

REPUBLIC OF RWANDA



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## Climatological Bulletin of July 2019

### 1. INTRODUCTION

This bulletin has three main components which are; the review of climate conditions observed over Rwanda in July 2019, the prediction of the rainfall in August 2019 and the highlights the socioeconomic impact associated with the both observed and predicted climate conditions.

### 2. HIGHLIGHTS

- Rainfall performance of July 2019; the accumulation of rainfall observed was above the long term mean in most part of the country.
- Rainfall during August 2019; expected dry weather condition to prevail up to the last week of August, where the amount of rainfall will be ranging between 10mm to 30 mm in the Western province and in the Northwestern part, the rest of the country will receive rainfall amount less than 10 mm.
- The impact associated with both observed and predicted climate conditions shows that soil moisture is decreasing and will continue to decrease in every corner of the country.

### 3. CLIMATE PATTERNS

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

#### 3.1 Rainfall amounts in July 2019

During the month of July 2019, rainfall amount recorded over Rwanda was ranging between 0.0mm and 60.4mm. Eastern, northern west and southeast regions of the country received much rainfall compared to the Central and southern regions. Nyagatare station as one of the Eastern region and Bugarama located in Southwest received 60.4 mm and 32.5mm respectively, in the central region represented by Kigali, the rainfall amount received was less than 5 mm and the rest of the country the rainfall amount received was ranging between 6mm and 25mm.

### 3.2 Rainfall performance as compared to the Long Term Mean

The table and histogram below indicate the July 2019 rainfall performance as compared to the Long Term Mean of the same period. During this month, most stations within the Eastern, Southern and Western province observed rainfall amounts that were above the Long Term Mean, while the central region the rainfall amounts observed was below the Long Term Mean.

**Table1:** Cumulative rainfall recorded

as compared to the LTM

Stations	July_2019	July_LTM
Kigali	3	12.1
Rusizi	26.6	10.6
Rubavu	24.4	22.9
Nyamagabe	18	11.1
Ngoma	6.4	5.4
Gicumbi	16.4	9
Busogo	18.7	29.6
Bugarama	32.5	10.2
Musanze	17.4	17.2
Gitega	0	2
Rubengera	17.4	11.5
Byimana	8.9	12.4
Kawangire	21.7	9.8
Nyagatare	60.4	3.2

