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# AGROMETEOROLOGICAL BULLETIN

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DEKAD 11 PERIOD: 11<sup>TH</sup> – 20<sup>TH</sup> April 2023

## 1.0 HIGHLIGHTS

- Several parts of the country recorded a decrease in the amount of rainfall received especially over the highland west and east of the rift valley where light to heavy rainfall was reported.
- Kakamega station in the western province reported the highest amount of rainfall in the Country (189.2 mm) during the ten-day period under review.
- The average mean air temperature dropped over most parts of the country except over the highlands east and the rift-valley regions. The cooler regions in the Country had mean air temperatures ranging between 15.1 °C – 20.4 °C while the warmer regions had average mean air temperatures of up to 30.2°C. (Figs. 3.3 & 3.4).
- Total pan evaporation rose over most stations with the highest readings of 104.0 mm being recorded at Lodwar station in North Western Kenya.
- Several parts of the country are expected to receive moderate to very heavy rainfall during the next 10 days (21<sup>st</sup> – 30<sup>th</sup> April 2023).

## **2.0 WEATHER AND CROP REVIEW FOR THE PERIOD: 11<sup>TH</sup> – 20<sup>TH</sup> APRIL 2023**

### **2.1 SUMMARY**

During the dekad, (11<sup>th</sup> – 20<sup>th</sup> April 2023) several parts of the country recorded a decrease in the amount of rainfall received especially over the highland west and east of the rift valley where light to heavy rainfall was reported. However, the Northeastern, Northwestern, and coastal regions recorded an increase in the cumulative amount of rainfall compared to the previous dekad. Kakamega station in the western province reported the highest amount of rainfall in the Country (189.2 mm) during the ten-day period under review.

Over Western, Nyanza, and some parts of Rift Valley, most farmers are still top-dressing their crops. In Central, Nairobi, Eastern, and Coastal regions, both maize and beans are at their ninth leaf stage and weeding is underway in some places. The pastoral regions in North Eastern and over the game reserves, pasture, and forage regeneration have improved with the current rains and most Water/Earth pans recharged hence improving the status of water resources in these regions.

### **2.2 WESTERN AND NYANZA REGION**

Most stations from the region reported decreased rainfall amounts compared to the previous dekad, however, the cumulative rainfall recorded during the dekad was below the long-term dekadal means for several stations in the region. Moderate to very heavy rainfall was reported by all stations in the region during the dekad. The average mean air temperatures dropped in the region and ranged between 19.9 °C and 24.1 °C. Scattered to Broken cloud cover dominated the sky during the morning and afternoon hours.

#### **2.2.1 KAKAMEGA:**

The station reported a cumulative rainfall amount of 189.2 mm against its long-term dekadal mean of 83.20 mm, the station had a total of six (6) consecutive rainy days with five (5) days recording more than 5.0 mm (moderate to heavy rainfall). Scattered cloud cover dominated the station in the morning hours while broken cloud cover dominated the afternoon hours throughout the dekad. The average mean air temperature at the station decreased from 22.5 °C to 22.0 °C. Maize is at the ninth leaf stage while beans are at the flowering stage and normal yield is expected.

#### **2.2.2 KISII:**

The station received moderate to heavy rainfall during the dekad. A cumulative rainfall amount of 46.6mm was received against its long-term dekadal mean of 81.15 mm. The station had a total of three (3) consecutive rainy days with four (4) days recording more than 5.0 mm (moderate to heavy rainfall). Mean air temperature decreased from 20.8 °C in the previous dekad to 19.1 °C. Scattered to broken cloud cover persisted during both morning and afternoon hours respectively throughout the dekad. Total pan evaporation was 32.1 mm. Maize is at the ninth leaf stage while beans are at the flowering stage and normal yield is expected.

## **2.3 RIFT VALLEY PROVINCE**

Several stations from the region reported moderate to heavy rainfall that was less than their long-term dekadal means. The average mean air temperatures generally rose in the region and ranged between 18.3 °C and 20.7 °C. Scattered to broken cloud cover dominated the sky during the morning and afternoon hours.

