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: 21 – 31 January 2024 | Season: 2023/2024 | Issue No.12

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HIGHLIGHTS

- **Wet northern Malawi, dry elsewhere …**
- **Weeding and fertilizer application in progress …**
- **Wet conditions anticipated over northern half during the first dekad of February 2024…**

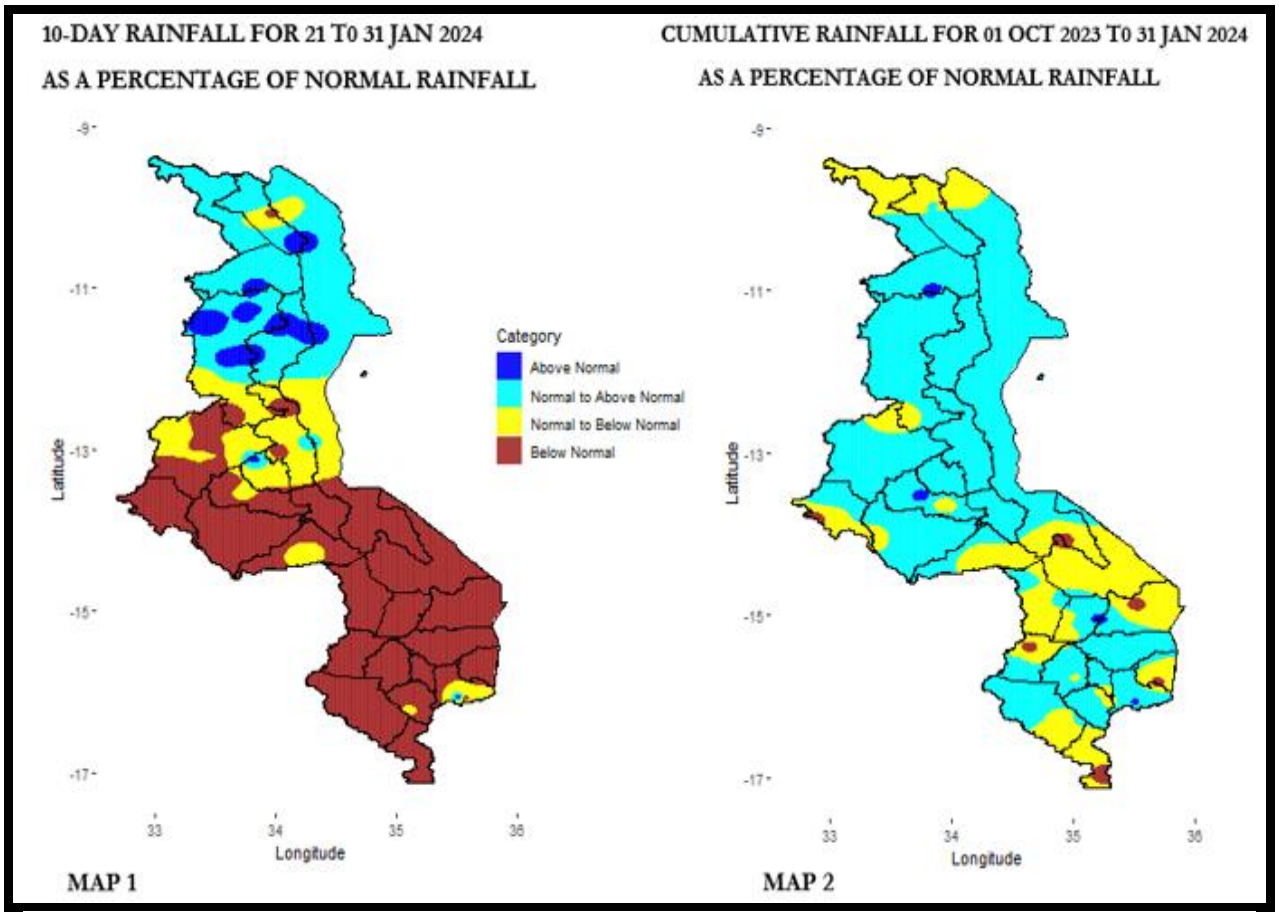

Figure 1: Observed dekadal and cumulative seasonal rainfall as percentage of normal for Malawi

1.0 WEATHER SUMMARY

During the period 21 to 31 January 2024, northern areas of the country were under the influence of the Inter-Tropical Convergence Zone resulting in widespread rainfall activities over the region with very isolated rainfall episodes over central and southern areas.

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1.1 RAINFALL SITUATION

During the last dekad of January 2024, widespread rainfall activities were experienced over northern areas of the country. The recorded rainfall amounts were within the normal to above normal of historical dekadal amounts over majority of northern areas of the country with below normal scenario dominating central and southern areas of the country. More in Map 1 from figure 1.

