REPUBLIC OF MALAWI

Ministry of Natural Resources Energy and Mining
Department of Climate Change and Meteorological Services

# 10-day Weather and Agrometeorological Bulletin

*In support of national early warning systems and food security*

Be wise be weather-wise

Period: 21 – 30 November 2014 Season: 2014/2015 Issue No.6

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## HIGHLIGHTS

- **Rains were confined to northern tip; elsewhere dry weather persisted…**
- **Land preparation and mobilization of farm inputs still in progress …**
- **More rains expected over northern half during 01 to 10 December 2014…**

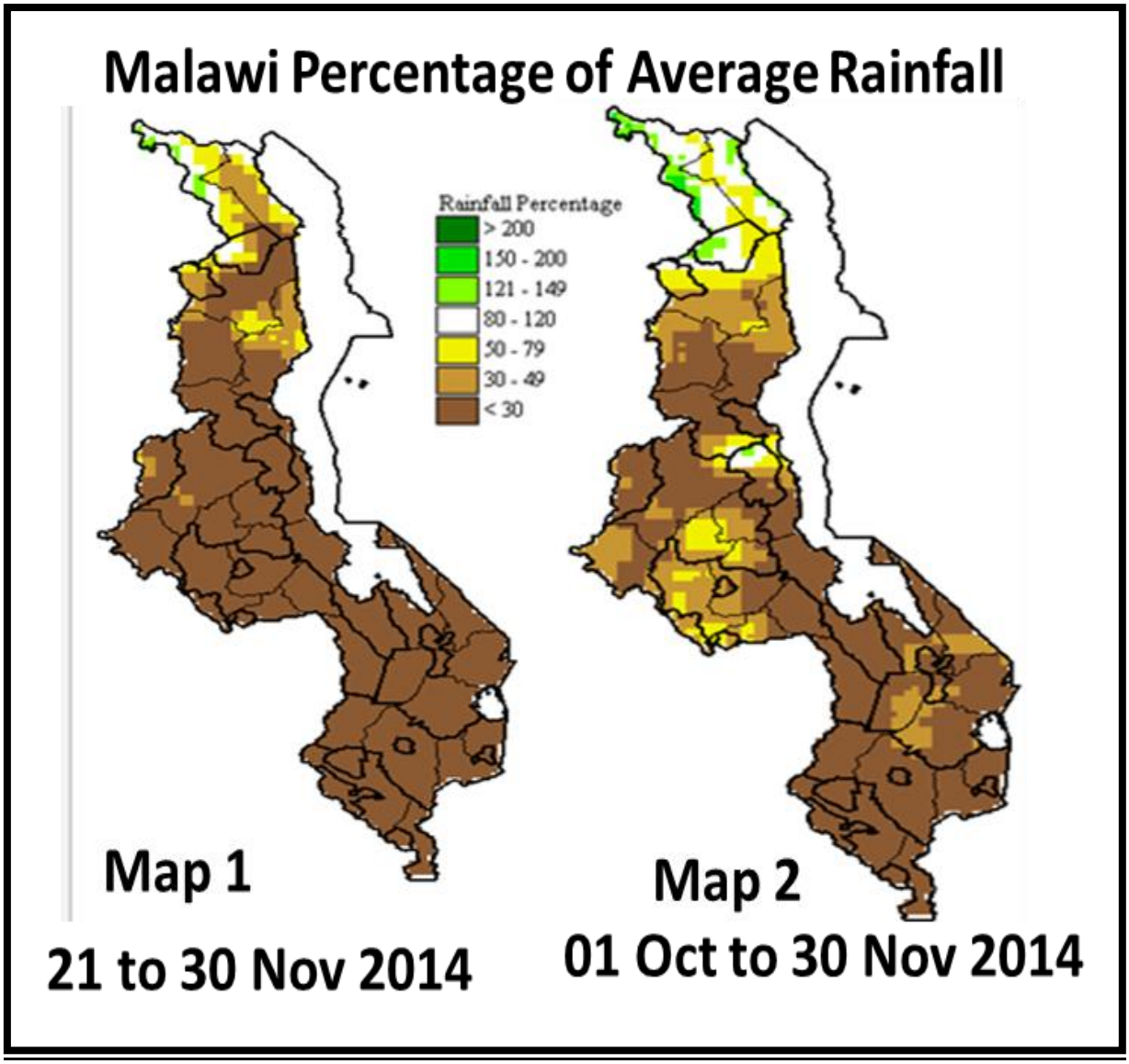


**Figure 1:** Rainfall Maps for Malawi for 21 – 30 November 2014

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## 1.0 WEATHER SUMMARY

The main rain-belt which has been active over Tanzania brought substantial rainfall amounts over some parts of Karonga and Mzuzu Agricultural Development Divisions.

