



**Highlights:**

- **The cumulative rainfall** for November 2016 had a well distributed rainfall with an **enhanced rainfall amount** at almost all representative stations of Rwanda;
- **Maintained favorable soil moisture content** was observed in all parts of the country at a very large extent.
- We expect **depression of rainfall and rainfall cessation around mid-December 2016**

**I. Introduction**

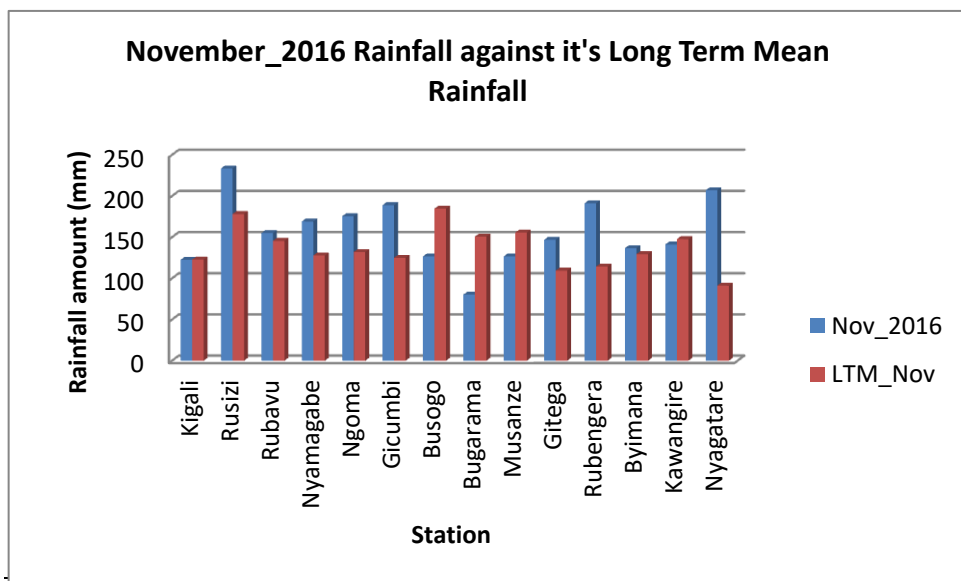
Most parts of the country during the November 2016 were generally wet throughout the month and the performance of October\_2016 rainfall was less in the southeastern part of Rwanda. Though the November\_2016 rainfall pattern turned southwards; during this month rainfall amount was observed to be normal to above at all stations.

- a) The comparison between rainfall recorded in “November\_2016” and it’s long-term mean (LTM) value at each station, is shown below:

**Cumulative rainfall (in mm) recorded at different stations**

Station	Nov_2016	LTM_Nov
Kigali	122.6	122.8
Rusizi (Kamembe)	233.5	178.1
Rubavu (Gisenyi)	155.1	145.6
Nyamagabe (Gikongoro)	169.1	127.8
Ngoma (Kibungo)	175.5	132
Gicumbi (Byumba)	189	125.1
Busogo	126.7	184.8
Bugarama	80.3	150.8
Musanze (Ruhengeri)	126.7	155.7
Gitega	146.9	109.5
Rubengera	191.2	114.4
Byimana	136.7	129.5
Kawangire	141.2	147.7
Nyagatare	207.1	91.1