### **2.3.1 KITALE:**

The station received light rainfall during the dekad. A cumulative rainfall amount of 5.7 mm was received against its long-term dekadal mean of 58.78 mm. The station reported one (1) consecutive rainy day with zero (0) days receiving more than 5.0 mm of rainfall (moderate to heavy rainfall). Scattered to broken cloud cover persisted during both morning and afternoon hours respectively throughout the dekad. The average mean air temperature rose from 20.1°C to 20.7°C. Total pan evaporation was 35.2 mm. Maize is at the ninth leaf stage while beans are at their budding stage and in a good state.

### **2.3.2 KERICHO:**

A cumulative amount of 38.6 mm of rainfall was reported against its long-term dekadal mean of 77.80 mm. The station had a total of three (3) consecutive wet days with four (4) days recording more than 5.0 mm (moderate to heavy) rainfall during the dekad. The average mean air temperature increased from 18.3 °C in the previous dekad to 18.6 °C in the current dekad. Broken cloud cover persisted over the station in the morning and in the afternoon hours. Maize is at the ninth leaf stage while beans are at their budding stage and in a good state.

### **2.3.3 KABARAK:**

The station reported a cumulative amount of 29.9 mm of rain against its long-term dekadal mean of 57.63 mm. The station had a total of four (4) consecutive rainy days with two (2) days recording more than 5.0 mm (moderate to heavy) rainfall during the dekad. The average mean air temperature dropped from 18.5 °C in the previous dekad to 17.9 °C in the current dekad. Scattered to broken cloud cover persisted over the station in the morning and in the afternoon hours respectively throughout the dekad. Maize is at the ninth leaf stage while beans are at their budding stage and in a good state.

## **2.4 CENTRAL AND NAIROBI PROVINCES.**

Several stations from the region reported moderate to heavy rainfall that was below their long-term decadal means. Moderate to heavy rainfall was reported by all stations in the region. The average mean air temperatures generally dropped in the region and ranged between 15.1 °C and 20.4 °C. Broken cloud cover dominated the sky during the morning and afternoon hours throughout the dekad.

#### **2.4.1 NYERI:**

Received a total cumulative amount of 19.4 mm against its long-term dekadal mean rainfall of 56.05 mm. The station had a total of three (3) consecutive rainy days with one (1) day recording more than 5.0 mm (moderate to heavy) rainfall during the dekad. Broken cloud cover dominated the sky during the morning and afternoon hours throughout the dekad. The average mean air temperature was 20.3 °C which was an increase from 19.6 °C in the previous dekad. Maize is at the ninth leaf stage and affected by stack borer while beans are at their budding stage and in a good state.

#### **2.4.2 THIKA:**

Received a total cumulative amount of 81.70 mm against its long-term dekadal mean rainfall of 64.70 mm. The station had a total of six (6) consecutive rainy days with seven (7) days recording more than 5.0 mm (moderate to heavy rainfall). Total pan evaporation was 37.7 mm. Broken cloud cover dominated the sky during the morning and afternoon hours throughout the dekad. Maize is at the ninth leaf stage while beans are at their budding stage and both in a good state.

#### **2.4.3 KABETE:**

The station received a total cumulative amount of 55.60 mm against its long-term dekadal mean of 66.13 mm of rainfall. The station had a total of five (5) consecutive rainy days with three (3) days recording more than 5.0 mm (moderate to heavy) rainfall. Broken cloud cover dominated the sky during the morning and afternoon hours throughout the dekad. Maize is at the ninth leaf stage while beans are at their budding stage and both in a good state.

Coffee variety *Ruiru hybrid 11* is at 100% berry soft and the crop state is fair which corresponds to normal growth. The extent of the spread of weeds is not much on the farm though 35% of the crop has been affected by leaf rust.

Banana variety *Giant Cavendish* is at 90% suckers and 10% ripeness stage and there is a considerable amount of weeds but they do not affect the plant. However, Panama banana disease has affected 40% of the crop.

#### **2.4.4 NYAHURURU:**

The station received a total cumulative amount of 7.4 mm against its long-term dekadal mean of 27.86 mm of rainfall. The station had a total of two (2) consecutive rainy days with zero (0) days recording more than 5.0 mm (moderate to heavy rainfall). Broken cloud cover dominated the sky during the morning and afternoon hours throughout the dekad. The average mean air temperature

at the station was 15.1 °C. Maize is at the ninth leaf stage while beans are at their budding stage and both are in a fair state.

