



Issued on 06th September 2024

1. INTRODUCTION

The bulletin has three main components, which include: (i) the review of climate conditions observed over Rwanda during August 2024, (ii) rainfall prediction for September 2024 and (iii) the highlights on the socio-economic impacts associated with both observed and predicted climate conditions.

2. HIGHLIGHTS

- **Rainfall performance in August 2024:** The accumulation of observed rainfall during the month of August 2024 was below the range of the Long-Term Mean (LTM) in many parts of the country except in few parts of Eastern Province and Kigali City.
- **Rainfall expected during September 2024:** The amount of rainfall ranging between 40 and 200 mm is expected across the country. The expected rainfall is within the range of LTM rainfall of September. In this month, the minimum and maximum temperature are expected to be slightly above the LTM
- **The impact associated with both observed and predicted climate conditions:** During August 2024, many parts of the country experienced the rainfall deficit, resulting in decreasing soil moisture in many areas and had a negative impact on agricultural activity. In September 2024, increased rainfall compared to August is expected; this will lead to increased soil moisture.

3. CLIMATE PATTERNS

This section provides the climatological summary of rainfall and temperature of August 2024 in comparison with its anomaly over Rwanda.

3.1 Rainfall amount in August 2024

During the month of August 2024, rainfall amount recorded over Rwanda ranged between 0.2 and 83.6 mm. High rainfall amount of 83.6 mm was recorded at Mwiri weather station in Kayonza District while less rainfall amount of 0.2 recorded at Ruhuha station in Bugesera District.



- **Weather stations of the Central region including Kigali City:** rainfall amount of 49 mm was recorded at Gitega weather station located in Nyarugenge District while Kigali International Airport weather station located in Kicukiro District recorded 20.4 mm.
- **Weather stations of the Southern Province:** Nyamiyaga 45.6 mm, Gikongoro station recorded 34.7mm, Kaduha 34.6mm, Rubona 32.8mm, Byimana weather stations recorded 16 mm and Nyakibanda recorded 14.5 mm.
- **Weather stations of the Western Province** also recorded amount of rainfall as follow: Ntendezi 59.1 mm, Muramba 55.8mm, Gisenyi Airport 44.9 mm, Rwankeri 43.4 mm, Rubengera 41.6 mm, Murunda 39.9 mm ,Nyange 16.4 mm and Kamembe 1.4 mm.
- **Weather stations of the Northern Province** recorded rainfall as follows: Ruhengeri recorded 64.5 mm, Kinigi 61,7 mm, Busogo recorded 47.9 mm, Byumba 44.1 mm, Butaro 38.2 mm, Rutongo 33.1 mm and Rushashi recorded 32.4 mm.
- **Weather stations of the Eastern Province:** Mwiri station recorded 83.6 mm, Kawangire recorded 55.8 mm, Nyagatare 46.3 mm, Zaza 27.4 mm, Mpanga 23.7 mm, Nyamata Paroisse 22.4 mm and Kibungo-Kazo 12.1 mm.

3.2 Rainfall performance in comparison to the Long-Term Mean

Comparing the performance of the rainfall during the month of August 2024 with the Long-Term Mean (LTM) for the same period, it was observed that the rainfall of August 2024 was below normal range of Long-Term Mean (LTM) except in some areas of Eastern Province and Kigali city, which recorded above normal range of Long-Term Mean (LTM). The Figure 1&2 show that over 44 weather stations, thirty-one (31) stations recorded rainfall deficit, while thirteen (13) stations recorded rainfall surplus.

