Government of Malawi
Ministry of Natural Resources and Climate Change

Malawi 10-day Weather and Agrometeorological Bulletin

"In support of National Early Warning Systems and Food Security"

Be wise be weather-wise
Department of Climate Change and Meteorological Services

Period: 11 – 20 January 2024 | Season: 2023/2024 | Issue No.11

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HIGHLIGHTS

- **Above normal dekadal rainfall amounts were experienced over Malawi…**
- **Weeding and fertilizer application in progress …**
- **Wet conditions anticipated over northern half during the third dekad of January 2024…**

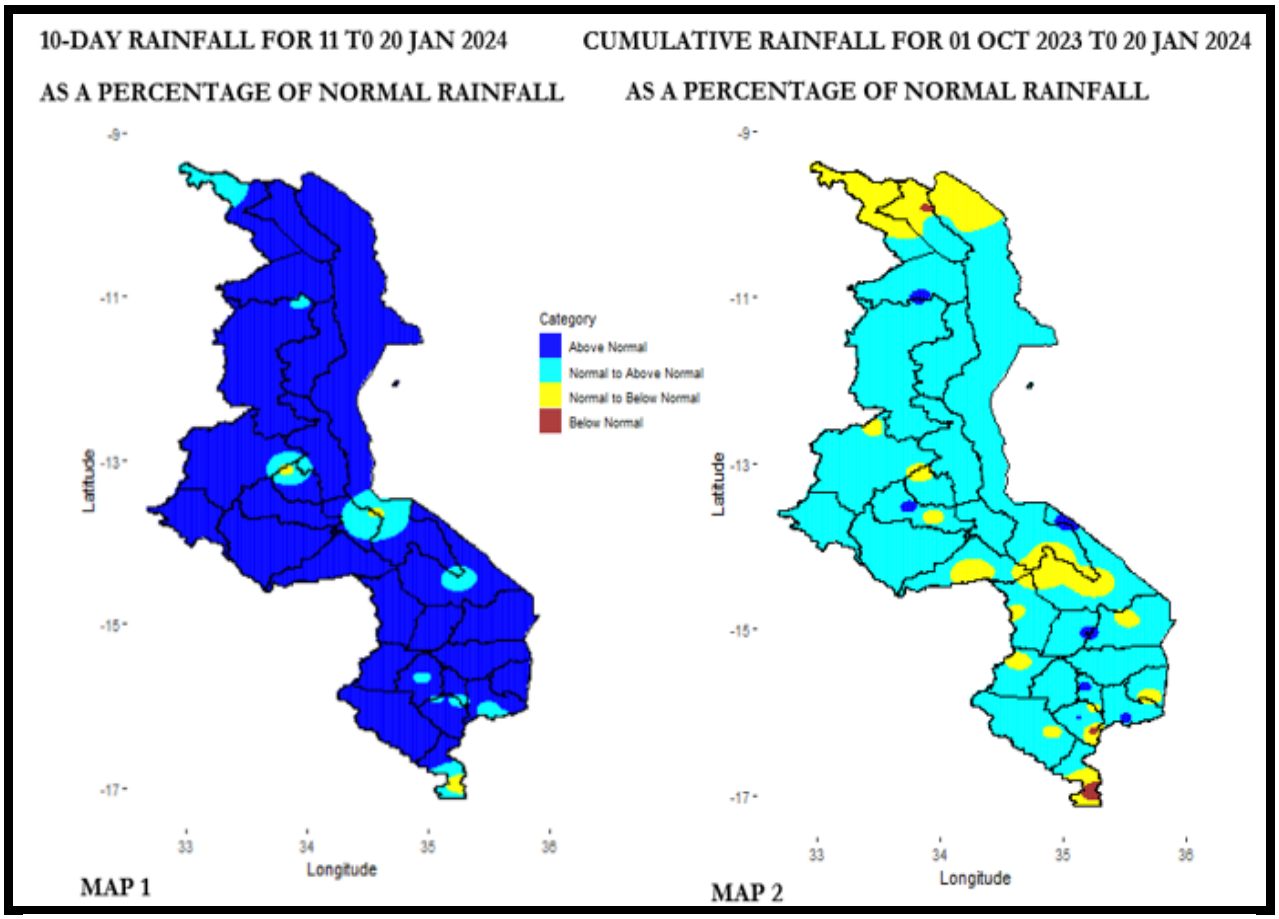

Figure 1: Observed dekadal and cumulative seasonal rainfall as percentage of normal for Malawi

1.0 WEATHER SUMMARY

During the period 11 to 20 January 2024, the Inter-Tropical Convergence Zone coupled with Congo Airmass influenced weather over Malawi resulting in widespread rainfall activities over the country.

