



Climatological Bulletin of 1-31 August 2019

1. INTRODUCTION

This bulletin has three main components namely: the review of climate conditions observed over Rwanda in August 2019, the prediction of the rainfall in the first dekad (D1) of September 2019 and the highlights on the socioeconomic impacts associated with both observed and predicted climate conditions.

2. HIGHLIGHTS

- Rainfall performance of August 2019; the accumulation of rainfall observed was above the long term mean in most part of the country, especially in the Eastern, Central, South and some parts of Northern province .
- Rainfall during D1 of September 2019; it is expected to receive rainfall amount ranging between 60mm-150 mm over most parts of the country`

The impact associated with both observed and predicted weather and climate conditions shows that soil moisture is continuously increasing across the country due to the shift of Intercontinental Convergence Zone (ITCZ) towards Eastern Africa

3. CLIMATE PATTERNS

This section provides the climatological summary for the rainfall and temperature in terms of amount for August 2019 Rainfall performance as compared to the Long Term Mean over Rwanda.

3.1 Rainfall amounts in August 2019

During the month of August 2019, rainfall amount recorded over Rwanda was ranging between (21.7mm)1.5mm and 116.9mm. Much rainfall was observed in the Eastern province at Nyagatare station with 116.9.6mm, Gicumbi 76.1mm , Nyamagabe recorded 75mm, Kigali at Kanombe Airport station 61.4mm and 45.4 mm at Musanze.

3.2 Rainfall performance as compared to the Long Term Mean

The table and histogram below indicates that August 2019 rainfall performance as compared to the Long Term Mean (LTM) of the same period was somehow evenly distributed. The month of August 2019, most stations received above LTM rainfall amount compare to Long Term Mean, except in Western province and some parts of Southern province. Much of rainfall observed in Dekad three from 28th to 31st August 2019 was due to the shift of Intercontinental Convergence Zone (ITCZ) from West Africa towards East Africa.

Table1: Cumulative rainfall recorded as compared to the LTM

Stations	Aug_LTM	Aug_19
Kigali	61.4	34.6
Rusizi	26.4	44.3
Rubavu	28.8	71.2
Nyamagabe	75	39.5
Ngoma	42.9	24
Gicumbi	76.1	57.1
Busogo	42.8	77.6
Bugarama	1.5	21.7
Musanze	45.5	55.6
Gitega	23.7	17.9
Rubengera	22.5	42.7
Byimana	2.6	39.8
Kawangire	8.6	28
Nyagatare	116.9	47.7

Figure1: Rainfall performance as Compared to the LTM

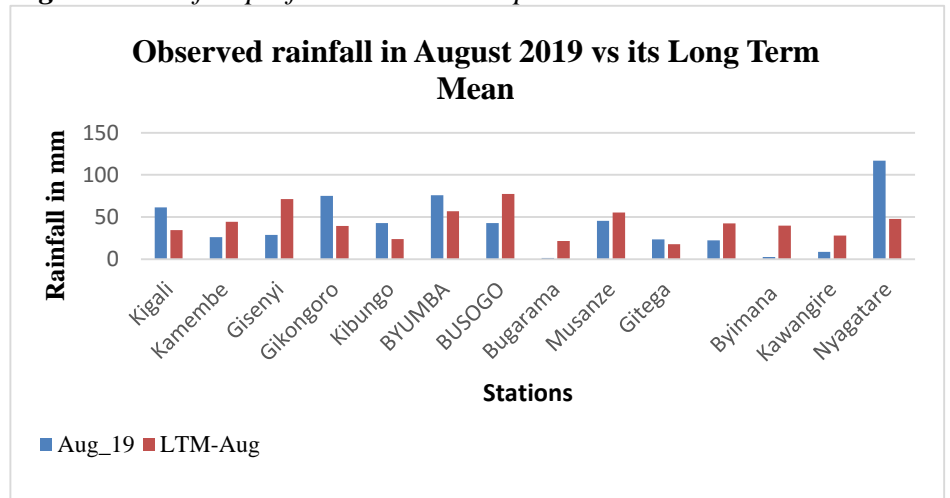


Figure 2 and 3 below show rainfall distribution during D1_August and the rainfall distribution for the same period in long term mean

