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## **AGROMETEOROLOGICAL BULLETIN**

**DEKAD 2 PERIOD: 11<sup>TH</sup> – 20<sup>TH</sup>  
JANUARY 2023**

### **1.0 HIGHLIGHTS**

- Most parts of the country continued to report dry conditions during the period under review.
- Homa-Bay, Kisii, Kericho and Mombasa at the coast are the only Counties that reported a low profile of rainfall activities during the second dekad 2023.
- All stations throughout the country except Mombasa, reported 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 (14.5 - 20.6) °C. The highest mean air temperature of 29.8 °C was recorded at Garissa station (Figs. 3.3 & 3.4)
- Few or scattered cloud cover was reported over most parts of the country therefore increasing the daily number of sunshine hours in this regions.

- Total pan evaporation, remained quite high over most parts of the country with highest readings of 92.0 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: 11<sup>TH</sup> – 20<sup>TH</sup> JANUARY 2023**

#### **2.1 HIGHLIGHTS**

The second dekad (11<sup>th</sup> – 20<sup>th</sup> January 2023) had most parts of the country reporting dry conditions except Suba, Kisii, Kericho and Mombasa stations which reported moderate rainfall during that period.

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

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

All stations from the region recorded less rainfall than their long term decadal means. The total amount of rainfall reported by all stations except Suba, was also less than what the region had reported during the

previous dekad. Mean air temperatures ranged between 21.2 °C and 24.3 °C. Scattered cloud cover dominated the region in the morning and afternoon hours.

#### **2.2.1 KAKAMEGA:**

The station recorded ten consecutive dry days during the second dekad 2023 against its Long term dekadal mean of 26.9 mm. This was also less than what had been observed during the previous dekad. Cloud cover was few during the morning and increased to scattered during the afternoon hours throughout the dekad. Total pan evaporation was 60.0 mm and average mean air temperature 21.6°C.

Both maize and beans were at harvesting stage and no adverse effects had been reported. Normal yield is expected for both crops.

#### **2.2.2 KISHI:**

The station received a single day of moderate rainfall and reported a cumulative rainfall of 14.2 mm against its Long term dekadal mean of 33.2 mm. The reported amount was less than readings observed during the previous dekad. Mean air temperature slightly increased from 20.5°C to 21.2°C during the second dekad, cloud cover remained scattered during morning and afternoon hours. Total pan evaporation was 33.7 mm.

Maize was at maturity stage and in good state. No adverse effects had been reported and therefore above normal yield is expected from the region.

### **2.3 RIFT VALLEY PROVINCE**

All stations from the region recorded less rainfall than their long term dekadal means. The amounts reported were also less than what the region had reported during the previous dekad. Scattered cloud cover in the morning and afternoon hours was generally observed throughout the entire region during the second dekad January,

2023. Mean air temperature ranged between 16.5 °C and 19.5 °C.

#### **2.3.1 KITALE:**

The station recorded eight consecutive dry days during the dekad and registered 0.01 mm of rain against its Long term dekadal mean of 8.2 mm. The amount reported was less than readings observed during the previous dekad. Cloud cover was few during the morning and increased to scattered during afternoon hours throughout the dekad. Total pan evaporation was 50.5 mm and average mean air temperature 19.5°C.

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

#### **2.3.2 KERICHO:**

The station recorded only a single day of moderate rainfall and reported a cumulative rainfall of 15.7 mm of rain against its Long term dekadal mean of 48.0 mm. The reported amount was more less the same as readings observed during the previous dekad. Average mean air temperature at Kericho was 17.6 °C and Cloud cover was few during the morning and increased to scattered during afternoon hours throughout the dekad. Total pan evaporation was 48.5 mm. Maize was at wax ripeness stage and in good state. No adverse effects had been reported and therefore above normal yield is expected from the region.

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

All stations from this region reported less rainfall than their long term dekadal means. The amounts reported were also less than what the region had reported during the previous dekad. During the period under review, Few/Scattered cloud cover was generally observed in the entire region during both morning and afternoon hours. Mean air temperature ranged between 14.5 °C and 20.6 °C.

#### **2.4.1 NYERI:**

Received one day of light rainfall and a total cumulative amount of 2.5 mm against its Long term dekadal mean rainfall of 19.6 mm. The amount received was less than what the station had reported during the previous decade. Cloud cover was few during the morning and increased to scattered during afternoon hours throughout the dekad. Average mean air temperature was 17.7 °C.

Maize was past ninth leaf stage and in fair state, which corresponds to normal growth. However, due to severe infestation by maize stalk borer, below normal yield is expected. Beans were at flowering stage but due to insufficient rainfall the leaves were yellowing and flowers aborting and therefore below normal yield is expected.

#### **2.4.2 THIKA:**

The station recorded ten consecutive dry days during the second dekad against its Long term dekadal mean of 21.4 mm. The station reported nil therefore, less than what had been reported during the previous dekad. Few cloudy conditions persisted during both mornings and afternoon hours throughout the dekad. Average mean air temperature was 20.6 °C and total pan evaporation was 57.0 mm.