### 1.1 RAINFALL SITUATION

High rainfall amounts were reported in some parts of northern Malawi during this period under review. These high amounts exceeded the rainfall amounts expected. The rainfall intensity and amounts were higher than those observed during the second ten days of November 2014. A few areas had accumulated rainfall amounts of over 25mm. Such areas were mainly confined to the north and had included Euthin Agric 75mm, Chelinda(Nyika) 71mm, Bwengu Agric 49mm, Rumphi Boma 39mm and Vinthukutu Agric 27mm.

Map 2 in Figure 1 indicates cumulative rainfall performance from 01 October 2014 to 30 November 2014. Generally the map shows that most areas in Malawi were still very dry (brown colour) and average to above average cumulative rainfall amounts had been received over the northern tip of Malawi (white and green colour).

### 1.2 AIR TEMPERATURE

Generally hot tempratures continued to be experienced over the country during the third ten days of November 2014. Mean maximum temperatures ranged from 28°C at Dedza to 38.7°C at Ngabu. Compared to the previous dekad, maximum temperatures this time were slightly higher due to decreased cloud cover. Mean minimum temperatures ranged from around 16.4°C at Dedza to 23.4°C at Nkhota kota (Table 1). The highest absolute maximum temperature for the period was 40°C, observed at Ngabu in Shire Valley on 28 November 2014.

### 1.3 WIND SPEEDS

Mean wind speeds at a height of two metres above the ground level ranged from 3.6 to 13.8 Kilometres per hour. The lowest mean wind speed was reported at Kasungu while the highest mean wind speed was recorded at Chileka Airport Refer to Table 1.

### 1.4 RELATIVE HUMIDITY

During the period under review, air over Malawi remained generally dry. Daily average relative humidity values had ranged from 38% at Kasungu Met to 64% at Mzuzu. Details are on the Table 1.

### 1.5 SUNSHINE HOURS

The mean durations of bright sunshine hours across Malawi were high, implying high insolation and solar radiation were experienced. Most areas had reported daily average sunshine of more than eight hours per day. The highest mean sunshine hours were observed along the shores of Lake Malawi and in Shire Valley. Details are on the Table 1.

### 1.6 VEGETATION CONDITION

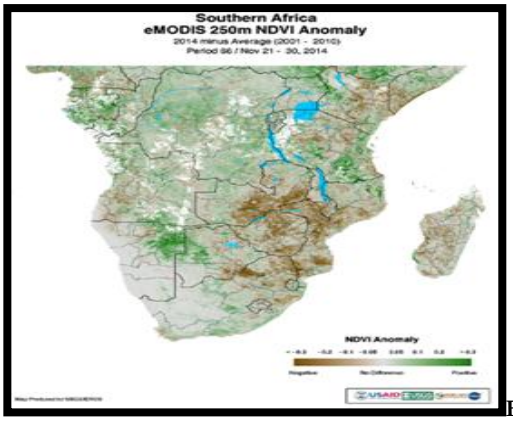


**Figure 2: Vegetation Condition over Southern Africa**

Southern Africa for the period 21 to 30 November 2014 showed that most parts of the region including Malawi were experiencing below average vegetation conditions (Figure 1). As such, natural pastures are likely to be in poor condition.

## 2.0 AGROMETEOROLOGICAL ASSESSMENT AND IMPACTS

The major on-farm agricultural activities in Malawi during the months of October and November 2014 have included land preparation and procurement of farm inputs and equipment in readiness for the main planting rains which are usually expected to start from the south and progress northwards. However, this season appears to be unique. So far, most areas in Malawi have remained dry and planting rains though sporadic have started in the northern Malawi instead of southern Malawi. Substantial amounts of rainfall that were received in some parts of the north had propelled some farmers to begin planting of crops at a small scale.

## 3. OUTLOOK FOR 01 – 10 DECEMBER 2014

Models for short and medium term weather forecasts suggest that the main rain-belt is gradually shifting southwards and will be active over northern and some parts of central Malawi within the first ten days of December 2014. Therefore, an improvement in rainfall performance is expected mainly over the northern half of Malawi during the forecast period.