#### **2.4.5 DAGORETTI:**

The station received a total cumulative amount of 15.3 mm against its long-term dekadal mean of 49.60 mm of rainfall. The station had a total of four (4) consecutive wet days with one (1) day recording more than 5.0 mm (moderate to heavy rainfall). Broken cloud cover dominated the sky during the morning and afternoon hours throughout the dekad. Maize is at the ninth leaf stage while beans are at their budding stage and both are in a fair state, weeding is ongoing awaiting topdressing.

### **2.5 EASTERN REGION:**

Several stations in the region reported moderate to heavy rainfall with Meru leading the region with 117.0mm of rainfall. Broken cloud cover dominated the region during the period under review. The average mean air temperatures decreased and ranged between 19.8 °C and 20.5 °C.

#### **2.5.1 MERU:**

The station received a total cumulative amount of 117.0 mm against its long-term dekadal mean of 92.26 mm of rainfall. The station had a total of five (5) consecutive rainy days with five (5) days recording more than 5.0 mm (moderate to heavy) rainfall during the dekad. Broken cloud cover dominated the sky during the morning and afternoon hours throughout the dekad. The average mean air temperature at the station was 19.8 °C. Maize is at the ninth leaf stage while beans are at their budding stage and both are in a good state.

#### **2.5.2 EMBU:**

The station received a total cumulative amount of 66.0 mm against its long-term dekadal mean of 96.62 mm of rainfall. The station had a total of eight (8) consecutive rainy days with six (6) days recording more than 5.0 mm (moderate to heavy) rainfall during the dekad. Broken cloud cover dominated the sky during the morning and afternoon hours throughout the dekad. The average mean air temperature at the station was 20.5 °C. Total pan evaporation was 42.0 mm. Maize is past the emergence stage while beans are at their budding stage and both are in a good state. Weeding is still underway.

#### **2.5.3 KATUMANI:**

The station received a total cumulative amount of 46.3 mm against its long-term dekadal mean of 34.40 mm of rainfall. The station had a total of five (5) consecutive rainy days with five (5) days recording more than 5.0 mm (moderate to heavy) rainfall. Broken cloud cover dominated the sky during the morning and afternoon hours throughout the dekad. The total pan evaporation was 35.8 mm. Maize is at the ninth leaf stage while beans are at their budding stage and both are in a good state.

Mangoes (variety apple) are at 40% appearance of new leaves and the crop condition is poor which corresponds to below normal state. Infestation by aphids is affecting the phase. Oranges (Washington Navel) were at 100% flowering stage and the crop condition was fair corresponding to normal growth.

## **2.6 COASTAL REGION:**

Several stations in the region reported Moderate to heavy rainfall with Mtwapa leading the region with 67.8 mm of rainfall. Broken cloud cover dominated the region during the morning hours decreasing to scattered clouds during the afternoon hours. Mean air temperature generally decreased and ranged between 27.5 °C and 29.7 °C.

### **2.6.1 MTWAPA:**

The station received a total cumulative amount of 67.8 mm against its long-term dekadal mean of 54.97 mm of rainfall. The average mean air temperature was 27.9 °C. The station had a total of five (5) consecutive rainy days with five (5) days recording more than 5.0 mm (moderate to heavy) rainfall. Total pan evaporation was 58.8 mm. Broken cloud cover dominated the sky during the morning decreasing to scattered clouds in the afternoon hours. Maize is past the emergence stage and in a good state while mangos are at their flowering stage and in a fair state.