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1.1 RAINFALL SITUATION

During the second dekad of January 2024, widespread rainfall activities were experienced over the country. The recorded rainfall amounts were within the above normal of historical dekadal amounts over majority areas of the country with isolated cases of normal to above normal and normal to below normal over the three regions of the country. More in Map 1 from figure 1.

Some stations that recorded at least 200mm of rainfall during this dekad included Nkhotakota Meteorological station which recorded 281.1mm in 9 rainy days, Ntchisi Boma recorded 273.2mm in 9 rainy days, Mlangeni in Ntcheu recorded 249.4mm in 9 rainy days, Mpilipili in Mangochi recorded 233.8mm in 8 rainy days, Liwonde in Balaka recorded 218.3mm in 9 rainy days, Chingale in Zomba and Mkanda in Mchinji recorded same amount of 216.7mm but in 8 and 9 rainy days respectively, Nathenje in Lilongwe recorded 214.0mm in 10 rainy days, Toleza in Balaka recorded 208.0mm in 8 rainy days, Madisi Agriculture in Dowa recorded 207.0mm in 8 rainy days and Satemwa in Thyolo recorded 203.7mm in 8 rainy days.

Spatial distribution of the actual recorded rainfall amounts shows lakeshore district of Nkhotakota and boarder district of Mchinji received higher rainfall amounts as shown in figure 2 below.

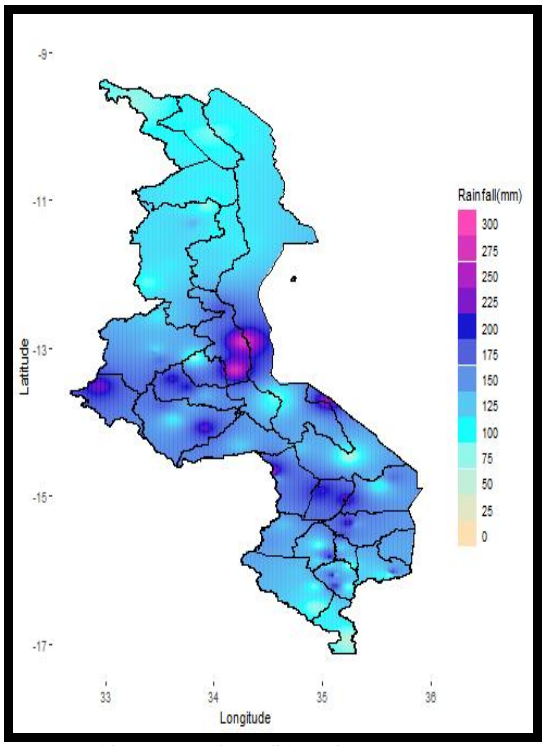

Figure 2: Observed dekadal rainfall for Malawi, 11-20 January 2024

The overall rainy days distribution from 11 to 20 January 2024 is shown in figure 3 below. As high as 10 rainy days were registered at 5 stations namely Nathenje, Dwangwa in Nkhotakota, Dedza Meteorological station, Chikangawa Forest in Mzimba and Chitedze Meteorological station in Lilongwe. Majority of other stations over the country recorded 8 rainy days, with relatively reduced number of rainy days over Shire Valley, Kasungu and parts of Nkhata Bay, Chitipa and Karonga districts as shown in figure 3 below.

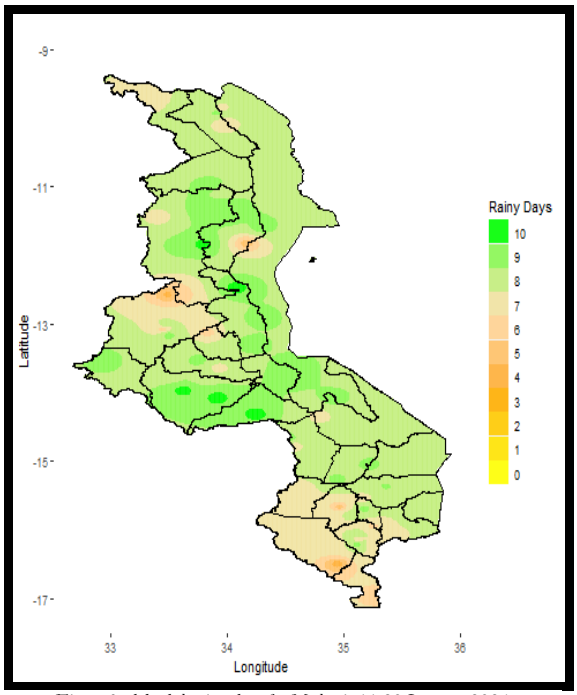

Figure 3: dekadal rainy days for Malawi, 11-20 January 2024

For the season this far, from 01 October 2023 to 20 January 2024, normal to above normal rainfall amounts have been experienced over majority of areas of the country with normal to below normal scenarios over parts of Nsanje, Chitipa and Karonga districts among others as shown in Map 2 in figure 1 above.

