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 February 2024 | Season: 2023/2024 | Issue No.13

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HIGHLIGHTS

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

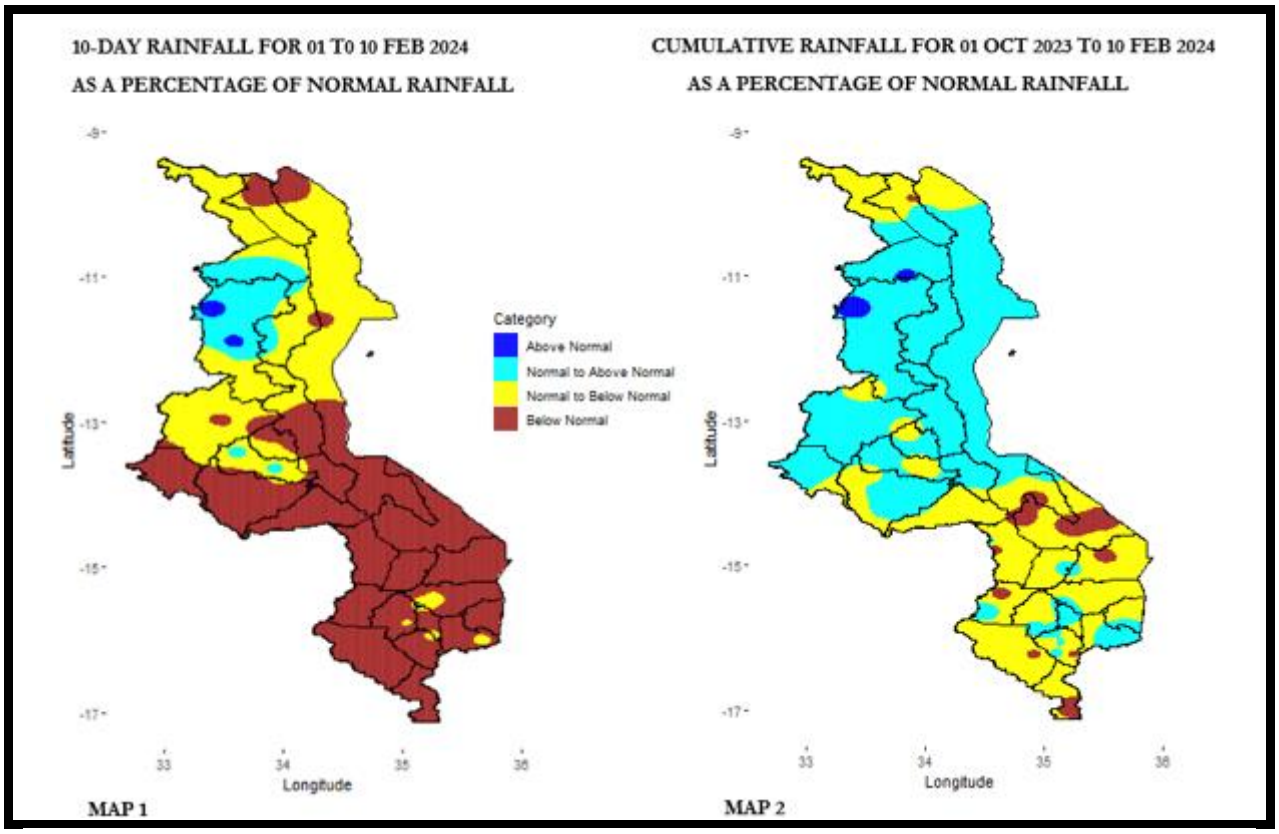

Figure 1: Observed dekadal and cumulative seasonal rainfall as percentage of normal for Malawi

1.0 WEATHER SUMMARY

During the period 01 to 10 February 2024, northern areas of the country were under the influence of the Inter-Tropical Convergence Zone resulting in scattered 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 first ten days of February 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 parts of Mzimba and Rumphi districts with majority of northern areas experienced normal to below normal conditions while below normal scenario dominated central and southern areas of the country. More in Map 1 from figure 1.

