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## **AGROMETEOROLOGICAL BULLETIN**

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### **DEKAD 3 PERIOD: 21<sup>ST</sup> – 31<sup>ST</sup> JANUARY 2023**

#### **1.0 HIGHLIGHTS**

- Most parts of the country continued to report dry conditions except over Nyeri and Kakamega where light rainfall was reported.
- During the current dekad, all stations throughout the country registered rainfall amounts below their long term dekadal mean.
- Mean air temperatures remained quite high over most parts of the country. The cooler regions had mean air temperatures ranging from (14.2 – 17.9) °C. The highest average mean air temperature of 30.8 °C was recorded at Mandera station (Figs. 3.3 & 3.4)
- Scattered cloud cover was reported over most parts of the country therefore reducing daily total radiation and number of sunshine hours.
- Total pan evaporation, remained quite high over most parts of the country with highest readings of 94.5 mm being recorded at Mandera station in North Eastern .
- During the next 10 days (21<sup>st</sup> – 31<sup>st</sup> January 2023), most parts of the country are expected to remain dry except over some parts of western, Nyanza and the Coastal strip where moderate rainfall is expected due to local meso-scale effect.

#### **2.0 WEATHER AND CROP REVIEW FOR THE PERIOD: 21<sup>ST</sup> – 31<sup>ST</sup> JANUARY 2023**

##### **2.1 HIGHLIGHTS**

The third dekad (21<sup>st</sup> – 31<sup>st</sup> January 2023) had most parts of the country reporting dry conditions except Nyeri, Kakamega, and Kisumu stations which reported light rainfall.

The prevailing dry conditions especially over arable regions in central and Eastern Kenya continue to take a toll on crops which have attained flowering stage and require sufficient rainfall in-order to develop to the next phase.

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

All stations from the region recorded less rainfall than their long term decadal means. All stations reported light rainfall except Kisumu which reported a single day of moderate rainfall. Average mean air temperatures slightly increased and ranged between 21.9 °C and 25.3 °C. Scattered cloud cover dominated the region both during the morning and afternoon hours.

### **2.2.1 KAKAMEGA:**

The station reported a cumulative rainfall amount of 5.4 mm against its Long term dekadal mean of 23.9 mm. Scattered cloud cover dominated the station in the morning and afternoon hours throughout the dekad. Average mean air temperature at the station was 21.9°C.

Both maize and beans have been harvested and most farmers are preparing their land for the next season.

### **2.2.2 KISII:**

The station only received light rainfall during the third dekad 2023. A cumulative amount of 1.5 mm was reported against its long term dekadal mean of 36.8 mm. The observed amount was less than readings reported during the previous dekad. Mean air temperature slightly increased from 21.2°C to 21.9°C during the current dekad. Scattered cloud cover persisted during both morning and afternoon hours throughout the entire dekad. Total pan evaporation at Kisii was 46.0 mm. Both maize and beans have been harvested and most farmers are preparing their land for the next season.

## **2.3 RIFT VALLEY PROVINCE**

During the current dekad, all stations from this region remained dry. Scattered cloud cover in the morning and afternoon hours was generally observed throughout the region. Average mean air temperature ranged between 17.4 °C and 20.4 °C.

### **2.3.1 KITALE:**

The station reported trace against its long term dekadal mean of 16.1 mm. Cloud cover was few during the morning and increased to scattered during afternoon hours throughout the dekad. Total pan evaporation was 51.0 mm and average mean air temperature of 19.6°C.

Farmers in the region are busy preparing their farms for the next cropping season.

### **2.3.2 KERICHO:**

The station 0.3 mm of rain against its long term dekadal mean of 34.0 mm. Average mean air temperature at Kericho was 17.9 °C. Scattered cloud cover persisted in the morning and afternoon hours throughout the dekad. Total pan evaporation was 58.3 mm. Most farmers are busy preparing their farms for the next season.

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

This region remained dry during the third dekad except at Nyeri station where two days of light rainfall was reported. During the period under review, scattered cloud cover was generally observed over the entire region during both morning and afternoon hours. Mean air temperature ranged between 14.2 °C and 20.8 °C.

### **2.4.1 NYERI:**

Received two days of light rainfall and a total cumulative amount of 6.8 mm against its long term dekadal mean rainfall of 15.4 mm. Cloud cover was scattered during the morning and afternoon hours throughout the dekad. Average mean air temperature was 18.4 °C.