Some stations that recorded at least 100mm of rainfall during this dekad included Mulanje Boma which recorded 185.0mm in 4 rainy days, Chikangawa in Mzimba recorded 154.5mm in 7 rainy days, Vinthukutu Agriculture in Karonga recorded 140.4mm in 5 rainy days, Nkhata Bay meteorological station recorded 112.5mm in 5 rainy days, Chintheche Agriculture in Nkhata Bay recorded 110.6mm in 2 rainy days and Rumphi Boma recorded 101.3mm in 8 rainy days.

Spatial distribution of the actual recorded rainfall amounts shows that districts from the northern areas as well as Mulanje over Shire highlands received higher rainfall amounts as shown in figure 2 below.

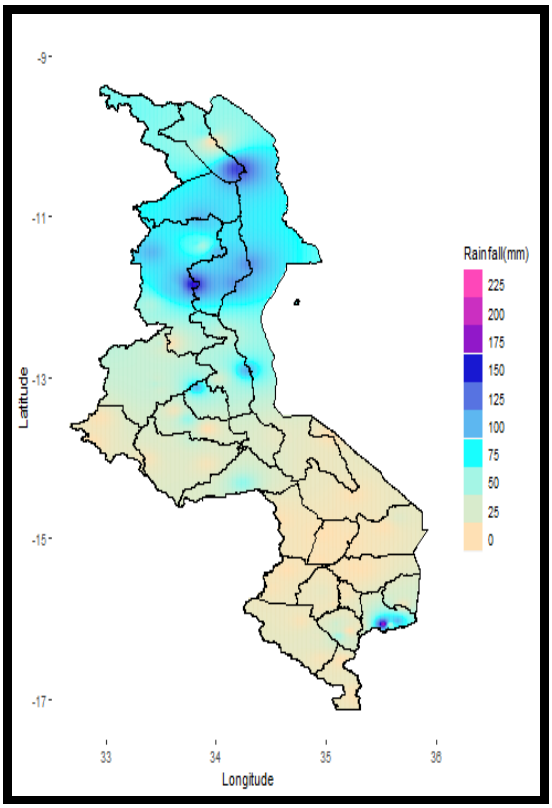

Figure 2: Observed dekadal rainfall for Malawi, 21-31 January 2024

The overall rainy days distribution from 21 to 31 January 2024 is shown in figure 3 below. Higher rainy days were registered in stations mostly from northern areas of the country. The highest number of 8 rainy days were registered at 3 stations namely Rumphi Boma, Chitipa Meteorological station and Baka Research station in Karonga. 7 rainy days were registered at Chikangawa, Bwengu in Mzimba and Karonga. Most parts of the Southern region did not register any rainy day. More details as shown in figure 3 below.

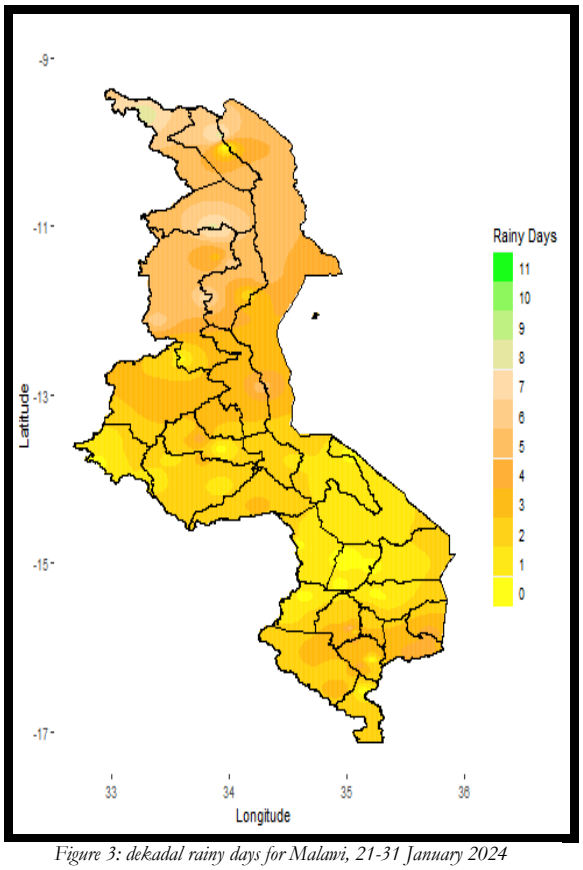

Figure 3: dekadal rainy days for Malawi, 21-31 January 2024

Cumulatively since the onset of the rainfall monitoring season on 01 October 2023 to 31 January 2024, generally normal to above normal rainfall amounts have been experienced over majority of northern, central and shire highland areas, with normal to below normal scenarios over parts of Phalombe, Mangochi, Ntcheu, Balaka, Nsanje, Chitipa and Karonga districts among others as shown in Map 2 in figure 1 above.