1.2 AIR TEMPERATURE

Malawi experienced hot conditions during the period 11 to 20 January 2024. Mean daily maximum temperatures had ranged from 23.0°C at Chichiri Meteorological station in Blantyre to 34.0°C at Ngabu Meteorological station in Chikwawa, with absolute maximum of 37.1°C recorded at Ngabu Meteorological station on 12th January 2024. Mean daily minimum temperatures had ranged from 17.0°C at Dedza Meteorological station to 25.5°C at Ngabu Meteorological station.

1.3 RELATIVE HUMIDITY

During the period under review, air over Malawi was moist. Daily average Relative Humidity values recorded from various meteorological stations had ranged from 85% at Ngabu Meteorological station to 87% at Dedza and Nkhata Bay Meteorological stations.

1.4 WIND SPEEDS

During the period under review, most parts of Malawi experienced light to moderate wind speeds.

Daily average wind speeds measured at a height of two metres above the ground level across the country had ranged from 0.8 km per hour at Chitedze Meteorological station to 8.4 km per hour at Chitipa Meteorological station.

1.5 SUNSHINE HOURS/ SOLAR RADIATION

Generally medium hours of bright sunshine were observed over Malawi during the period 11 to 20 January 2024. The daily values of sunshine hours had ranged from 4.0 hours per day at Nkhata Bay Meteorological station to 6.3 hours per day at Ngabu Meteorological station and consequently the amount of Solar Radiation had ranged from 8.1 to 10.7 cal/cm^2/day.

2. AGROMETEOROLOGICAL ASSESSMENT

During the second dekad of January 2024, the main on-farm activities have application of top-dressing fertilizer and banking for some farmers over southern half of the country, while majority are still weeding and basal dressing across the country.

The rainfall experienced during the dekad under review supported vegetative growth and development of crops including maize. The stages of development of the maize crop are varied as the seasonal onset was erratic even in same Extension Planning Areas. Maize crop stand is encouraging in all the three regions particularly where fertilizer or manure has been applied as well as good agricultural practices have been adhered to as depicted in figure 4 below. Other cash crops such as tobacco are also reportedly doing well.

However, due to the erratic onset, coupled with dry and hot weather during the earlier part of the season some pests, such as Fall Amary Worm, had conducive environment for infestation as seen by cases over all the 8 Agricultural Development Divisions of the country. There are also cases of reported flooding in some areas like parts of Dowa in central Malawi.

Figure 4: Top dressed maize, Kunthembwei Extension Planning Area, southern Malawi

For livestock, majority of livestock in the country were under Temperature Humidity Index ranges of mild heat stress as the country experienced generally warm and moist conditions. The rains also ensured continued pasture growth and water availability to various stock.

For proper utilization of rain water, farmers should adhere to principles of good agricultural practices including moisture conservation, timely control of weeds, pests and diseases; and fertilizer/ manure application. Water harvesting technologies should also be practiced for future use during periods of suppressed rainfall.

3. PROSPECTS FOR 2023/2024 SEASON

The 2023-2024 rainfall season is being influenced by moderate to strong El Niño conditions that are prevalent over eastern-central equatorial Pacific Ocean. Global models project that these conditions are likely to persist throughout the season.

The rainfall forecast for sub-season January-February-March (JFM) of the 2023/2024 season is that:

> **"During January to March 2024, expect normal to below-normal total rainfall amounts over most areas with possibility of above normal rainfall in January. The chance of prolonged dry spells is high during the month of February."**

There are higher chances of normal cumulative rainfall amounts over most parts of the country.

For the month of January 2023, normal to above normal rainfall amounts are anticipated over majority of areas with isolated cases of normal to below normal particularly over central and southern areas of the country. Refer to figure 5 below.