Maize is at flowering stage and in a poor state due to the prevailing dry conditions. Infestation by maize stalk borer worsened the condition of maize and below normal yield is expected. Beans are at flowering stage but due to insufficient rainfall the leaves are yellowing and flowers aborting and therefore below normal yield is expected.

#### **2.4.2 THIKA:**

The station continued to remain dry during the third dekad against its Long term dekad mean of 13.9 mm. Scattered cloud cover persisted during both morning and afternoon hours throughout the dekad. Average mean air temperature was 20.8 °C and total pan evaporation was 55.5 mm. Both maize and beans are at flowering stage and in poor state, which corresponds to below normal growth. The prevailing dry conditions are causing yellowing of bean leaves flowers to abort. Maize has not transitioned to the next phase therefore, crop failure is expected.

#### **2.4.3 KABETE:**

The station continued to remain dry during the current dekad though it is normally expected to receive 14.8 mm of rainfall during this time. Scattered cloud cover persisted during both morning and afternoon hours throughout the dekad. Average mean air temperature dropped slightly to 19.1 °C and total pan evaporation was 82.5 mm.

Both maize and beans are at flowering stage but in a poor state, which corresponds to below normal growth. Due to prevailing dry conditions, bean leaves are yellowing and flowers aborting while maize has not transitioned to the next phase therefore, crop failure is expected.

Coffee variety *Ruiru hybrid 11* is at 70% pinhead and 30% berry soft stage and the crop state is fair which corresponds to normal growth. The extent of spread of weeds is not much in the farm though 30% of the crop has been affected by leaf rust.

Banana variety *Giant Cavendish* is at 100% suckers stage and there is a considerable amount of weeds but they do not affect the plant. However, 40% of the crop has been affected by Panama banana disease.

#### **2.4.4 NYAHURURU:**

Reported 0.0 mm against its Long term dekad mean of 11.3 mm of rainfall. Average mean air temperature was 14.2 °C and scattered cloud conditions persisted during both mornings and afternoon hours throughout the dekad.

Maize is at harvesting stage and due to insufficient rainfall, below normal yield is expected.

### **2.5 EASTERN REGION:**

The whole Eastern region continued to remain dry during the current dekad. Average mean air temperatures ranged between 22.6 °C and 26.9 °C. During the period under review, scattered cloud cover was generally observed over the entire region during both morning and afternoon hours.

#### **2.5.1 MERU:**

Meru station was dry during the dekad though its Long term dekad mean is 19.6 mm of rainfall. Scattered cloud cover persisted during the morning and afternoon hours throughout the dekad. Maize was at flowering stage and beans at flowering stage and both crops were in fair state which corresponds to normal growth. No adverse effects had been reported.

#### **2.5.2 EMBU:**

The station reported nil despite its Long term dekad rainfall mean being 11.2 mm of rainfall. Average mean air temperature increased slightly to 19.3 °C during the dekad. Scattered cloud cover persisted in the morning and afternoon hours throughout the dekad. Beans have attained maturity stage but the crop state is poor due to prevailing dry conditions. Maize is at flowering stage and the state is poor which corresponds to below normal growth. The prevailing dry conditions seem to adversely affect the crop.

### **2.5.3 KATUMANI:**

Katumani station remained dry during the dekad though its long term dekad mean is 14.8 mm of rainfall. Scattered cloud cover persisted during the morning and afternoon hours throughout the dekad. Total pan evaporation of 73.5 mm was reported during the dekad.

Maize variety *Ukamez* is at 100% tasseling stage though the crop state is poor due to insufficient rainfall. Beans variety *KAT 56* is at 100% flowering stage but the beans have failed to progress to the next phase due to lack of sufficient rainfall and therefore, no yield is expected.

Mangoes (variety apple) are at 100% fruit setting stage. The crop condition is fair which corresponds to normal growth. Weeds are seldom seen within the farm and insufficient rainfall seems to be adversely affecting the mangoes, which are still at a sensitive phase.

Oranges (Washington Navel) were at 100% fruit setting and the crop condition was fair corresponding to normal growth. Infestation by aphids and insufficient rainfall are affecting the phase. Weeds are seldom seen within the farm.

### **2.6 COASTAL REGION:**

The entire coastal strip generally remained dry with most stations reporting only trace during the dekad. Scattered cloud cover dominated the region during the morning few/scattered during the afternoon hours. Mean air temperature ranged between 27.5 °C and 28.7 °C.