1.2 AIR TEMPERATURE

Malawi experienced warm to hot conditions during the period 21 to 31 January 2024. Mean daily maximum temperatures had ranged from 24.4°C at Bvumbwe Meteorological station in Thyolo to 33.3°C at Ngabu Meteorological station in Chikwawa. 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 59% at Mangochi Meteorological station to 83% 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 1.2 km per hour at Salima Meteorological station to 8.8 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 21 to 31 January 2024. Daily values of sunshine hours had ranged from 6.0 hours per day at Nkhata Bay Meteorological station to 8.3 hours per day at Ngabu Meteorological station and consequently the amount of Solar Radiation had ranged from 8.7 to 11.3 cal/cm^2/day.

2. AGROMETEOROLOGICAL ASSESSMENT

During the last dekad of January 2024, the main on-farm activities have been 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 particularly over northern half of the country 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.

Figure 4: Top dressed maize, Lumbadzi, Chigonthi Extension Planning Area, northern half of Malawi

However, due to dry and hot weather conditions particularly over southern half of the country, many crops including staple crop maize showed serious water stress conditions.

For livestock, majority of livestock in the country were under severe Temperature Humidity Index heat stress as the country experienced generally warm to hot and dry conditions particularly over southern areas prompting farmers to graze under shaded areas as illustrated in figure 5 below. The rains over northern half also ensured continued pasture growth and water availability to various stock in the region to allow for open grazing as captured in figure 6 below.

Figure 5: Goat grazing under shade, Chikwawa, southern Malawi

Figure 6: Open goat grazing, Embangweni, northern Malawi

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-February-March-April (FMA) of the 2023/2024 season is that:

"normal to below-normal total rainfall amounts are anticipated over most areas of the country with a high chance of prolonged dry spells during the month of February."

The spatial distribution of the forecast is captured in figure7below.

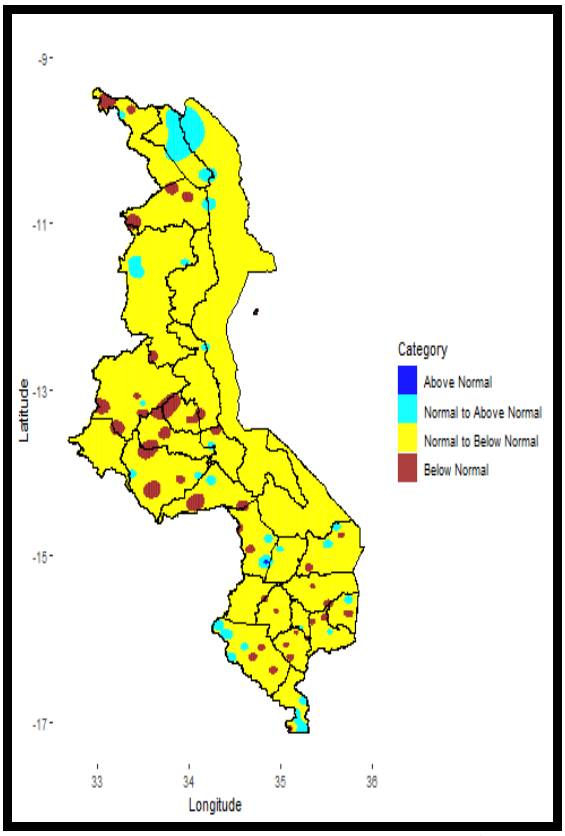

Figure 7: Sub-season February-March-April (FMA) rainfall forecast

For the month of February 2023, normal to below normal rainfall amounts are anticipated over majority of areas of the country. Refer to figure 8 below.