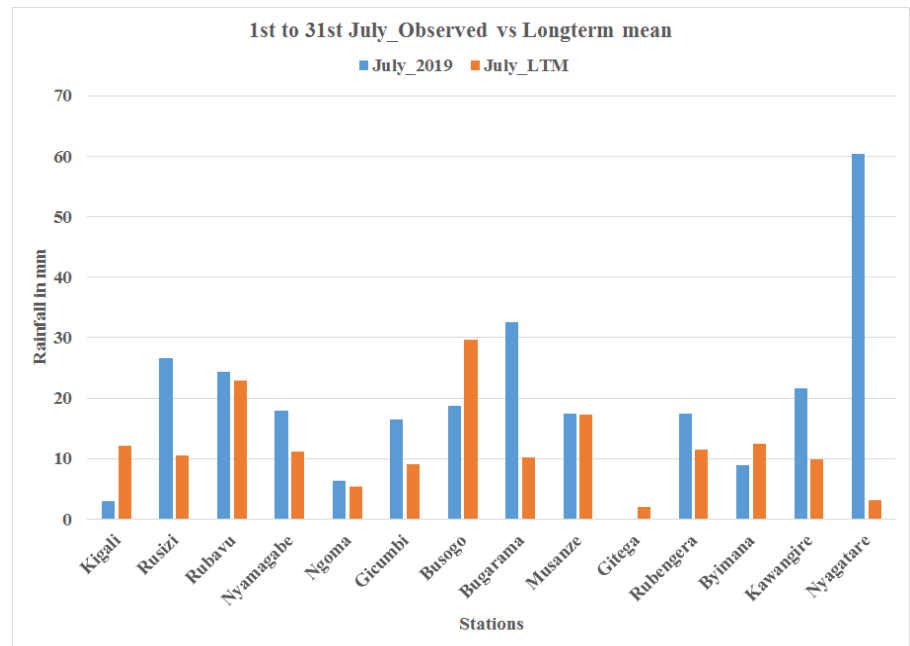
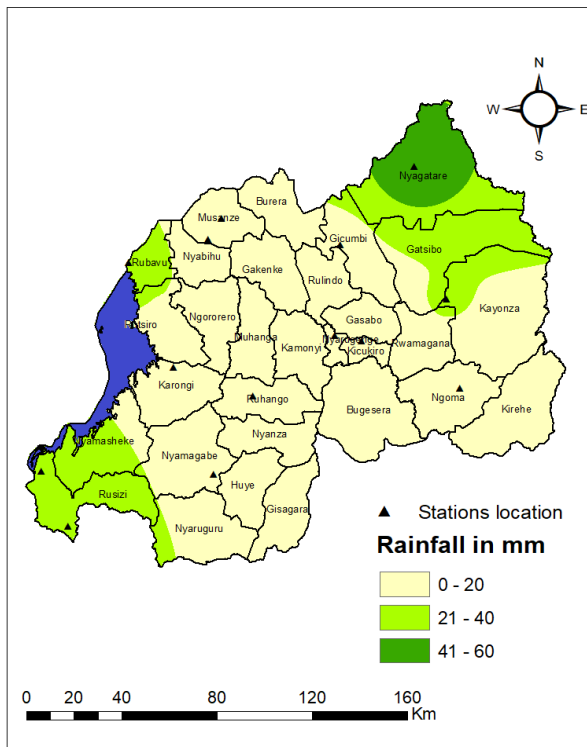
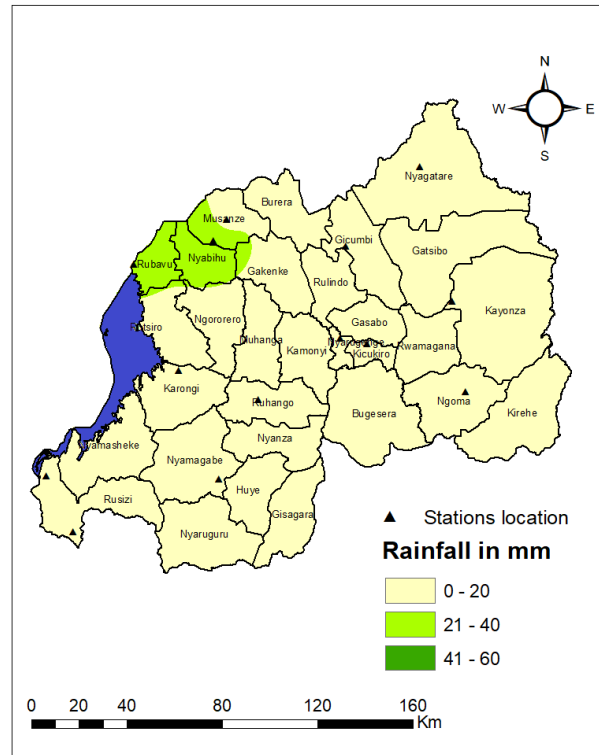


Figure 2 and 3 below show rainfall distribution during July 2019 and the rainfall distribution for the same period in long term.



**Figure2:** Rainfall distribution of July 2019



**Figure3:** July Long Term Mean rainfall distribution

### 3.3 Temperature analysis

During the month of July 2019, warmer average maximum temperature greater than 30°C was observed in the south west region in Bugarama station, the rest part of the country, including the central and Eastern region the temperature observed was raging between 25°C and 29°C. Cool average maximum temperature less than 25°C was observed in northern and southern region of the country.

The average minimum temperature below 10°C was recorded in the northern region in Musanze District at Busogo station where 9.6°C was recorded while the average minimum temperature greater than 15°C was recorded in the Central, Southwestern and the Eastern region. The rest of the country the average minimum temperature observed was between 10 and 15°C (Figure 4 and 5).