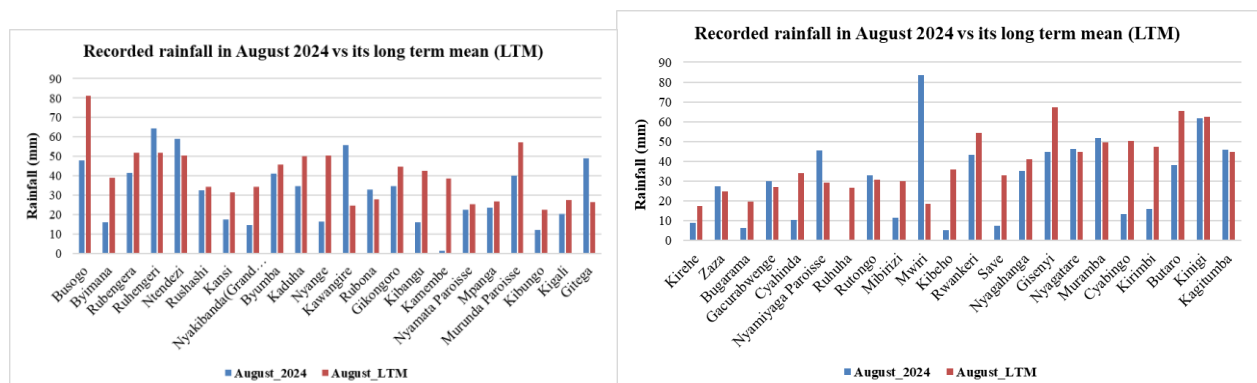
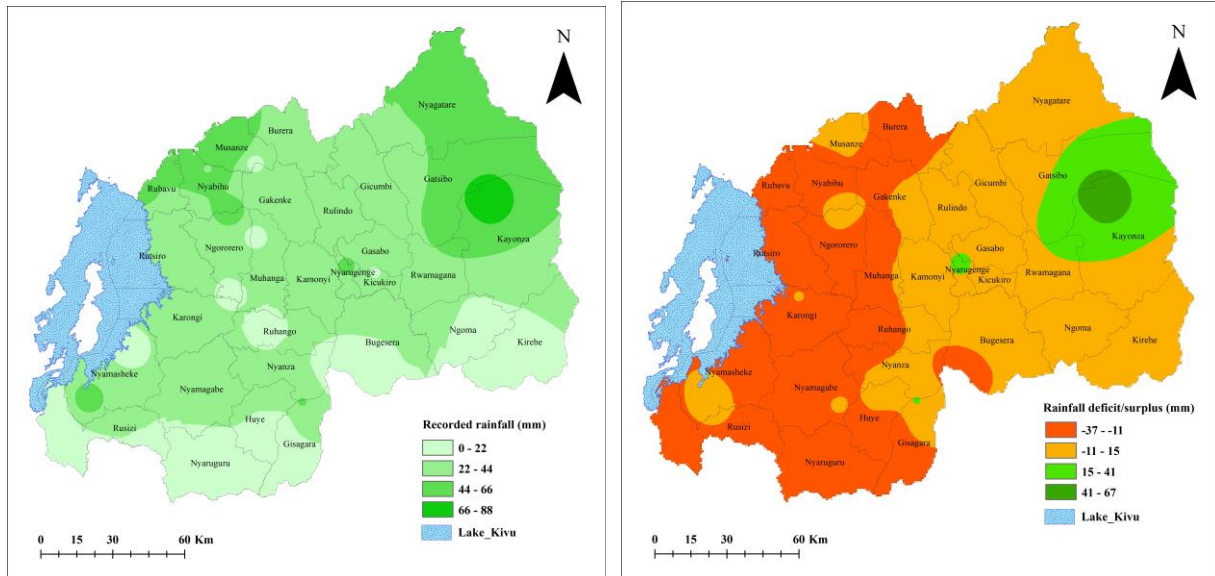


Figure 1 &2 above show rainfall performance during August 2024 and the deviation from the Long-Term Mean (LTM) for the same period.



Map1: Rainfall distribution of August 2024

Map2: August 2024 rainfall anomaly

3.3 Temperature analysis

Maximum and minimum temperatures were found to be higher in most parts of the country compared to the Long-Term Mean (LTM). The lowest maximum temperature recorded was 21.8°C at Kinigi weather station in the Northern Province, while the highest maximum temperature recorded was 32.6°C at Bugarama station in Western Province. The minimum temperature ranged between 11.2°C at Busogo station in the Northern Province and 19.4 °C at Bugarama station in the Western Province. It was observed that most parts of the country observed increased temperature with exception with some pockets of Northern and Western Provinces. Generally, some parts of Western, Eastern province and Kigali City were warmer compared to other parts while Northern Province and some parts of western and southern provinces were cooler compared to other parts of the country (Map 3 and 4).

