

REPUBLIC OF RWANDA



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Climatological Bulletin of February 2020

1. INTRODUCTION

This bulletin has three main components which are: (i) the review of climate conditions observed over Rwanda in February 2020, (ii) the prediction of the rainfall in March 2020 and (iii) the highlights on the socio-economic impact associated with the both observed and predicted climate conditions.

2. HIGHLIGHTS

- Rainfall performance in February: the accumulation of rainfall observed during this month was below the LTM (Long-Term-Mean) in many stations across the country, leaving few stations with the above the long term mean.
- Rainfall during the March 2020: it is expected to receive moderate rainfall in all districts of the country with the amount ranging between 150 mm and 300mm.
- The impact associated with both observed and predicted climate conditions: the observed rainfall for February was fairly widespread over the whole country with no extremes and the expected rainfall for March 2020 will result into improved pasture and foliage for livestock; good performance of crop, floods and landslides in some localized areas.

3. CLIMATE PATTERNS

This section provides the climatological summary of the rainfall and temperature for February 2020 in comparison to the Long Term Mean over Rwanda.

3.1 Rainfall amounts in February 2020

During the month of February, rainfall amount recorded over Rwanda was ranging between 39.6mm and 174mm. High rainfall of 174mm was received at Bugarama station. The Southwestern region, Southern Province, Eastern Province and Kigali city received much rainfall compared to Northern Province. The central region represented by Gitega and Kigali International Airport weather stations of Kigali city recorded 139.7mm and 115.7mm respectively. Nyamagabe and Byimana weather stations of the Southern Province received 128.7mm and 141mm respectively. The Western Province also received 167.9mm over Rusizi, Rubavu (59.5mm), Rubengera (39.6mm) and Bugarama recorded 174mm. Gicumbi, Busogo and Musanze weather stations of the Northern Province have received 80.2mm, 66.4mm and 61.6mm respectively.

The Eastern Province received the rainfall ranging between 43.7mm (over Kawangire), 138.6mm (over Ngoma) and 141.1mm over Nyagatare . The enhanced rainfall activities during this month of February was a result of the positive Indian Ocean Dipole and convergence of winds that both led to the increase in air moisture over Rwanda.

3.2 Rainfall performance as compared to the Long Term Mean

The performance of the rainfall in the month of February 2020 shows that the cumulative rainfall over Rwanda was below as compared to the LTM (Long-Term Mean) in many parts of the country.

The Table and histogram below indicate the rainfall performance of February 2020 compared to the Long Term Mean for the same period over many years.

Stations	Feb_2020	Feb_LTM
Kigali	139.7	92.4
Rusizi	167.9	134.9
Rubavu	59.5	89.2
Nyamagabe	128.7	145.3
Ngoma	138.6	110.1
Gicumbi	80.2	84.6
Busogo	66.4	113.1
Bugarama	174	140.1
Musanze	61.6	94
Gitega	115.7	146.3
Rubengera	39.6	112.2
Byimana	141	105.7
Kawangire	43.7	99.9
Nyagatare	141.1	55.9