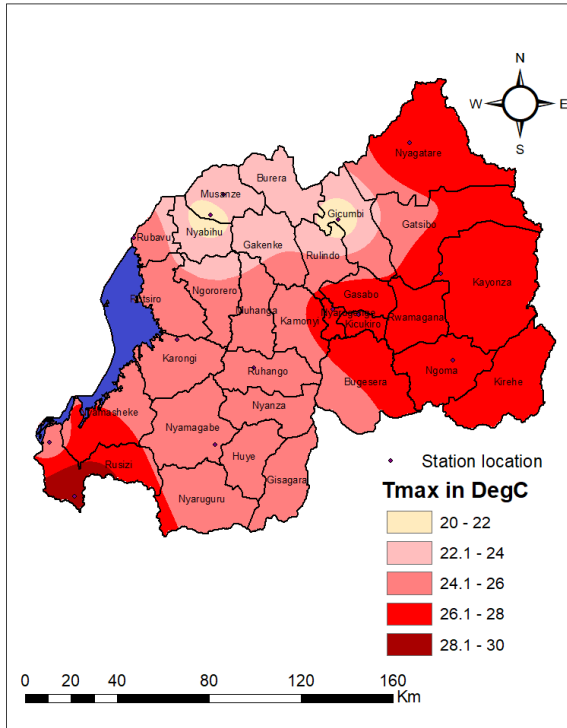


Figure4: July 2019 Maximum Temperature

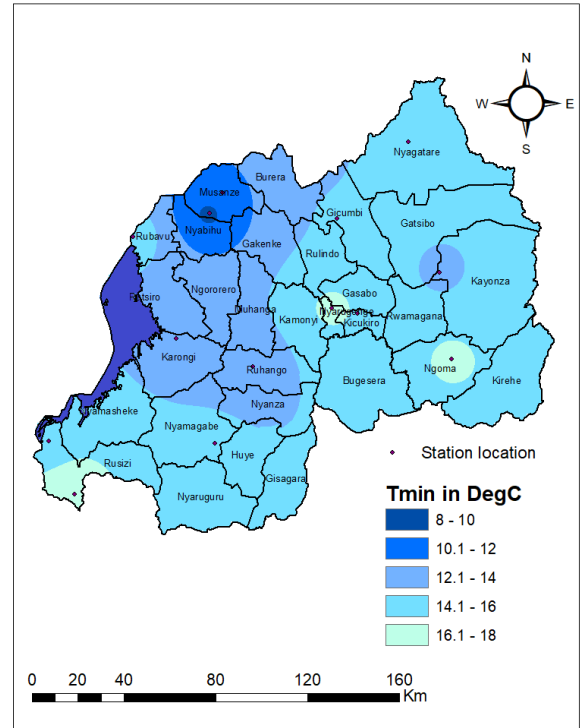


Figure5: July 2019 Minimum Temperature

#### 4. Agricultural impact

##### Satellite images : Soil Moisture Index (MI)

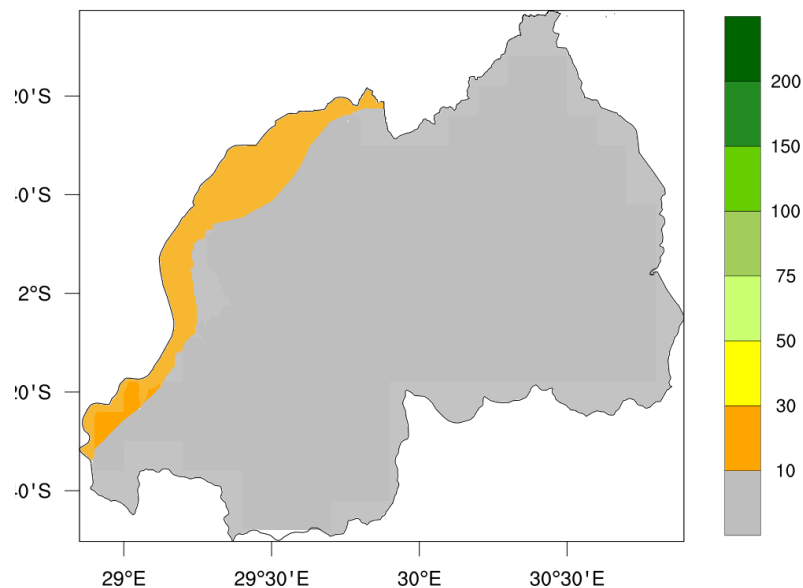


Comparing the dekad2 July 2019 that contained water in the soil over North, West and South, satellite derived moisture index showed dry soil over most parts of Rwanda in dekad3 July 2019 except in mountainous areas in the North western part of the country. (see **Map3&4**).

## 5. CLIMATE OUTLOOK

The rainfall during August 2019; we expect light rainfall in the first days of the month. Dry conditions are expected to prevail to the rest of the forecast period (Figure 6).

- Kigali City: is expected to receive rainfall amount ranging below 10mm
- Eastern Province: is expected to receive rainfall amount ranging below 10mm
- Southern Province: is expected to receive rainfall amount ranging below 10mm
- Western province and northwestern region: is expected to receive rainfall amount ranging from 10mm to 30 mm
- Northern Province: is expected to receive rainfall amount ranging below 10mm



*Figure6: Rainfall outlook for August 2019*

## 6. IMPACTS ON SOCIO-ECONOMIC SECTORS

The socioeconomic impacts associated with observed climate conditions and those from the climate forecast are illustrated below.

### 6.1 Impacts of observed climate condition.

- During this period, even if the statistics proved that the rainfall was above the long term mean (LTM) mostly the accumulation of the rainfall was in one day and most part of the country experienced dry conditions and the impacts were:
- Increased water stress, reduced performance in crop conditions and water resource availability.
- Loss of farming products.

**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)**