Both maize and beans were at flowering stage and in fair state, which corresponds to normal growth. However, 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.

#### **2.4.3 KABETE:**

The station reported ten consecutive dry days during the second dekad against its Long term dekadal mean of 34.9 mm. The station reported nil therefore, less than what had been reported during the previous dekad. Few cloudy conditions

persisted during both mornings and afternoon hours throughout the dekad. Average mean air temperature was 19.8 °C and total pan evaporation of 82.5 mm.

Both maize and beans were at flowering stage and in fair state, which corresponds to normal growth. However, 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* was at 10% pinhead stage and the crop state was fair which corresponds to normal growth. The extent of spread of weeds was not much in the farm though 30% of the crop has been affected by leaf rust.

Banana variety *Giant Cavendish* was at 100% suckers' stage and there was 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 dekadal mean of 16.7 mm of rainfall. The station reported nil therefore, less than what had been reported during the past dekad. Average mean air temperature was 14.5 °C and scattered cloud conditions persisted during both mornings and afternoon hours throughout the dekad.

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

#### **2.5 EASTERN REGION:**

Unlike the previous dekad during which the Eastern region was leading the country with the highest amount of rainfall, it was observed that during the second dekad, the whole Eastern region remained dry. This was also less than the normal dekadal rainfall total the region normally receives during the same period. Mean air temperatures ranged between 18.2 °C and

25.9 °C. During the period under review, Few/Scattered cloud cover was generally observed over the entire region during both in the morning and afternoon hours.

#### **2.5.1 MERU:**

The station reported 0.02 mm against its Long term dekadal mean of 33.6 mm of rainfall. The amount received was less than what the station had reported during the previous dekad. Average mean air temperature dropped slightly to 18.2 °C with scattered cloud cover that persisted during the morning and afternoon hours.

Maize was past ninth leaf 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 during the dekad against its Long term dekadal mean of 13.9 mm of rainfall. Average mean air temperature increased slightly to 19.5 °C and cloud cover was scattered during the morning and afternoon hours.

Beans have attained maturity stage but the crop state remains poor due to prevailing dry conditions. Maize is at flowering stage and the crop state is fair which corresponds to normal growth. However, the prevailing dry conditions seem to adversely affect the crop.

#### **2.5.3 KATUMANI:**

Reported nil against its Long term dekadal mean of 22.2 mm of rainfall. The amount received was less than what the station had reported during the previous decade. Cloud cover was few and this state persisted during both mornings and afternoon hours throughout the dekad. Total pan evaporation of 69.5 mm was reported during the dekad.

Maize variety *Ukamez* was at 60% tasseling stage and the crop state is poor due to insufficient rainfall. Beans variety *KAT 56*

was 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) were at 100% fruit setting stage. The crop condition is fair which corresponds to normal growth. Weeds were 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 were seldom seen within the farm.

#### **2.6 COASTAL REGION:**

Remained generally dry except at Mombasa station where a single day with moderate rainfall was reported. Scattered cloud cover dominated the region during both morning and afternoon hours. Mean air temperatures ranged between 28.1 °C and 28.7 °C.

#### **2.6.1 MTWAPA:**

Had only 0.01 mm of rainfall against its Long term dekadal mean of 11.4 mm of rainfall. Average mean air temperature was 28.4 °C and cloud cover was scattered during both morning and afternoon hours and total pan evaporation was 66.5 mm during the dekad.

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

Lack of a clear onset of the just ended (October – December 2022) short rain season led many farmers in the area to avoid planting maize and beans.

### 2.6.1 MSABAHA:

Received a total amount of 1.7 mm against its Long term dekadal mean of 8.7 mm of rainfall. This amount received was more than what was reported during the previous decade. Average mean air temperature was 28.7 °C and scattered cloud cover was observed during morning hours reducing to few during the afternoon hours.

Lack of a clear onset of the just ended (October – December 2022) short rain season led many farmers in the area to avoid planting maize and beans.

### 2.7 NORTH EASTERN REGION:

The entire North Eastern region remained dry during the second dekad.

During the period under review, Few/Scattered cloud cover was generally observed over the entire region during both morning and afternoon hours. Mean air temperature ranged between 29.7 °C and 30.2 °C. Pasture and forage regeneration is expected to have completely stopped and water loss from earth pans to increase because of high temperature and windy conditions.