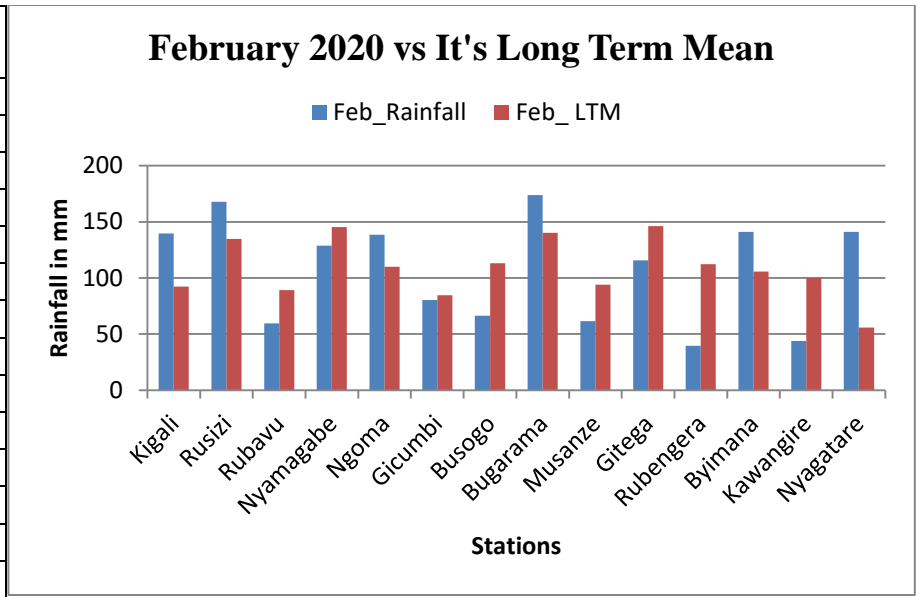
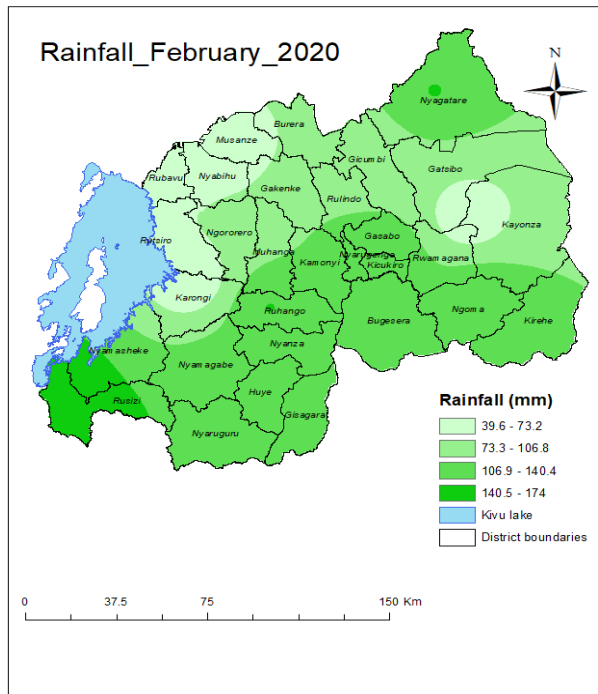
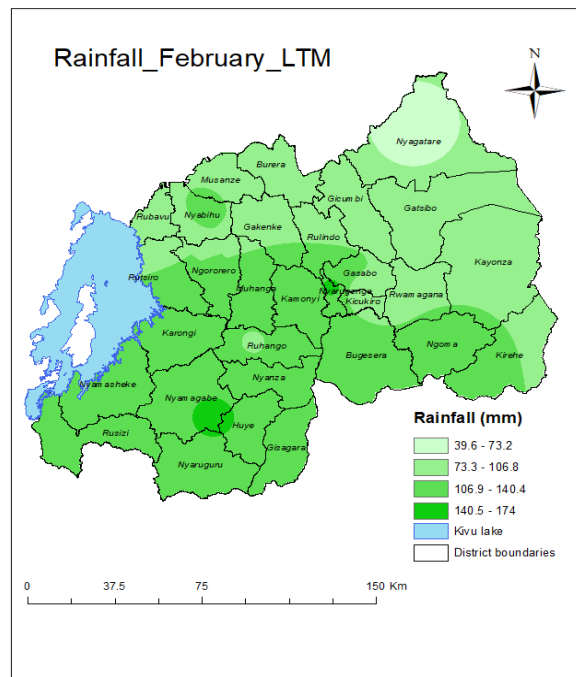


Table1: Cumulative rainfall recorded as compared to the LTM **Figure1:** Rainfall performance as Compared to the LTM

Figure 2 & 3 above show rainfall distribution during February 2020 and the Long Term Mean for the same period.