#### **2.6.1 MTWAPA:**

The station remained dry during the dekad though its Long term dekad rainfall mean is 2.7 mm. Average mean air temperature was 27.6 °C and cloud cover scattered during both morning and afternoon hours.

Mangoes (variety apple) were at 100% full ripeness stage. The crop condition was fair which corresponds to normal growth. Weeds are seldom seen within the farm but because of wild animals like monkeys and baboons much fruit is lost and below normal yield is expected.

No major activities are being carried out by farmers in the area due to the prevailing dry conditions.

Most farms are lying dormant **2.6.1 MSABAHA:**

Reported trace against its Long term dekad mean of 2.5 mm of rainfall. Average mean air temperature dropped slightly to 28.0 °C and broken cloud cover was observed during morning hours reducing to scattered during the afternoon hours.

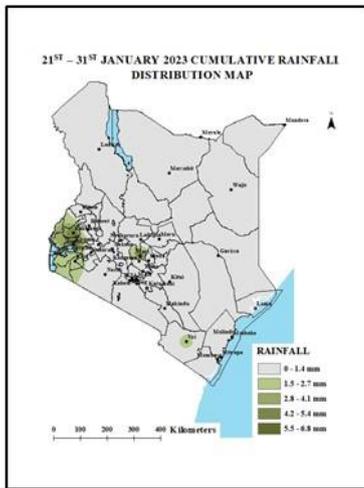
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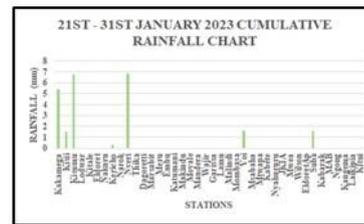
### **2.7 NORTH EASTERN REGION:**

All stations from the North Eastern region reported dry conditions during the current dekad.

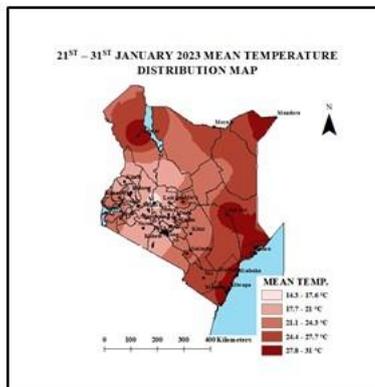
Few/Scattered cloud cover was generally observed over the region during the morning and afternoon hours. Mean air temperature ranged between 30.3 °C and 30.7 °C. Pasture and forage regeneration has completely stopped and water loss from earth pans increased because of high temperatures and prevailing dry windy conditions.



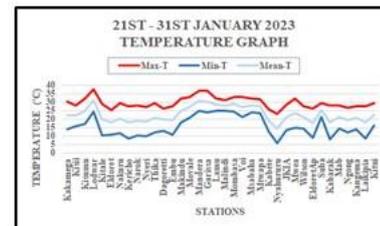
**Figure 3.1: Actual rainfall totals for dekad 3, 2023**



**Figure 3.2: Dekadal cumulative Rainfall totals in (mm)**



**Figure 3.3: Mean temperature distribution for dekad 3, 2023**



**Figure 3.4 Dekadal mean temperatures in (°C).**

#### **4.0. EXPECTED WEATHER AND CROP CONDITIONS DURING THE NEXT 10 DAYS; 1<sup>ST</sup> – 10<sup>TH</sup> FEBRUARY 2023.**

During the next 10 days, sunny and dry conditions will be experienced over most parts of the country except over some isolated areas within western, Nyanza and the Coast strip where light rainfall is expected due to local effect.

Over western and Nyanza regions, the expected weather conditions aren't likely to have any effect on any farm management activities like land preparation which is ongoing in these areas.

In Central and Eastern parts of the country, these conditions are expected to deplete further soil moisture levels within the region (Nyeri, Thika and Kabete) and this will negatively impact on the condition of both maize and beans in the region.

Northern Western/Eastern are likely to continue experience dry conditions during the next dekad. This is likely to worsen pasture and forage situation in the region. The current status of water resources in the region is also expected to continue to worsen as most earth/water pans will continue to loose water through evaporation.

Communities in these areas are therefore advised to set up committees to manage prudently grazing and watering areas to avoid resource based conflicts.

South Eastern lowlands and the coastal regions are expected to receive light or no rainfall therefore, worsening the current poor condition of food crops in these regions.



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