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: 01 – 10 January 2024 | Season: 2023/2024 | Issue No.10

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HIGHLIGHTS

- **Generally normal to above normal dekadal rainfall amounts experienced over Malawi…**
- **Weeding and fertilizer application in progress …**
- **Wet conditions anticipated over most parts during the second dekad of January 2024…**

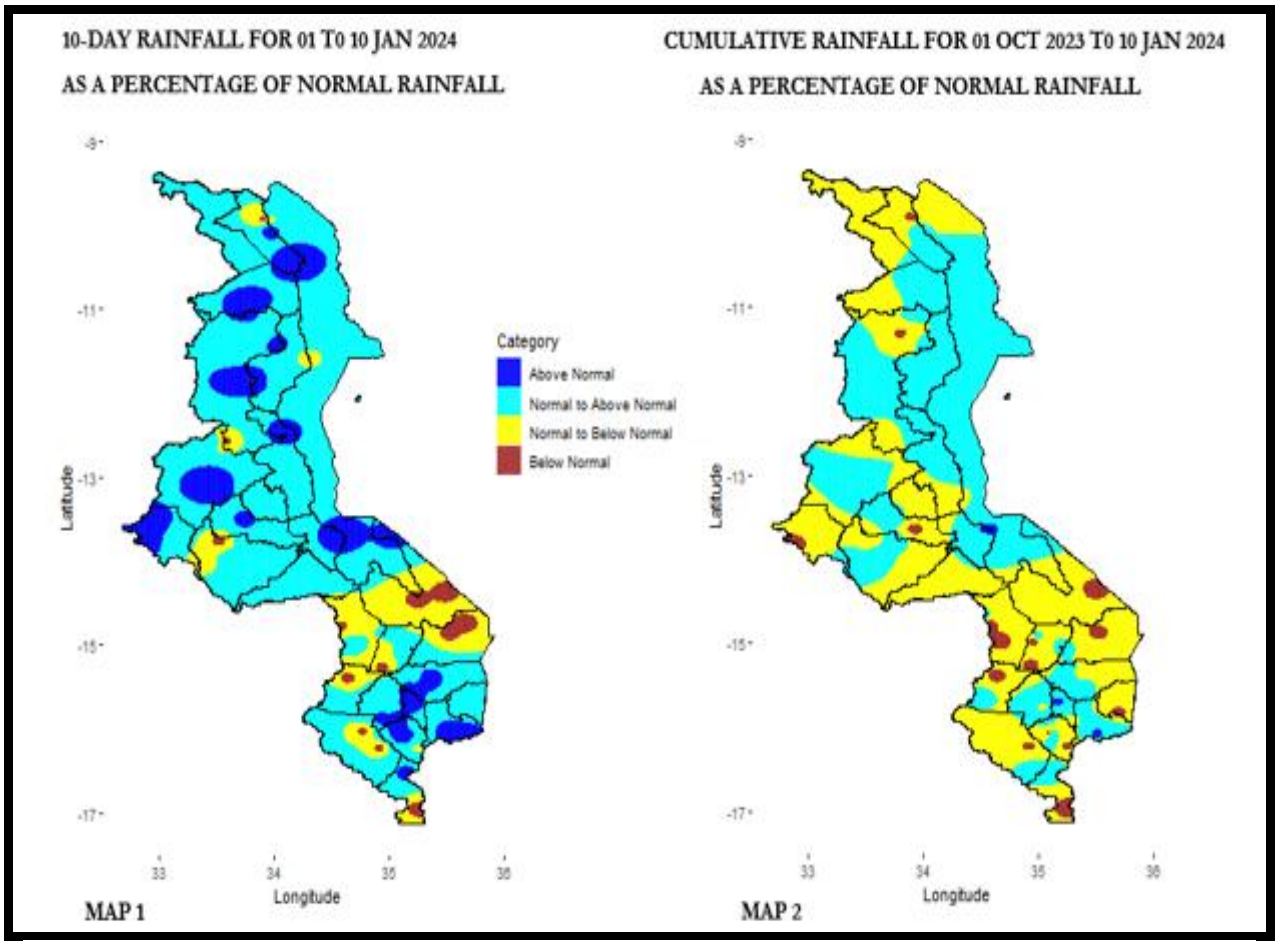

Figure 1: Observed dekadal and cumulative seasonal rainfall as percentage of normal for Malawi

1.0 WEATHER SUMMARY

During the period 01 to 10 January 2024, the Inter-Tropical Convergence Zone coupled with Congo Airmass influenced weather over Malawi resulting in scattered rainfall activities over the country.