Map1: Rainfall distribution of February 2020

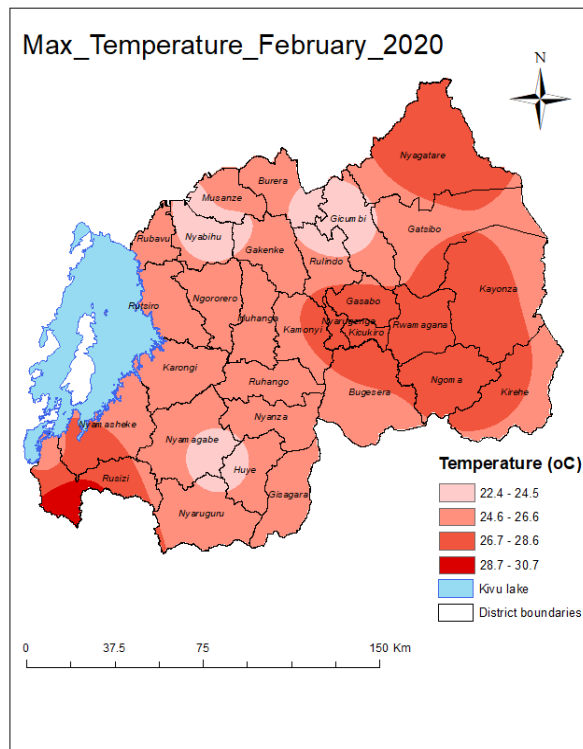


Map2: Long Term Mean rainfall distribution

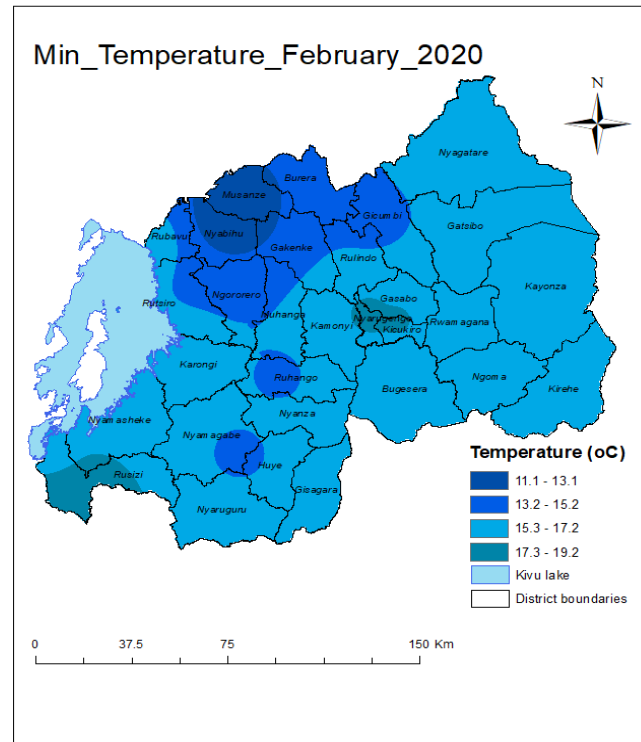
3.3 Temperature analysis

The highest average maximum temperature of 30.7°C was observed in the Southwest region at Bugarama station. The lowest average maximum temperature was observed in the Northern Province at Gicumbi station with 22.4°C.

The average of minimum temperature was ranging between 11.1 (Busogo) and 19.2°C (Bugarama). The Northern and Southern provinces were cooler compared to the Eastern, Central regions and Western Provinces of the country (Figure 4 and 5).



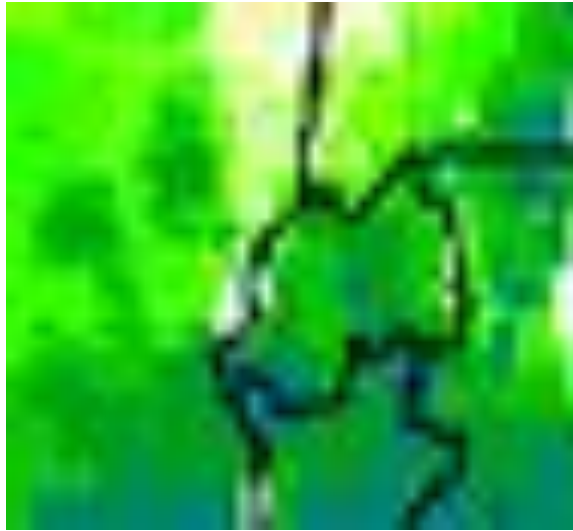
Map3:February Maximum Temperature



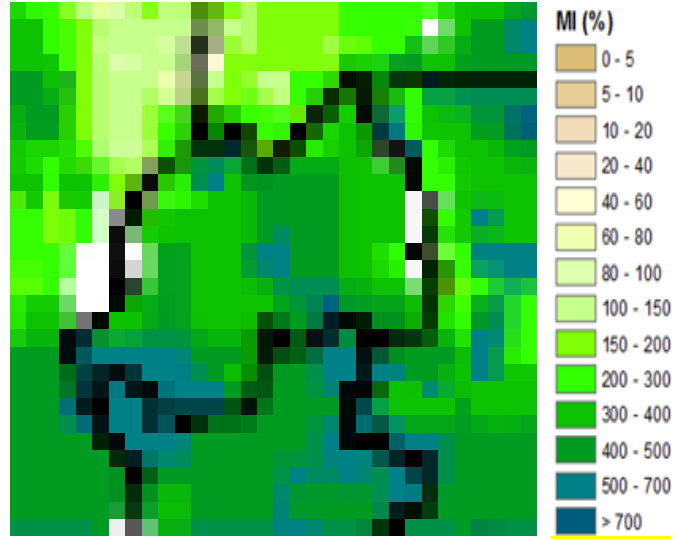
Map4:February Minimum Temperature

4. Soil Moisture Index (MI)

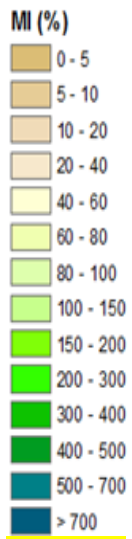
Comparing the soil moisture of January and February 2020, the satellite derived moisture is showing that the soil moisture fair for crop as a result of wet and dry weather condition observed over the country during the month of February 2020. (see **Map6 & 7**).