Some stations that recorded at least 50mm of rainfall during this dekad included Mzimba Meteorological station which recorded 87.7mm in 7 rainy days, Euthini Agriculture in Mzimba recorded 85.2mm in 3 rainy days, Madisi Agriculture in Mponela recorded 80.8mm in 3 rainy days, Lujeri Tea estate in Mulanje recorded 76.0mm in 3 rainy days, Zombwe Agriculture in Mzimba recorded 56.7mm in 3 rainy days, Dowa Agriculture recorded 56.4mm in 5 rainy days, Zomba Agriculture recorded 56.3mm in 4 rainy days, Mwimba Research station in Kasungu recorded 55.6mm in 3 rainy days,, Rumphi Boma recorded 55.6mm as well in 4 rainy days, Makoka Meteorological station in Zomba recorded 54.9mm in 4 rainy days, Lisasadzi Agriculture in Kasungu recorded 53.3mm in 4 rainy days, Dwangwa in Nkhotakota recorded 52.6mm in 4 rainy days and Chikangawa Forest in Mzimba recorded 52.5mm in 5 rainy days.

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

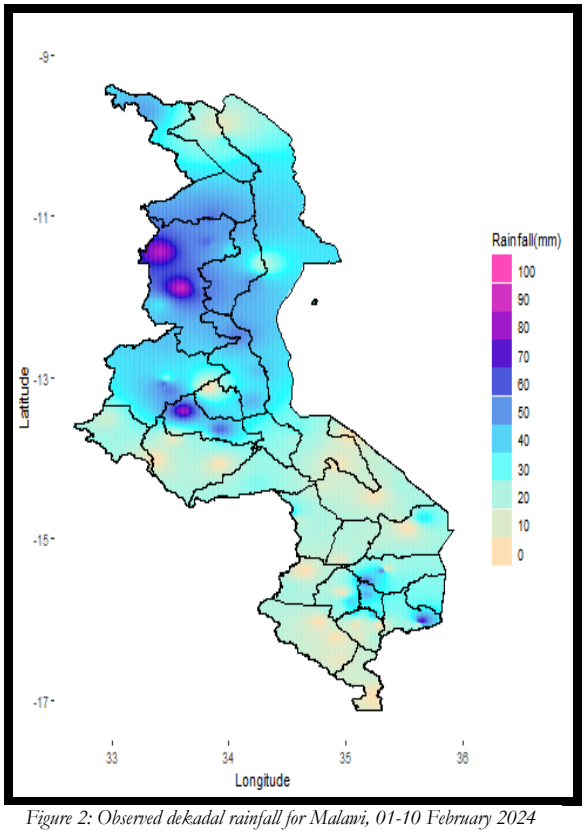

Figure 2: Observed dekadal rainfall for Malawi, 01-10 February 2024

The overall rainy days distribution from 01 to 10 February 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 7 rainy days was registered at Mzimba Meteorological station. The second highest was 6 rainy days at Mzuzu Meteorological station though its cumulative rainfall amount was only 35.5mm. More details as shown in figure 3 below.

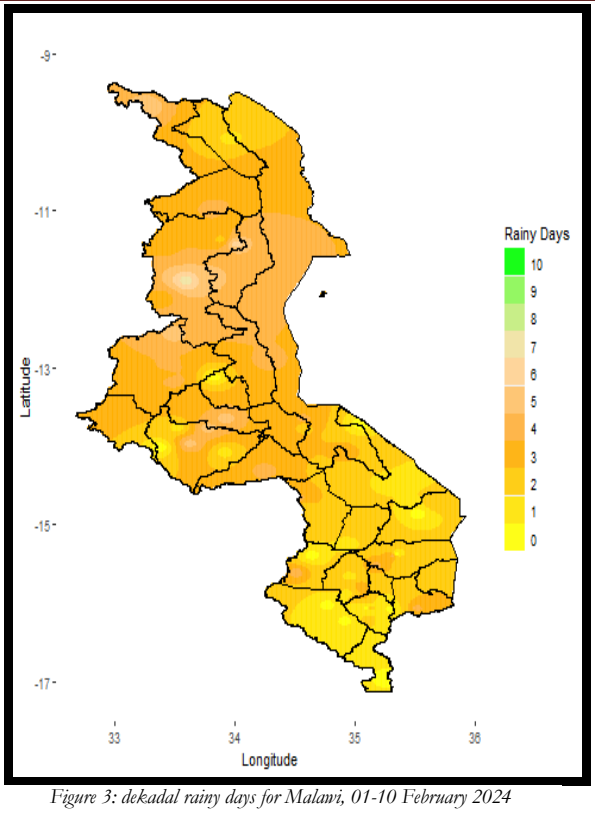

Figure 3: dekadal rainy days for Malawi, 01-10 February 2024

Cumulatively since the start of monitoring of the rainfall season on 01 October 2023 to 10 February 2024, generally normal to above normal rainfall amounts have been experienced over majority of northern half of the country with normal to below normal scenarios over majority of southern half and parts of 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 01 to 10 February 2024. Mean daily maximum temperatures had ranged from 27.0°C at Bvumbwe Meteorological station in Thyolo to 35.9°C at Ngabu Meteorological station in Chikwawa. Mean daily minimum temperatures had ranged from 16.3°C at Dedza 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 61% at Chileka and Monkey Bay Meteorological stations in Blantyre and Mangochi respectively to 81% at Bolero Meteorological station in Rumphi.