Figure 3 and 4 below shows temperature deviation (anomalies) from the Long-Term Mean (LTM) in August 2024

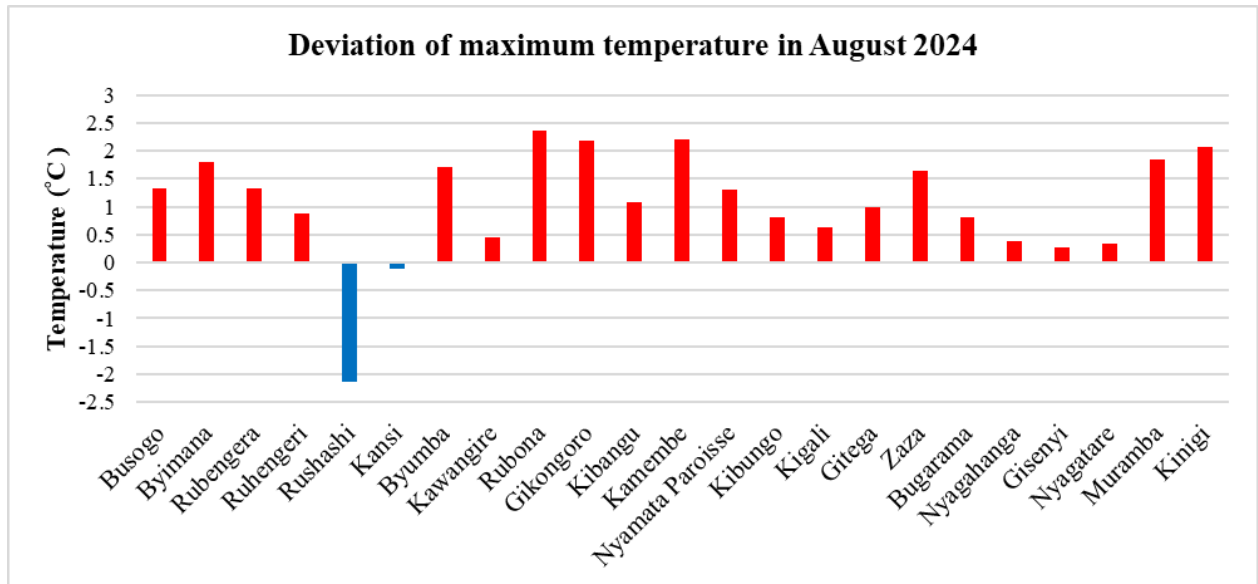


Figure 3 shows that the maximum temperature increased over many parts of the country during August 2024 compared to the Long Term Mean.