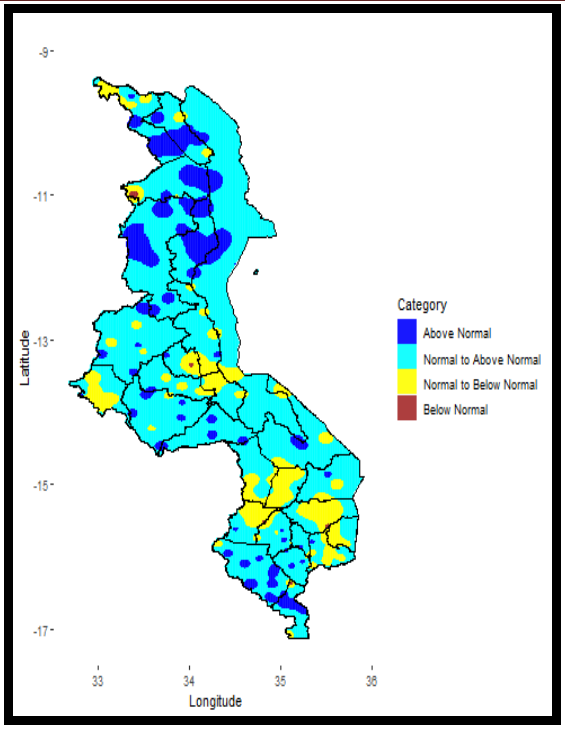

Figure 5: January 2024 rainfall forecast

For temperature, generally normal conditions are anticipated during the month of January 2024 over the country as shown in figure 6 below.

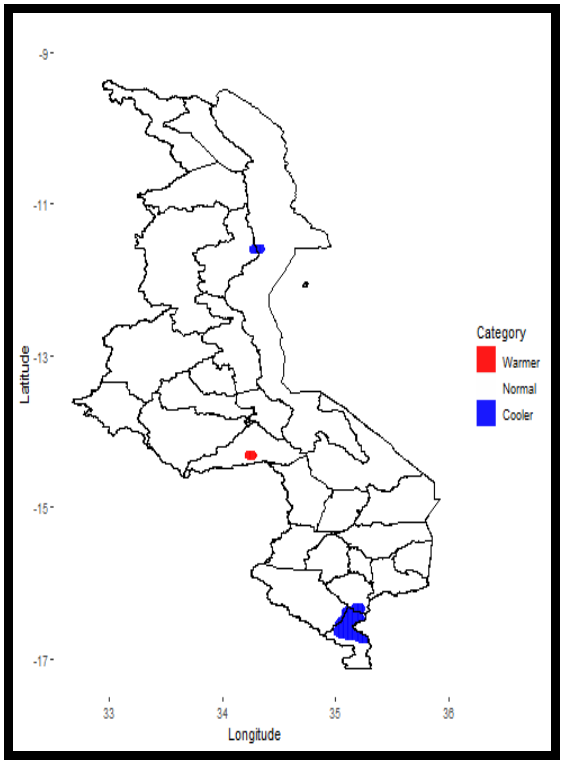

Figure 6: January 2024 temperature forecast categories

4. OUTLOOK FOR 21-31 JANUARY 2024

During the period 21 - 31 January 2024, a broad equatorial trough is expected to influence weather over Malawi, particularly northern Malawi. Therefore, generally normal to above normal rainfall amounts are anticipated over northern half of the country with generally normal to below normal amounts over southern half of the country. This is represented by the map in Figure 7.

Farmers are advised to employ some water harvesting techniques wherever possible and utilize the anticipated reduced rainfall activities over southern half in carrying out various on farm activities like banking and fertilizer application.

Livestock farmers, are encouraged to take proactive measures in ensuring their stock is guarded against worms, parasites as the seasonal conditions may provide suitable environment for breeding of the same.

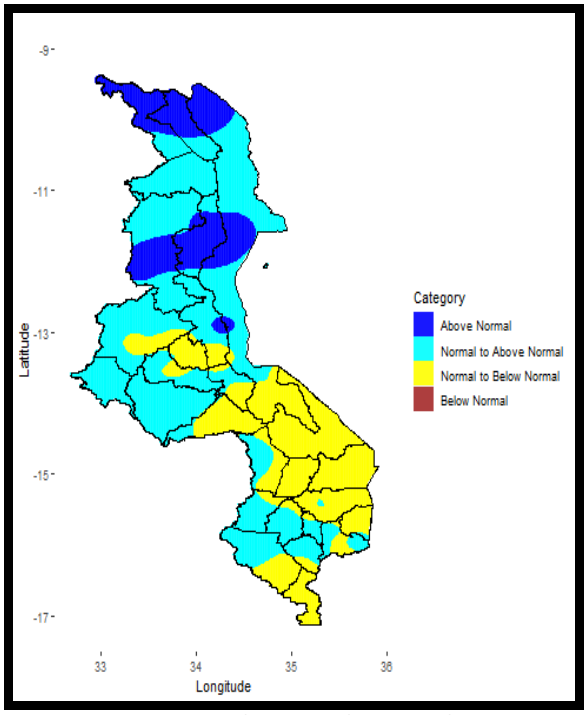

Figure 7: Dekadal rainfall outlook for Malawi for 21-31 January 2024 as percentage of normal rainfall