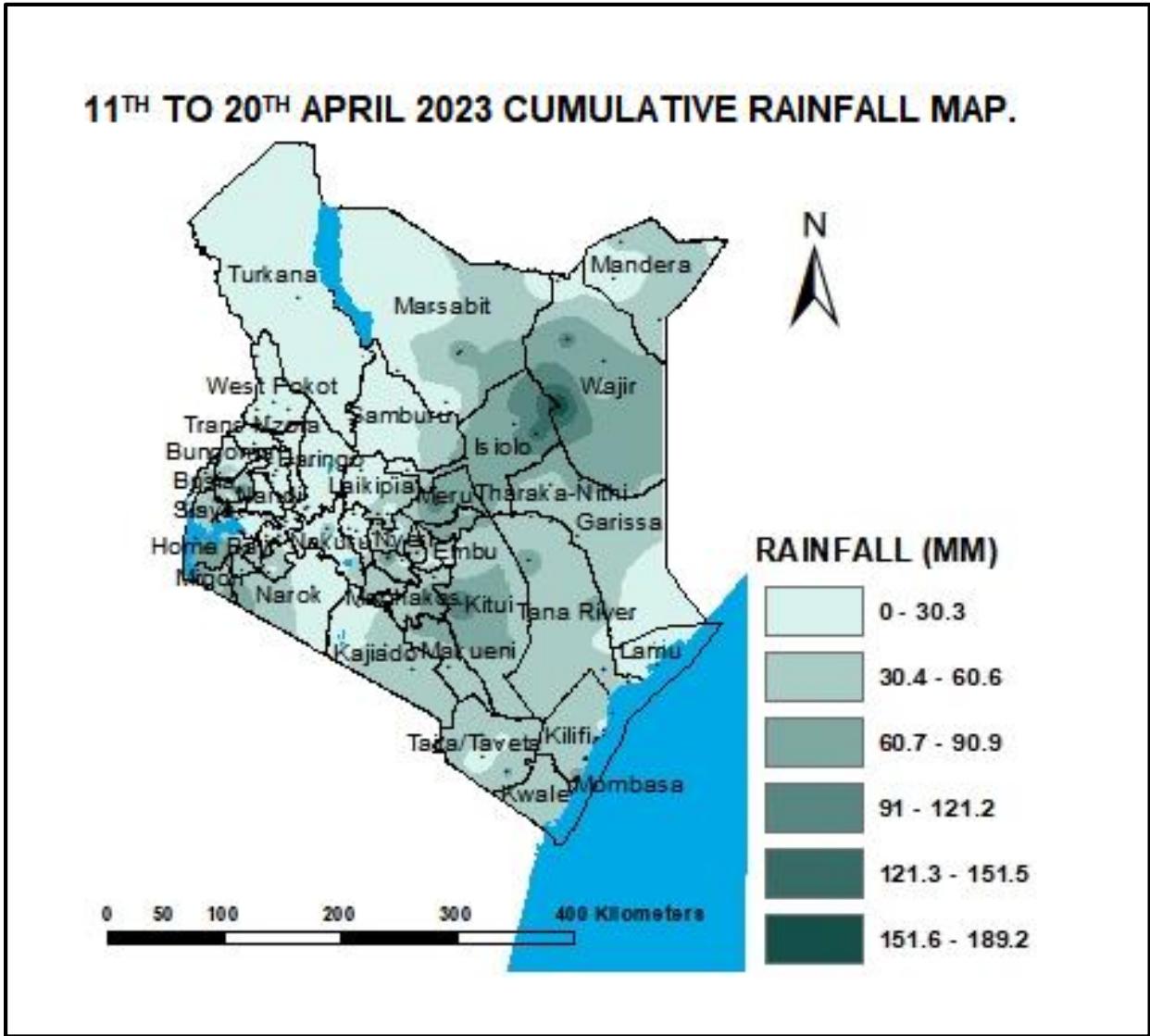
### **2.6.1 MSABAHA:**

The station received a total cumulative amount of 44.6 mm against its long-term dekadal mean of 40.90 mm of rainfall. The station had a total of three (3) consecutive rainy days with three (3) days recording more than 5.0 mm (moderate to heavy) rainfall. Broken cloud cover dominated the sky during the morning decreasing to scattered clouds in the afternoon hours. Total pan evaporation was 39.6 mm. Maize is past the emergence stage and in a fair state.