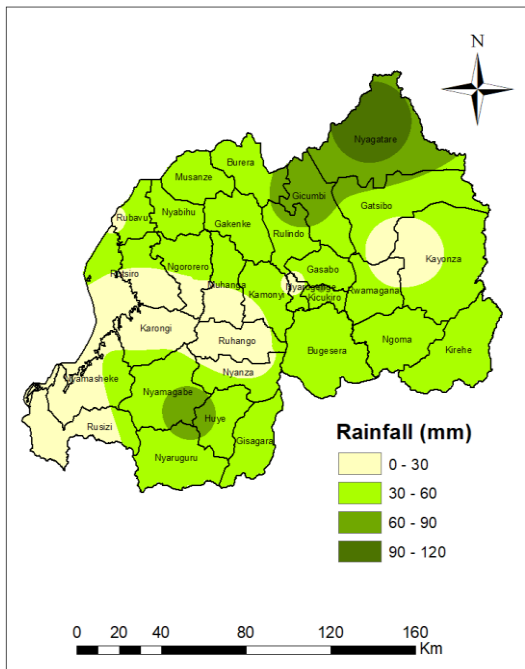


Figure2: Rainfall distribution of August 2019

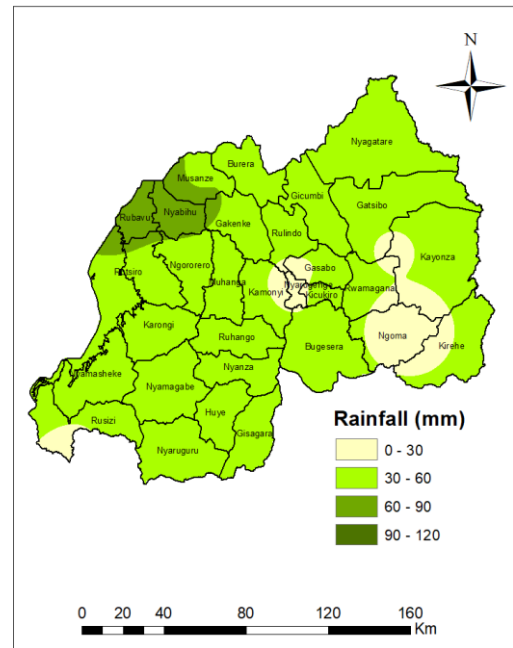


Figure3: Long Term Mean rainfall distribution

3.3 Temperature analysis

The highest average maximum temperature observed was 32.1°C was in the south west region in Bugarama station. The lowest average maximum temperature was observed in northern province in Gicumbi station with 21.6°C.

The average of minimum temperature was ranging between 10.2 and 17.9°C. Northern, western regions are cooler compared to the southern-east, south-west and central regions of the country. The rest of the country is in the range of 14 and 16 degrees Selicius (Figure 4 and 5).