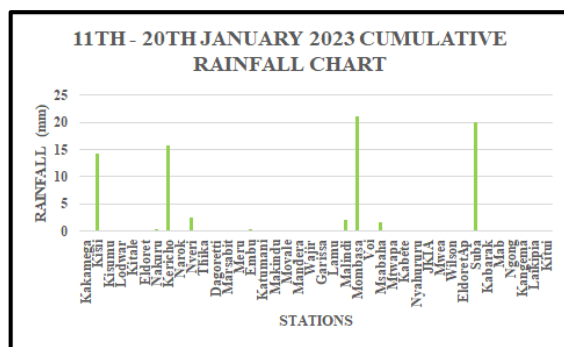


Figure 3.1: Dekadal rainfall totals in (mm)

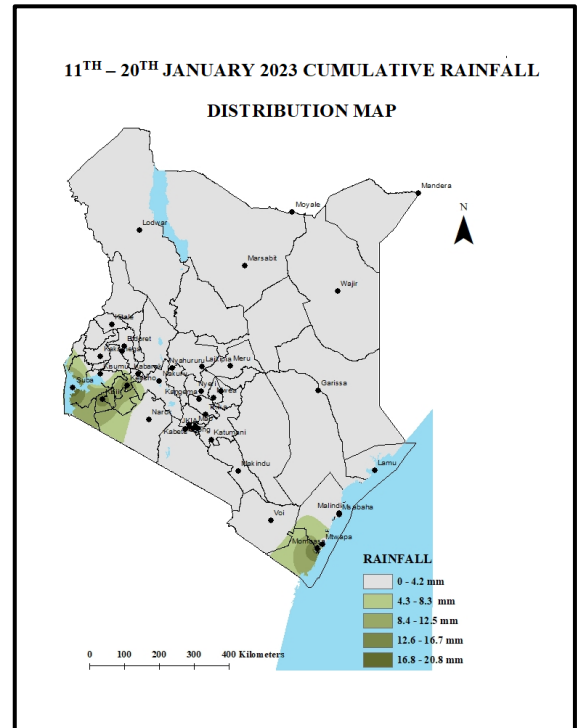


Figure 3.2: Actual rainfall totals for dekad 2, 2023

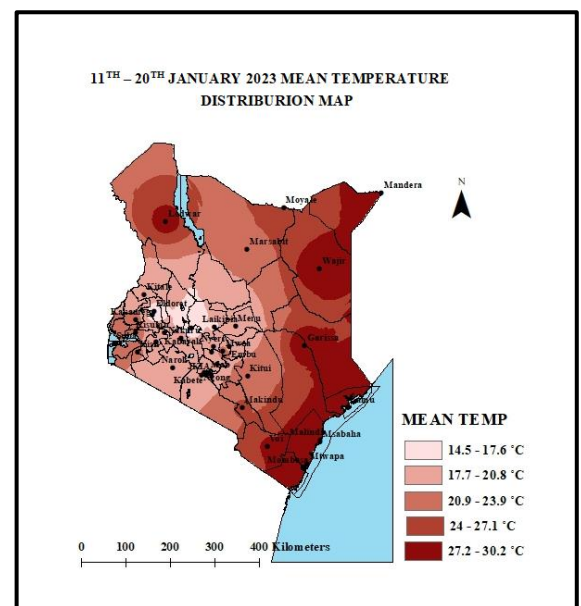
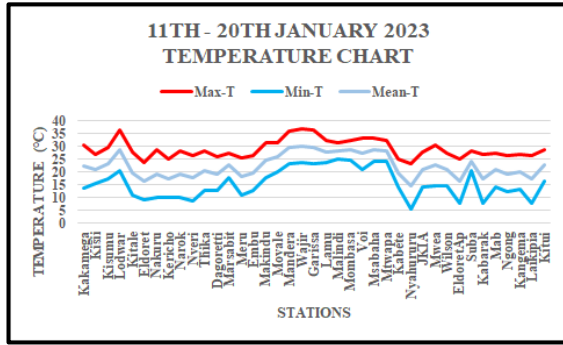


Figure 3.3: Mean temperature distribution for dekad 2, 2023





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

**4.0 EXPECTED WEATHER AND CROP CONDITIONS DURING THE NEXT 10 DAYS; 21<sup>ST</sup> – 31<sup>ST</sup> JANUARY 2023.**

During the next 10 days, most parts of the country are likely to remain dry except over some parts of western, Nyanza and the Coast strip where moderate rainfall is expected mainly due to local meso scale effect.

The expected weather conditions over these regions is ideal for land preparation and isn't likely to affect maize which is already at full ripeness stage.

Central Highlands, Nairobi area and the surrounding are likely to experience dry conditions during the coming dekad.

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 experience dry conditions during the next dekad. These conditions will continue to negatively impact on pasture and forage situation in the region. The current status of water resources in the region is also expected to be affected negatively as most earth/water pans will continue to loose water through evaporation. Communities in these areas are therefore advised to set up committees to prudently manage grazing and watering areas to avoid resource based conflicts.

South Eastern lowlands and the coastal regions are expected to receive moderate rainfall (greater than 5.0 mm) during the next dekad. The expected rains will improve soil moisture levels within the region and therefore improve the condition of both maize and beans in the region which are at past ninth leaf stage for maize and flowering stage for beans.

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**For,**

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