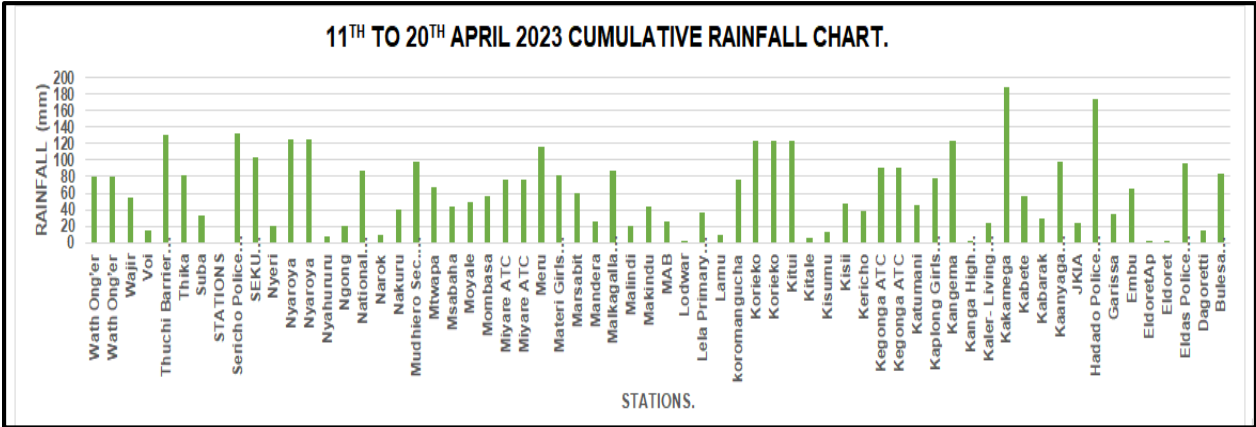
## **2.7 NORTH EASTERN REGION:**

Several stations in the region reported moderate to very heavy rainfall with Hadado station in Wajir County leading the region with 174.0 mm of rainfall. Garissa reported 35.4 mm and Mandera station reported the lowest amount of 25.6 mm. Broken cloud cover was generally observed over the region during the morning and afternoon hours. Mean air temperature ranged between 29.8 °C and 30.2°C.

Pasture and forage regeneration has continued to improve and Water/Earth pans in the region are being filled up with water.