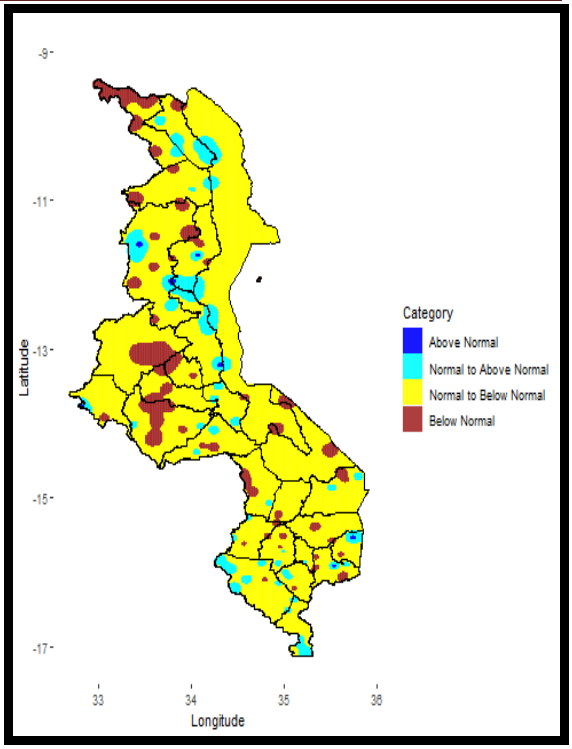

Figure 8: February 2024 rainfall forecast

For temperature, generally normal conditions are anticipated during the month of February 2024 over majority of northern and central areas of the country with warmer than usual conditions over majority of southern areas as shown in figure 9 below.

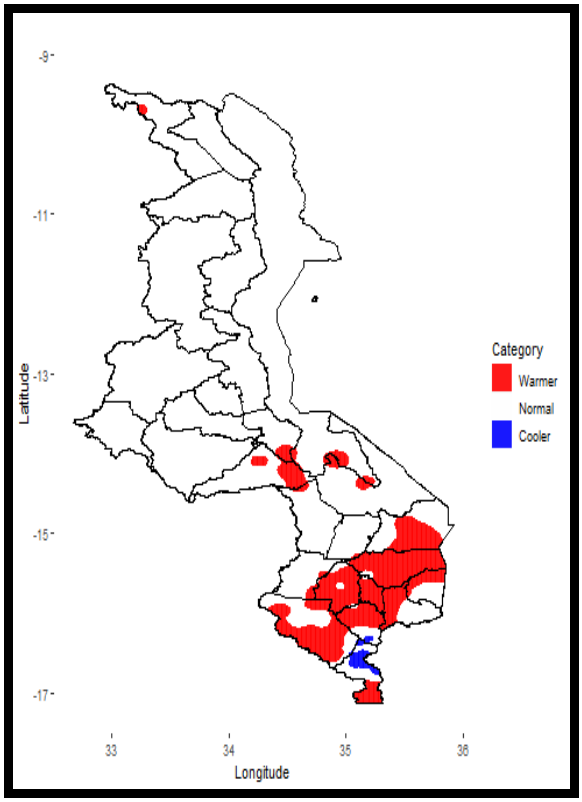

Figure9: February 2024 temperature forecast categories

4. OUTLOOK FOR 01-01 FEBRUARY 2024

During the period 01 - 10 February 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 10

Farmers are advised to employ some water harvesting techniques wherever possible.

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. Furthermore, farmers are advised to provide water to their stock at regular time intervals over southern Malawi as the anticipated dry and hot conditions may stress their stock.

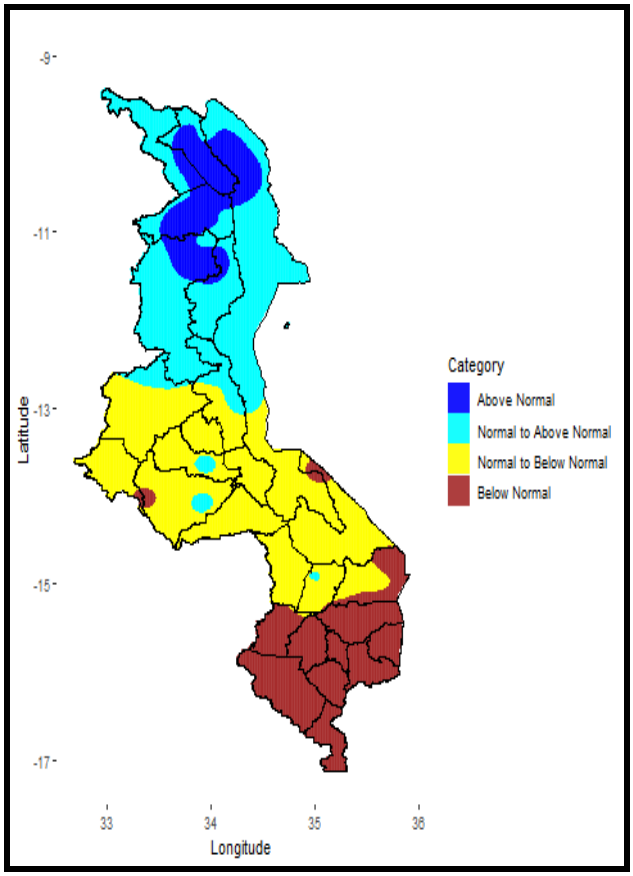

Figure 10: Dekadal rainfall outlook for Malawi for 21-31 January 2024 as percentage of normal rainfall