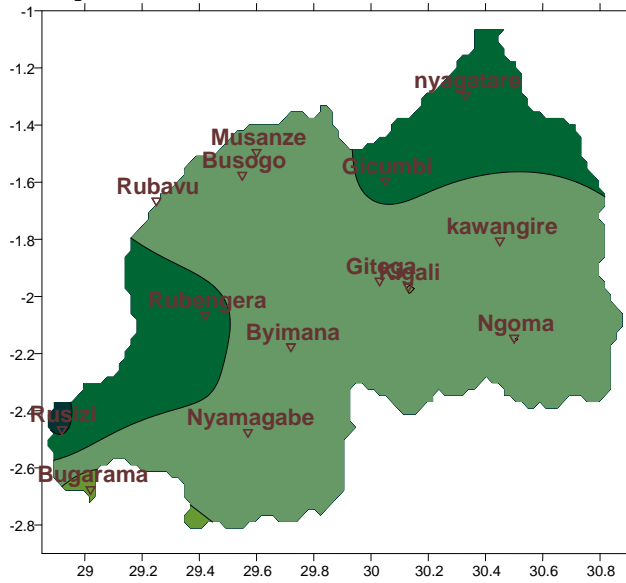
*Table1*



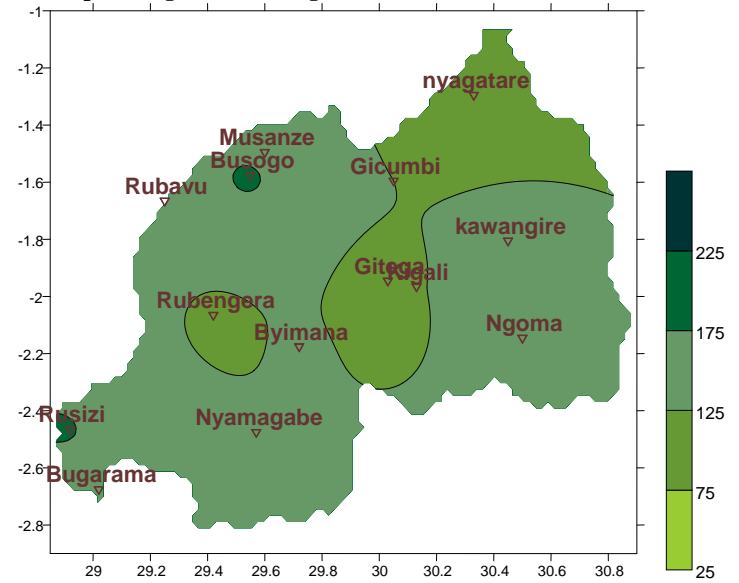
*Plot1*

b) **Rainfall analysis:** The next maps show the rainfall recorded during specific period monitored with the same month at long term average (mean)

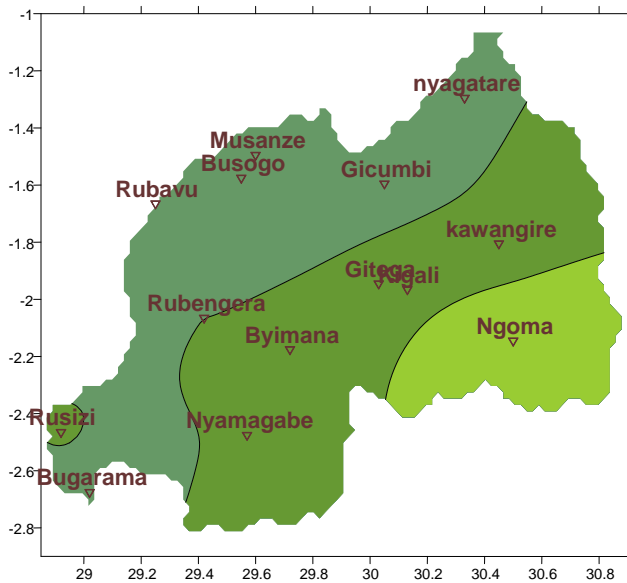
**Map1: Total Rainfall (mm): Nov\_2016**



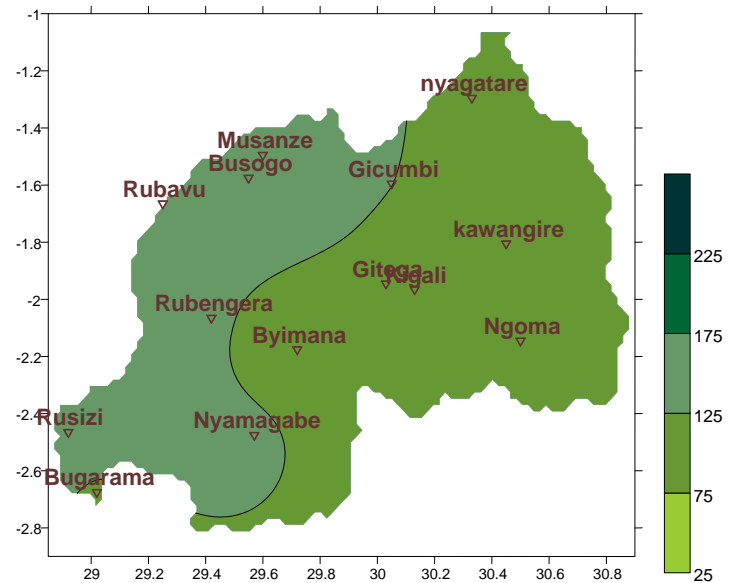
**Map2: Long Term Average Rainfall (mm): Nov\_LTM**



**Map3: Total Rainfall (mm): Oct\_2016**



**Map4: Long Term Average Rainfall (mm): Oct\_LTM**



## II. Detailed observed rainfall during November 2016

Cumulative rainfall for October 2016 was normal to above at all representative stations except the southeastern (which is Ngoma station; see **Map3&4**). Cumulative rainfall for the November 2016 was normal to above in many parts of the country (see **Map1&2**):