**Fig: 3.3 Cumulative Rainfall Map.**



**Fig: 3.4 Cumulative rainfall graph.**

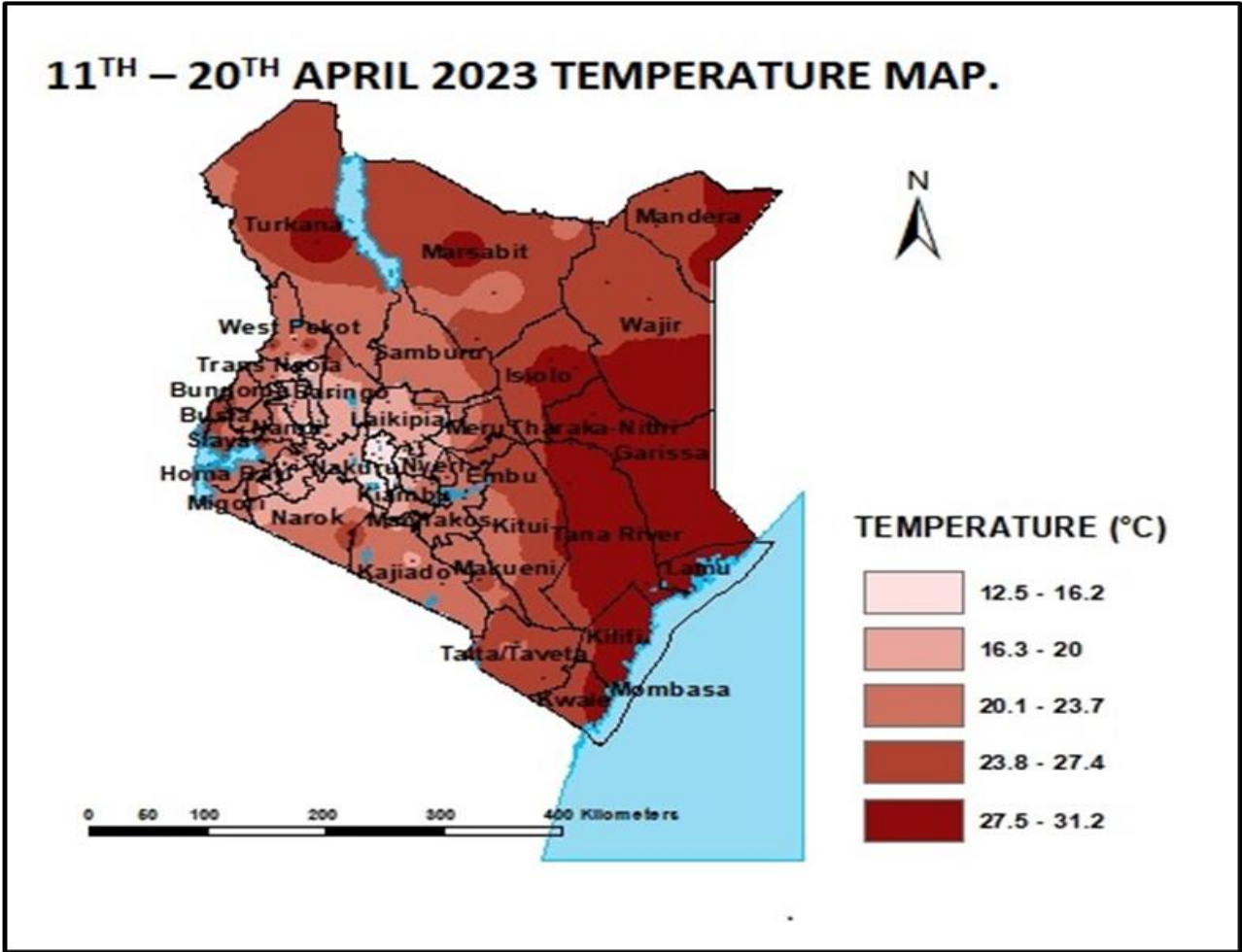


Fig: 3.5 Mean Temperature Map.

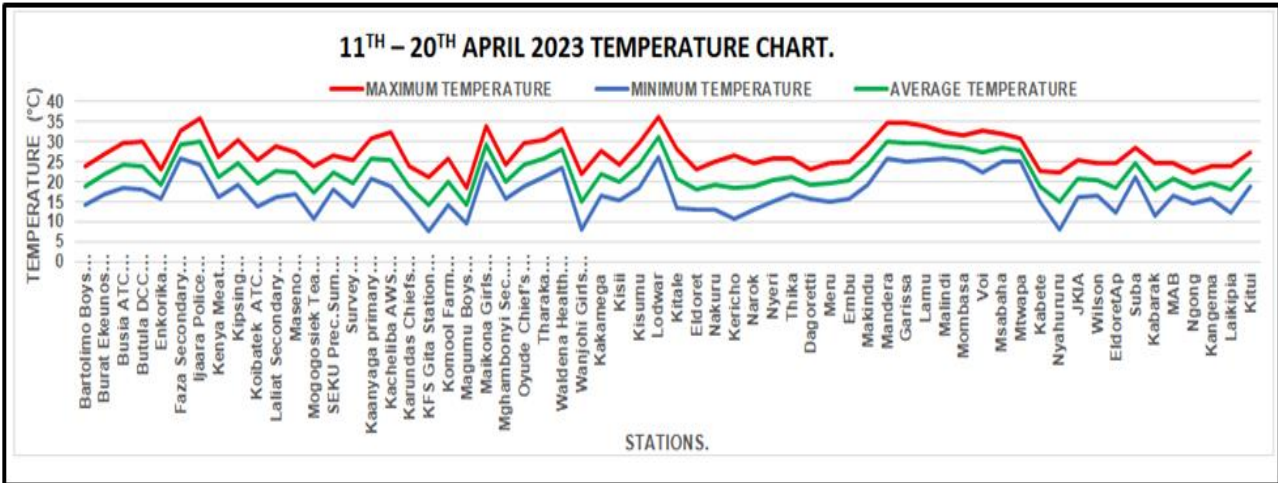
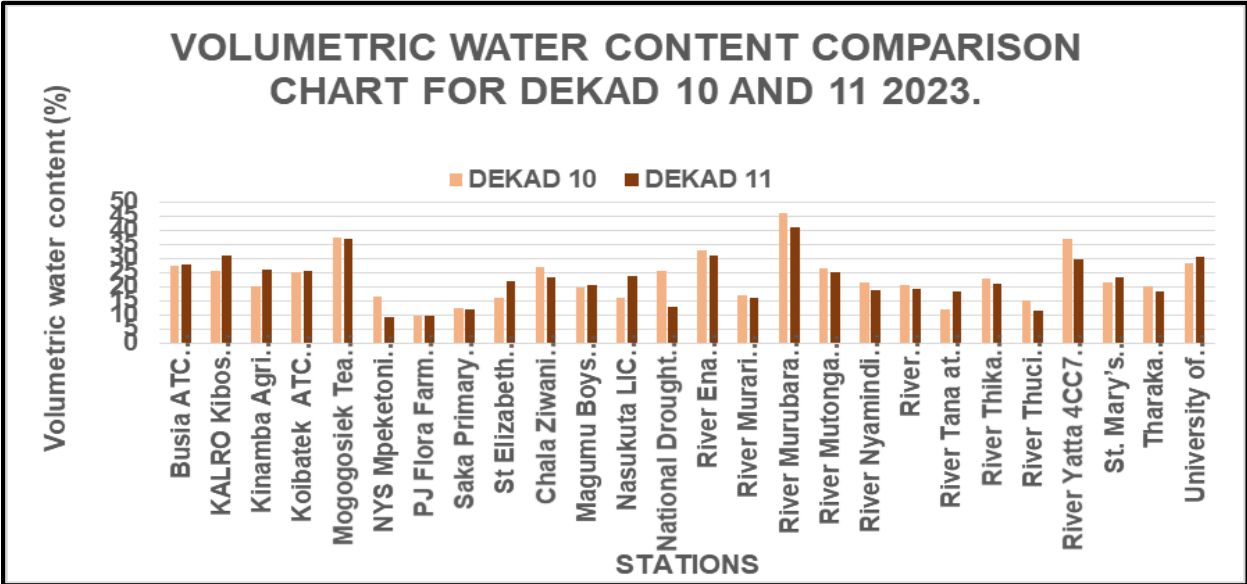