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1.1 RAINFALL SITUATION

During the first dekad of January 2024, scattered rainfall activities were experienced over the country. The recorded rainfall amounts were generally within the normal to above normal of historical dekadal amounts over majority of Shire highlands, northern and central areas of the country with normal to below normal over northern areas of southern Malawi. More in Map 1 from figure 1.

Some stations that recorded at least 150mm of rainfall during this dekad included Thyolo Boma which recorded 433.0mm in 5 rainy days , Lifuwu Research station in Salima recorded 342.8mm in 8 rainy days, Lujeri Tea Estate in Mulanje recorded 282.3mm in 5 rainy days, Salima Meteorological station recorded 241.4mm in 8 rainy days, Mulanje Boma recorded 195.2mm in 4 rainy days, Mwimba Research station in Kasungu recorded 179.3mm in 7 rainy days, Mkanda in Mchinji recorded 177.6mm in 4 rainy days, Mpilipili in Mangochi recorded 161.5mm in 8 rainy days, Mchinji Boma recorded 156.2mm in 6 rainy days, Vinthukutu Agriculture in Karonga recorded 154.1mm in 5 rainy days and Zomba Agriculture recorded 152.9mm in 5 rainy days.

Spatial distribution of the actual recorded rainfall amounts shows some districts in Salima and Blantyre Agricultural Development Divisions received higher rainfall amounts as shown in figure 2 below.

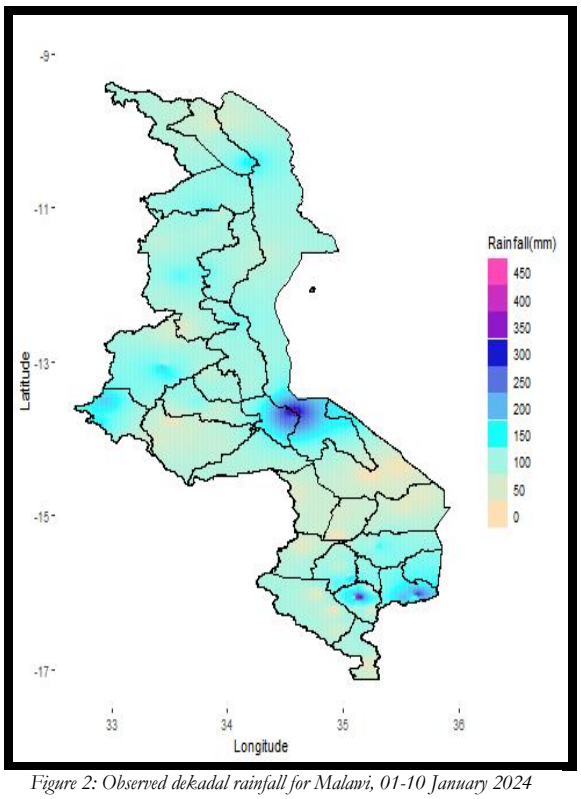

Figure 2: Observed dekadal rainfall for Malawi, 01-10 January 2024

The overall rainy days distribution from 01 to 10 January 2024 is shown in figure 3 below. As high as 9 rainy days were registered at various stations over northern half of the country. Such station included Lisasadzi in Kasungu, Mzimba Meteorological station, Chikangawa forest in Mzimba, Lupembe in Karonga, Nkhotakota Meteorological station and Nkhata Bay Meteorological station. Majority of other stations recorded 8 rainy days in the same area with reduced number of rainy days over southern half of the country ranging from 2 to 4 as shown in figure 3 below.