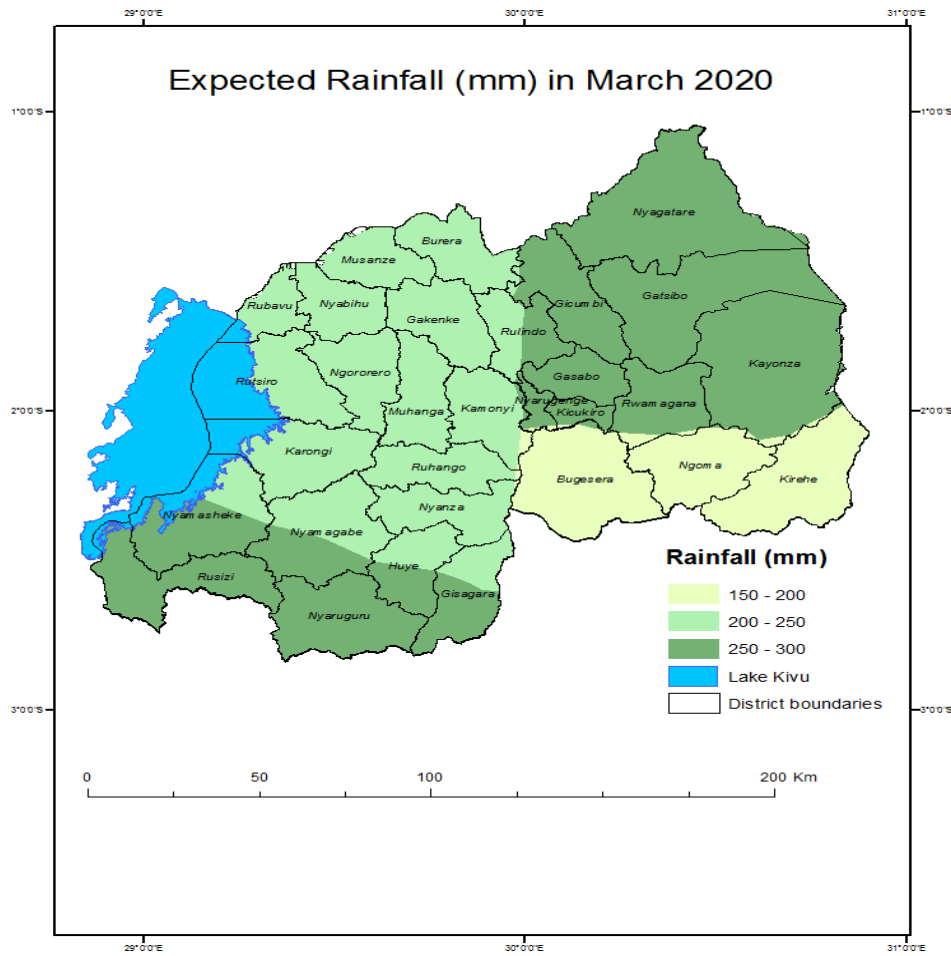
Map 5: January 2020



Map 6: February 2020



5. Rainfall forecast for March



Map 7: Rainfall prediction for March

The outlook for March 2020 indicates that near average tending to above average rainfall is expected in most part of the country; in this period of thirty days, the rainfall expected range will be between 150mm to 300mm. In many part of the country the onset of March to May 2020 “Long-Rains” seasonal rainfall have begin early over most parts of the country.

6. IMPACTS ON SOCIO-ECONOMIC SECTORS

The socio-economic impacts associated with observed climatic conditions during the month of February 2020 are illustrated below:

6.1 Impacts of observed climate condition.

In the month of February 2020, the weather conditions were wet and the result was; improved water availability, improved pasture conditions leading to good prospects of livestock performance.

6.2 Potential likely impacts for the March 2020.

In the month of March 2020, the forecasted climate is likely to have the following impacts:

- Improved, pasture and foliage conditions for livestock;
- Replenishment of water reservoirs;
- Western, Southern, Northern and Kigali city should be closely monitored for water logging, floods and landslides;
- Weather and Climate related diseases;
- Lightning strikes especially in the Western side of Congo Nil.

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)