Fig: 3.6 Temperature Graphs





**Fig: 3.2 Volumetric water content comparison chart.**

The soil water content comparison chart above indicates that soil moisture content decreased over most stations between the current and the previous dekad. The most significant decrease was noted in NYS Mpeketoni and River Yatta stations. Soil water content affects the moisture and amount of nutrients available to plants and soil aeration status, therefore since there was no indication of soil stress, the above conditions are expected to be favorable for growth and development of crops.

Station	Maximum consecutive wet days (>1.0 mm)	Maximum consecutive dry days	Number of rainy days (> 5.0 mm)	Cumulative Rainfall from the start of the MAM 2023 rainfall (mm) season
Kakamega	6	1	5	533.8
Kisii	3	1	4	514.5
Kitale	1	2	0	154.5
Thika	6	1	7	333.4
Nyeri	3	1	1	128.9
Dagoretti	4	3	1	384.6
Embu	8	1	6	252.7
Katumani	5	2	5	135.3
Msabaha	3	1	3	148.4
Mtwapa	5	1	5	206.6
Kabete	5	2	3	387.1
Nyahururu	2	4	0	79.1
Kabarak	4	2	2	211.6

**Fig: 3.7: Table showing the number of consecutive wet days, maximum consecutive dry days, number of rainy days from 11<sup>th</sup> – 20<sup>th</sup> April 2023, and the cumulative rainfall amounts from the start of March, April, and May (MAM) season, 2023.**

**4.0 EXPECTED WEATHER AND CROP CONDITIONS DURING THE NEXT TEN (10) DAYS; 21<sup>ST</sup> – 30<sup>TH</sup> APRIL 2023.**

During the next ten (10) days, moderate to very heavy rainfall is expected to fall over most parts of the country including over the western, central, southeastern lowlands and the coastal region.

Over Western and Nyanza regions, most farmers are expected to complete top dressing their farms.

In Central Nairobi and Eastern parts of the country, moderate to very heavy rainfall is expected and since crops are currently past the ninth leaf stage farmers should focus on top-dressing their crops.

North Western/Eastern is likely to receive light to heavy rainfall during the next dekad. This is likely to help in the regeneration of pasture/forage in the region and recharge water/earth pans in the area.

Communities in these areas are therefore advised to de-silt all earth/water pans and other water reservoirs to maximize water storage.

South Eastern lowlands and the coastal regions are also expected to receive moderate to heavy rainfall during the coming dekad and therefore farmers are advised to focus on weeding and top-dressing their crops since some crops are currently past their third leaf stage.

For inquiries or any clarification, please use the contacts on the letterhead.



Mary Githinji

**FOR: DIRECTOR OF METEOROLOGICAL SERVICES.**