### a) Eastern Province

All representing stations received rain that was within the normal range with excess in rainfall amount in northeastern part as it was forecasted to experience high rainfall amount; at Nyagatare station; the records show the amount of 207.1mm of rainfall (the double of the Mean climatological value; see **Table1** and **Map1&2**)

### b) Northern Province

Rainfall was well distributed and normal compared to climatology with Gicumbi as the station that recorded the highest value of 180mm of rainfall (see **Table1** and **Map1&2**)

### c) Southern Province

Rainfall was well distributed and normal compared to climatology with Nyamagabe as the station that recorded the highest value of 169.1mm of rainfall (see **Table1** and **Map1&2**)

### d) Western Province

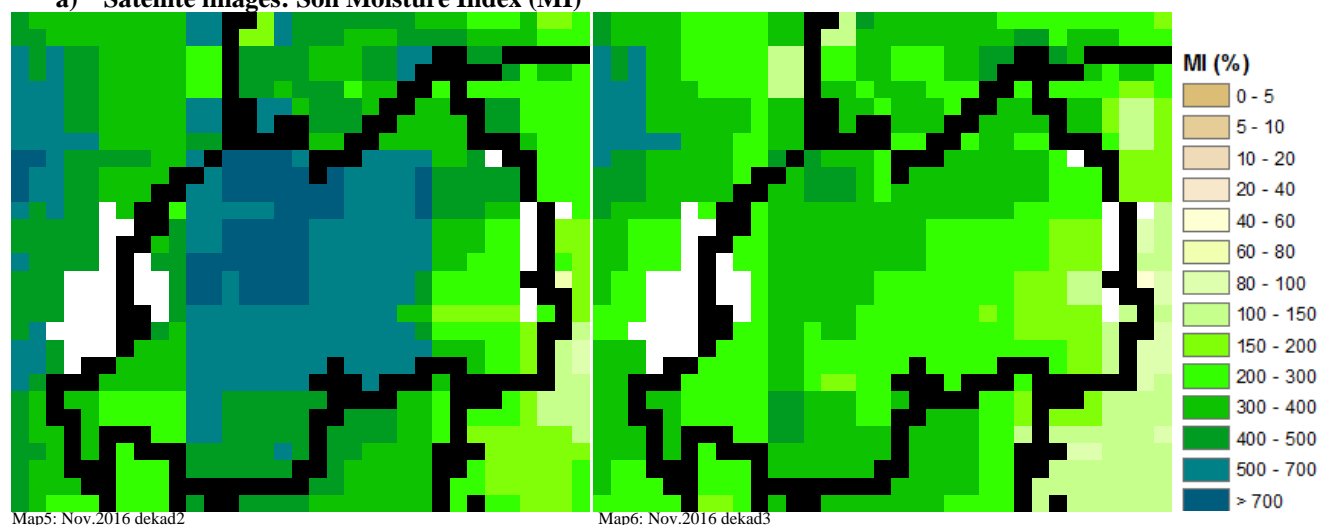
All stations received rain in the normal range to above compare to the long term mean value. Increase in rainfall amount was observed in the southern part of this Province where Rusizi station recorded 233.5mm (which is the highest amount recorded in November\_2016 at all stations in Rwanda; see **Table1** and **Map1&2**)

### e) Kigali City

The central part with 2 representatives stations Kigali and Gitega; received normal to above rainfall amount at all stations with Gitega station as the highest record in this region (which recorded 146.9mm; see **Table1** and **Map1&2**)

## III. Agricultural impact.

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



Within the 3<sup>rd</sup> dekad of November; there was continuation of rainfall but also the temperatures were high to induce high latent heat that resulted in a decrease of soil moisture content (see **Map5&6**)

December 2016; we expect rain to shift south and westwards; and also rain cessation in all parts of the country by mid-December (by then; evaporation is expected to exceed rainfall). Farmers are again advised to support crops using irrigation (in the area where rain has ceased); and to harvest all that have matured already (especially in the areas which are continuing to receive rain)

### b) Rainfall forecast for December 2016

We expect rain cessation in all parts of the country by mid-December; by then; evaporation is expected to exceed rainfall:

**Kigali City;** is expecting to experience cloudy conditions that will yield little rains.

**Eastern Region;** is expecting to experience depressed rainfall activities across the whole region especially the north.

**Western Region;** is expecting to experience rains at normal to above range until mid-December.

**Northern region;** is expecting moderate rains at normal to above range especially the western part until mid-December.

**Southern Region;** is expecting to experience a depressed rainfall activities throughout the period with expectation of high amount towards the southwestern part but at a normal range comparing to climatology and rain cessation towards mid-December.

**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)