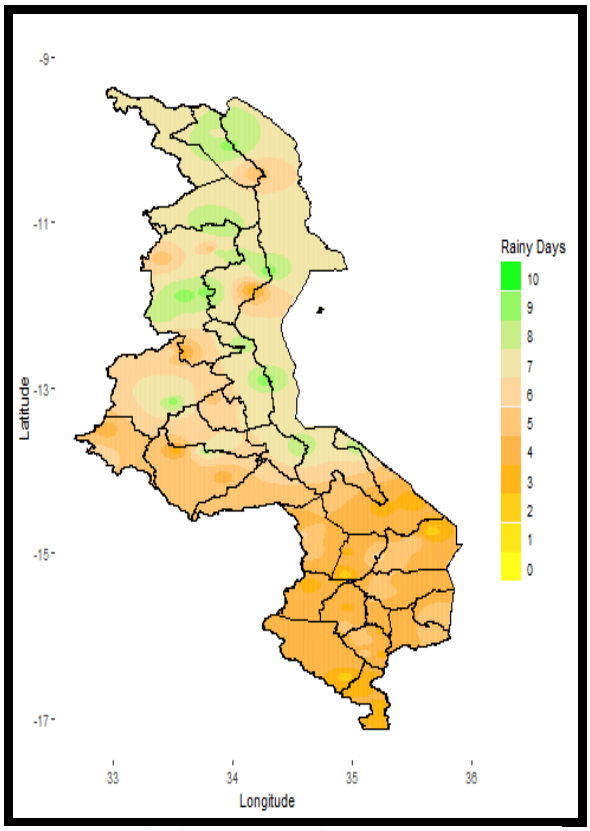

Figure 3: dekadal rainy days for Malawi, 01-10 January 2024

For the season this far, from 01 October 2023 to 10 January 2024, normal to below normal rainfall amounts have been experienced over majority of areas under southern half of the country with generally normal to above normal rainfall amounts experienced over northern half of the country as shown in Map 2 in figure 1 above.

1.2 AIR TEMPERATURE

Malawi experienced hot conditions during the period 01 to 10 January 2024. Mean daily maximum temperatures had ranged from 24.9°C at Mzuzu Meteorological station to 34.4°C at Ngabu Meteorological station in Chikwawa, with absolute maximum of 36.1°C recorded at Ngabu Meteorological station on 7th January 2024. Mean daily minimum temperatures had ranged from 17.5°C at Mzuzu Meteorological station to 25.0°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 62% at Ntaja Meteorological station in Machinga to 89% at Nkhata Bay Meteorological station.

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 Nkhotakota Meteorological station to 10.4 km per hour at Ntaja Meteorological station.

1.5 SUNSHINE HOURS/ SOLAR RADIATION

Generally medium to long hours of bright sunshine were observed over Malawi during the period 01 to 10 January 2024. The daily values of sunshine hours had ranged from 6.0 hours per day at Nkhata Bay Meteorological station to 7.3 hours per day at Ngabu Meteorological station and consequently the amount of Solar Radiation had ranged from 8.3 to 11.4 cal/cm^2/day.

2. AGROMETEOROLOGICAL ASSESSMENT

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

The rainfall experienced during the dekad under review supported vegetative growth and development of maize. The level of growth of maize is varied as the seasonal onset was erratic even in same Extension Planning Areas as depicted in figure 4. Other cash crops such as tobacco are also reportedly doing well particularly where fertilizer has been applied.

However, due to the erratic onset 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 in the country. Refer to figure 5 below.

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

Figure 5: FAW infested maize crop, Chigonthi Extension Planning Area, central Malawi

Furthermore, the rainfall experienced during the period 01 to 10 January 2024, necessitated rice growing farmers to transplant over northern and central lakeshore areas of the country as well as planting of tubers such as potatoes in majority of potato growing districts.

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 6 below.