1.4 WIND SPEEDS

Most parts of Malawi experienced light to moderate wind speeds during the period under review. Daily average wind speeds measured at a height of two metres above the ground level across the country had ranged from 1.4 km per hour at Bolero, Nkhata Bay, Nkhotakota and Chitedze in Lilongwe to 11.7 km per hour at Monkey Bay Meteorological station in Mangochi.

1.5 SUNSHINE HOURS/ SOLAR RADIATION

Generally medium hours of bright sunshine were observed over Malawi during the period 01 to 10 February 2024. Daily values of sunshine hours had ranged from 6.5 hours per day at Nkhata Bay Meteorological station to 10.3 hours per day at Ngabu Meteorological station and consequently the amount of Solar Radiation had ranged from 8.7 to 12.6 cal/cm^2/day.

2. AGROMETEOROLOGICAL ASSESSMENT

During the first dekad of February 2024, the main on-farm activities have been application of top-dressing fertilizer and banking for some farmers over northern half of the country, while majority of farmers over southern Malawi are inactive due to the dry conditions being experienced over the region.

The rainfall experienced mainly over northern areas 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 very erratic. 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, Dowa

However, due to dry and hot weather conditions particularly over southern half of the country, many crops including staple crop maize showed various degrees of water stress conditions, some in acute water stress while others reached permanent wilting point. More in figure 5 below.

Figure 5: Water stressed maize crop, Blantyre Agricultural Division, southern Malawi

Furthermore, some farmers have taken heed of advice and have now replanted crops that can withstand prolonged dry spells as captured in Figure 6 below where a farmer planted sesame two dekads ago before the commencement of dry conditions over southern Malawi.

Figure 6: Sesame crop, Kasinthula, Mitole Extension Planning Area, Chikwawa,southern Malawi

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 in controlled areas like shaded areas. The rains over northern half also ensured continued pasture growth and water availability to various stock in the region.

Overall, there are serious concerns of reduced crop production for subsistence and cash crops at both local scale and national scale due to the impacts of the prolonged dry conditions being experienced over southern Malawi as well as reported cases of Fall Army Worm infestation countrywide and crop washaways due to floods over some central areas.

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 figure 7 below.

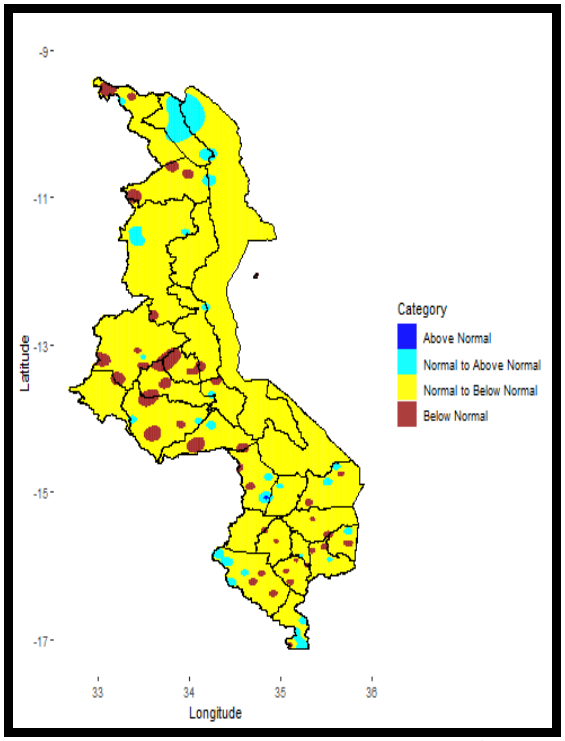

Figure 7: Sub-season February-March-April (FMA) rainfall forecast

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.

