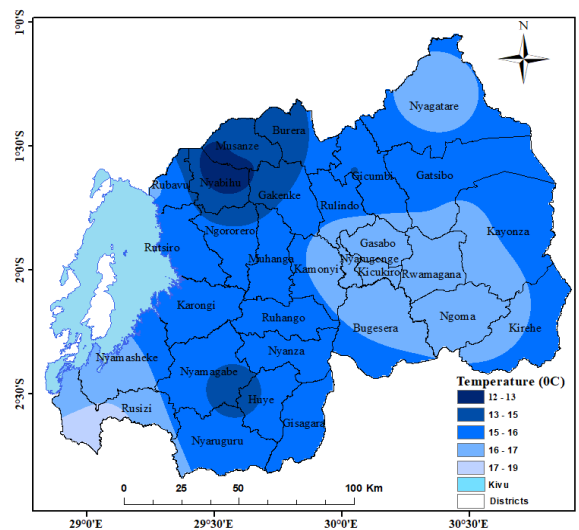
Map2: February rainfall anomaly

3.3 Temperature analysis

The lowest value of maximum temperature was 21.8⁰C, observed at Gicumbi weather station in the Northern Province, the highest value of maximum temperature observed in the southwestern region at Bugarama station with 30.0⁰C. The minimum temperature ranged between 11.9⁰C at Busogo station in the Northern Province and 19.2⁰C observed at Bugarama station in the Western Province. The Northern and Southern Provinces were cooler compared to the Eastern, Western Provinces and Central regions of the country (Map 3 and 4).



Map3: February Maximum Temperature



Map4: February Minimum Temperature

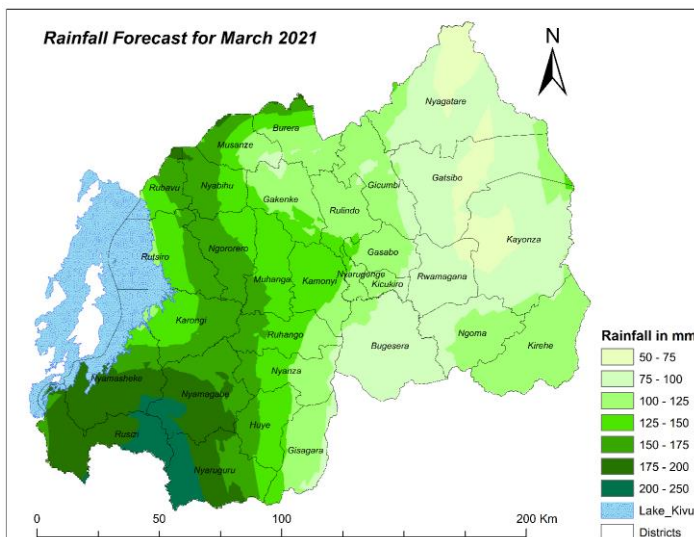


4. Soil Moisture Index (MI)

Comparison of soil moisture content of January 2021 and February 2021, it was observed that the soil moisture content increased during the month of February because of the wet weather conditions experienced during the observation period over most parts the country. The soil moisture will increase in March 2021, as results of expected wet weather conditions within the forecasted period.

5. Rainfall forecast for March 2021

Rainfall ranging between 50 and 250 millimeters (mm) is expected across the country during March 2021. The expected rainfall will be in the range of Long Term Mean countrywide. Expected rainfall will result from the increased advection of moisture from Indian Ocean due to northward migration of Inter-Tropical Convergence Zone (ITCZ) and will be moderated by the local factors such as topography, forest and lakes. Rainfall is expected to enhance toward the end of the month.



Map 5: Rainfall prediction for March 2021

Rainfall ranging between 50 and 75mm is expected northern and central parts of Nyagatare, western Kayonza, central parts of Gatsibo and northeastern part of Rwamagana district.

Rainfall ranging between 75 and 100 mm is expected in remaining parts of Nyagatare, Gatsibo, Kayonza, Rwamagana, most of Bugesera, northern and eastern parts of Ngoma, eastern part of Gasabo and Kicukiro, south eastern part of Gicumbi and some pockets of Gakenke and Musanze.

Rainfall ranging between 100 and 125mm is expected in Kirehe and Gisagara districts, eastern part of Ngoma, Nyanza, Ruhango and Kamonyi districts, Most of Rulindo, Gakenke, southern parts of Musanze and Burera and remaining parts of Kigali and Gicumbi.

Rainfall ranging between 125 and 150 is expected in central parts of Burera, Musanze, Ruhango and Nyanza, eastern part of Nyabihu, Ngororero, Huye, and Nyaruguru, most parts of Muhanga, small parts of southern Gakenke and Rulindo and western parts Rutsiro, Rubavu and Karongi.

Rainfall ranging between 150 and 175 mm is expected in northern part of Nyamasheke and Burera, north and western parts of Musanze and Nyabihu, western parts of Ngororero, Ruhango, Nyanza and Huye, north and eastern parts of Rubavu and Nyamagabe, Central parts of Nyaruguru and southwestern part of Muhanga.



Rainfall ranging between 175 and 200 is expected in remaining part of Nyamasheke, western part of Rusizi and central parts of Nyaruguru and Nyamagabe.

Rainfall ranging between 200 and 250 is expected in western part of Nyaruguru, southwestern part of Nyamagabe and eastern part of Rusizi.

6. IMPACTS ON SOCIO-ECONOMIC SECTORS

The socio-economic impacts associated with observed climatic conditions and the likely impact in the forecasted period are illustrated below:

6.1 Impacts of observed climate condition.

During the month of February 2021, the rainfall accumulation was above the Long Term Mean (LTM) in most parts of the country, this led to hinder the postharvest handling activities, which may cause the loss of crop yield.

6.2 Potential likely impacts for March 2021.

During the forecasting period, the expected rainfall is favorable for agriculture activities.

N.B: This forecast should be used in conjunction with the Six hours, Daily (24-hour), Three (3), Five (5) Seven (7) and 10 days forecasts issued by the Rwanda Meteorology Agency (Meteo Rwanda).