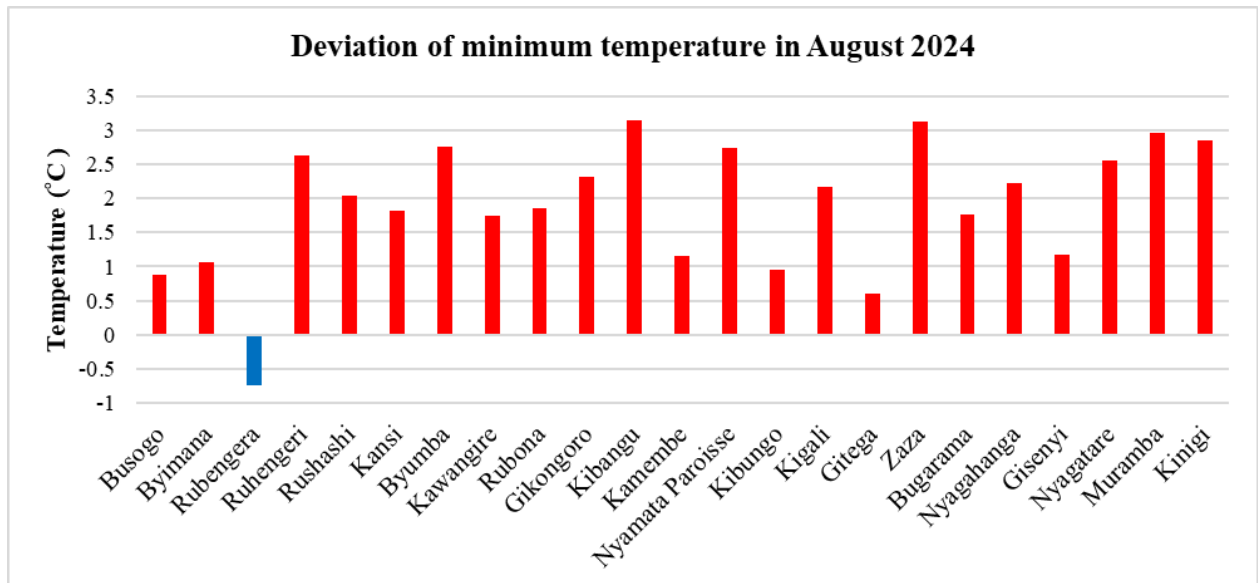
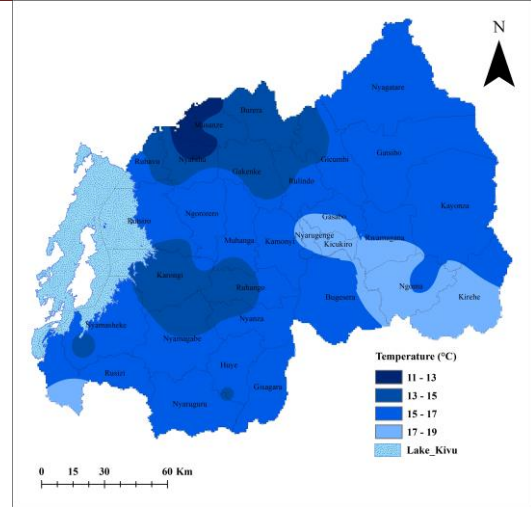
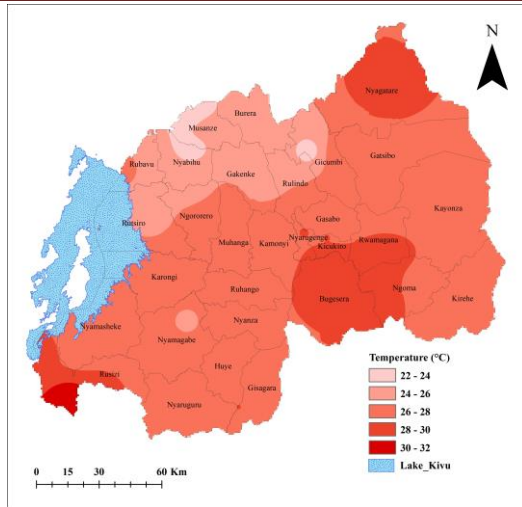


Figure 4 shows that the minimum temperature increased in most parts of the country during August 2024 compared to its Long Term Mean.



Map3: August 2024 Maximum Temperature

Map4: August 2024 Minimum Temperature

4. Soil Moisture Index (SMI)

The soil moisture content decreased over many parts during the month of August 2024 due to rainfall reduction across the country. The soil moisture is expected to increase in September 2024, as a result of expected wet conditions.

5. Climate outlook for September 2024

For more information on September 2024 climate outlook click [here](#)

6. IMPACTS ON SOCIO-ECONOMIC SECTORS

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

6.1 Impacts of observed climate condition.

- A rainfall deficit was observed across the country in August 2024 as a result of observed dry conditions, which impacted agriculture sector.

6.2 Potential likely impacts for September 2024

Normal weather conditions in the range of long-term mean (LTM) are expected in September 2024. As a result of the wet conditions expected, increased soil moisture content is expected, this may have some positive consequences, particularly for the agriculture and water sectors.

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).