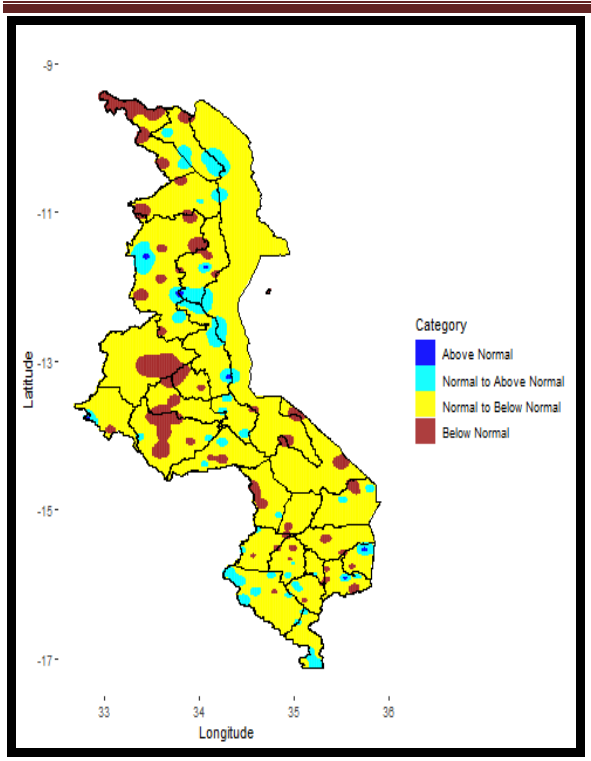

Figure 8: February 2024 rainfall forecast

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.

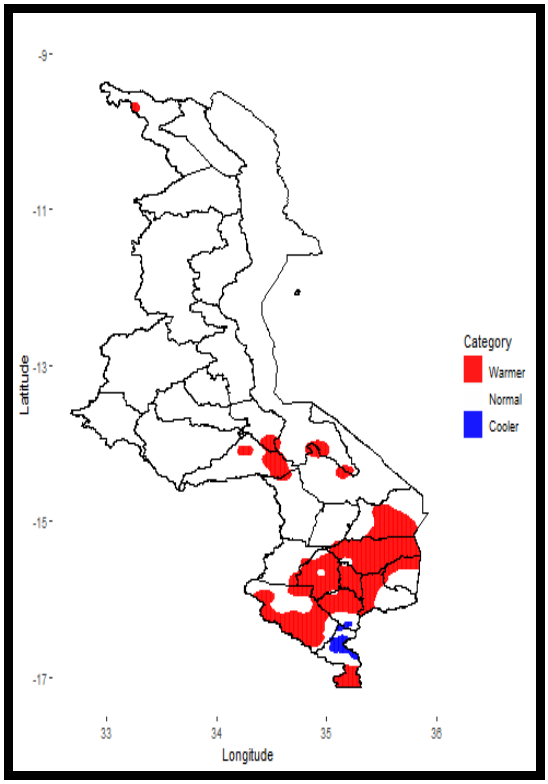

Figure9: February 2024 temperature forecast categories

4. OUTLOOK FOR 11-20 FEBRUARY 2024

During the period 11 - 20 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.

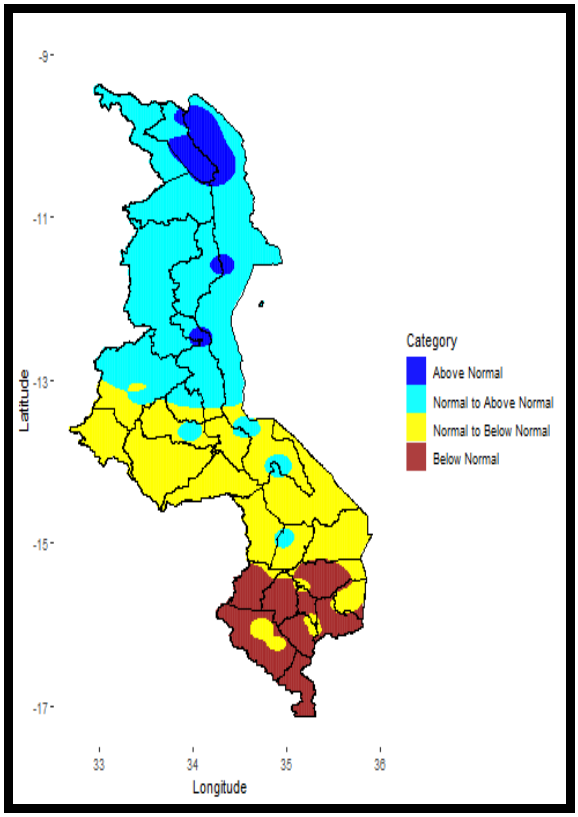

Figure 10: Dekadal rainfall outlook for Malawi for 11-20 February 2024 as percentage of normal rainfall