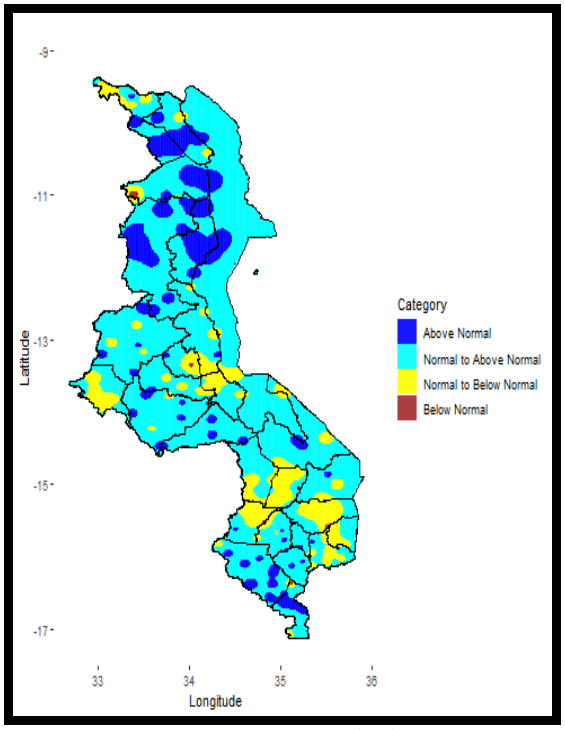

Figure 6: January 2023 rainfall forecast

In terms of temperature, generally normal conditions are anticipated during this month of January over the country as shown in figure 7 below.

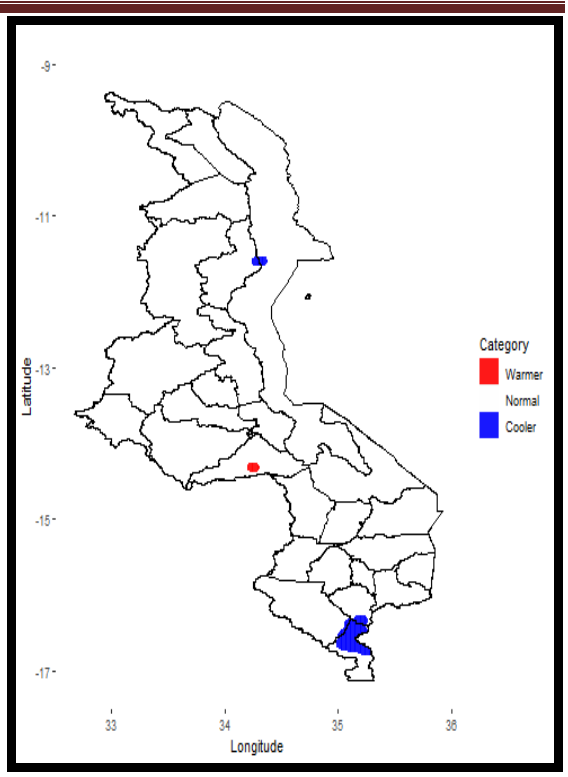

Figure 7: January 2024 temperature forecast categories

4. OUTLOOK FOR 11-20 JANUARY 2024

During the period 11 - 20 January 2024, continued pulses of Congo Airmass are likely to influence weather over Malawi, generally normal to above normal rainfall amounts are anticipated over Malawi. This is represented by the map in Figure 8.

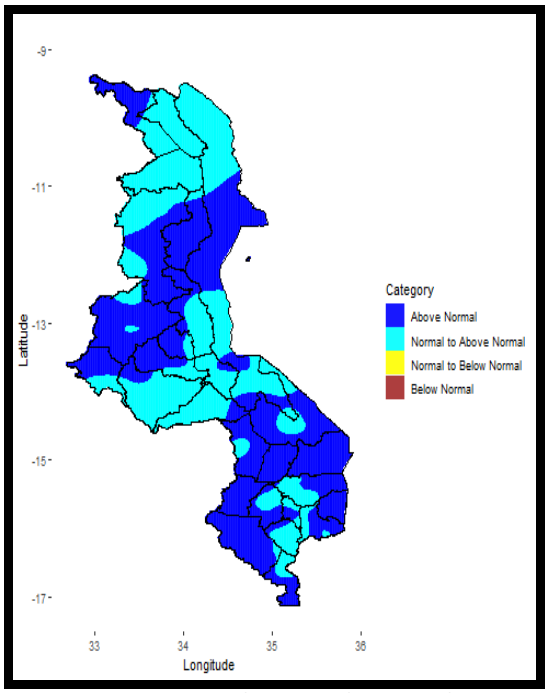

Figure 8: Dekadal rainfall outlook for Malawi for 11-20 January 2024 as percentage of normal rainfall