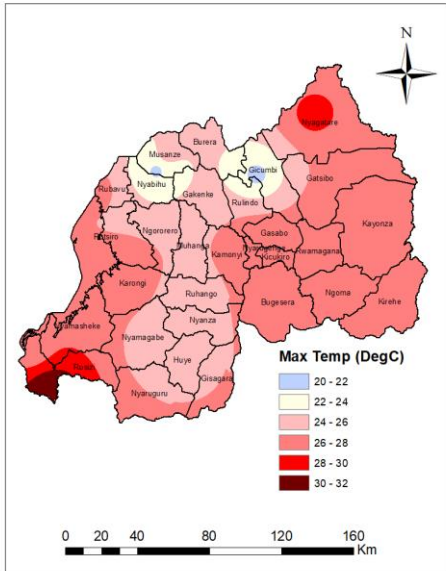


Figure4: August Maximum Temperature

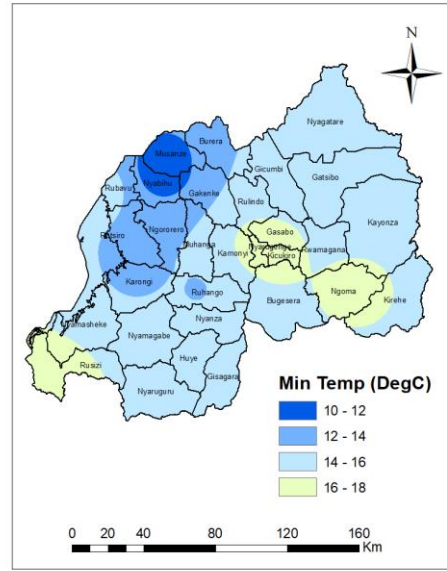
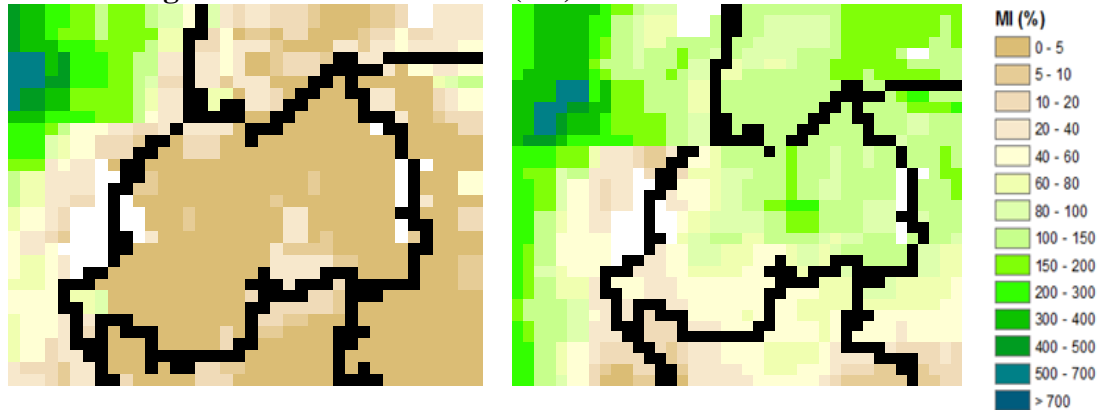


Figure5: August Minimum Temperature

4. Agricultural impact

Satellite images : Soil Moisture Index (MI)



The observation from satellite derived moisture index of dekad2 and dekad3 August 2019 and shows that the soil moisture increased in dekad three in most parts of the country due to rainfall increased from 28th to 31st August 2019. This change reduced soil moisture stress across the country. (see Map6&7).

5. Rainfall forecast for Dekad1 September

The rainfall during the dekad1_September 2019; from 1st to 10th September 2019 light to moderate rainfall is expected in South, Central and Eastern parts of Rwanda while moderate rainfall expected in Western and some parts of the Northern Provinces especially in the areas near Kivu Lake, Nyungwe forest and mountain volcanoes.

- Kigali City: expected to receive rainfall amount ranging from 10-30mm
- Eastern Province: expected to receive rainfall amount ranging from 10-30mm
- Southern Province: expected to receive rainfall amount ranging from 15-50mm
- Western province: expected to receive rainfall amount ranging from 20-60 mm
- Northern Province: expected to receive rainfall amount ranging 20-50mm

6. IMPACTS ON SOCIO-ECONOMIC SECTORS

The socio-economic impacts associated with observed long term climatic conditions during the August are illustrated below:

6.1 Impacts of observed climate condition.

During this period of August, the rainfall accumulation was above the Long Term Mean (LTM) in most parts, and impacts associated with:

- Increased rainfall reduced water stress that observed in August 2019.

6.2 Potential impacts for first dekad of September Weather Forecast

- Improvement in pasture and crop conditions leading to good prospects for crop and livestock performance.

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