## 4 PROSPECTS FOR 2014/15 RAINFALL SEASON

The rainfall forecast for the 2014/15 season is expected to be generally favourable for agricultural production as most areas are likely to receive normal rainfall amounts during the season. However, during the second half, there is a possibility that some areas would experience normal to below normal rainfall amounts that are associated with dry spells.

Up until end of November 2014 the start of the rainfall season had been erratic. There has been a delay in the establishment of the main rain bearing systems for Malawi. As a result generally below average rainfall has been received over Malawi from October to November 2014.

**TABLE 1: AGROMETEOROLOGICAL PARAMETERS FOR THE PERIOD 21 TO 30 NOVEMBER 2014**

| ADD/ STATION | MAX TEMP (°C) | MIN TEMP (°C) | ABS MAX (°C) | ABS MIN (°C) | WIND SPEED Km/hour | RH % | SUN SHINE HOURS | Eo mm per day | Et mm per day | RAD-TION cal $cm^{-2}$ p/day |
|---|---|---|---|---|---|---|---|---|---|---|
| **KARONGA ADD** | | | | | | | | | | |
| Chitipa | 30.4 | 19.2 | 33.0 | 17.0 | 13.3 | 60 | 8.4 | 8.0 | 6.4 | 9.9 |
| Karonga | 33.8 | 23.2 | 37.5 | 21.0 | 6.1 | 56 | 9.3 | 8.5 | 6.8 | 10.5 |
| **MZUZU ADD** | | | | | | | | | | |
| Bolero | 33.5 | 19.7 | 35.8 | 18.0 | 7.2 | 53 | 8.9 | 8.1 | 6.5 | 10.3 |
| Mzuzu | 28.2 | 15.5 | 31.1 | 14.0 | 5.4 | 64 | 10.2 | 7.4 | 5.7 | 11.2 |
| Mzimba | 30.8 | 18.2 | 32.9 | 15.7 | 5.8 | 50 | 10.5 | 8.1 | 6.3 | 11.3 |
| Nkhata Bay | 33.6 | 20.5 | 36.8 | 20.2 | 3.6 | 60 | 9.4 | 8.0 | 6.3 | 10.6 |
| **KASUNGU ADD** | | | | | | | | | | |
| Kasungu | 28.6 | 19.7 | 34.7 | 16.2 | 3.6 | 38 | 9.5 | 7.5 | 5.9 | 10.7 |
| **LILONGWE ADD** | | | | | | | | | | |
| KIA | 31.2 | 17.9 | 33.7 | 16.1 | 7.6 | 44 | 7.4 | 7.4 | 6.0 | 9.3 |
| Chitedze | 32.7 | 18.5 | 35.7 | 16.1 | 4.0 | 47 | 9.4 | 7.8 | 6.1 | 10.7 |
| Dedza | 28.0 | 10.4 | 30.7 | 13.6 | 9.0 | 49 | 9.5 | 7.2 | 5.6 | 10.7 |
| **SALIMA ADD** | | | | | | | | | | |
| Salima | 34.8 | 22.5 | 37.6 | 20.5 | 9.4 | 44 | 10.5 | 9.2 | 7.4 | 11.4 |
| Nkhota kota | 32.6 | 23.4 | 34.7 | 20.3 | 7.9 | 53 | 10.1 | 9.0 | 7.3 | 11.1 |
| **MACHINGA ADD** | | | | | | | | | | |
| Monkey Bay | 34.7 | 24.3 | 36.9 | 22.5 | 10.1 | 43 | 10.8 | 9.8 | 8.0 | 11.6 |
| Makoka | 32.0 | 18.1 | 33.9 | 16.2 | 6.1 | 48 | 10.2 | 8.2 | 6.5 | 11.2 |
| Ntaja | 34.1 | 20.5 | 26.3 | 17.2 | 10.4 | 49 | 10.3 | 9.2 | 7.4 | 11.3 |
| **BLANTYRE ADD** | | | | | | | | | | |
| Bvumbwe | 29.8 | 17.7 | 34.9 | 15.8 | 10.1 | 51 | 10.2 | 8.3 | 6.6 | 11.2 |
| Chichiri | 31.0 | 17.9 | 34.8 | 16.6 | 12.2 | 53 | 10.0 | 8.6 | 6.9 | 11.1 |
| Chileka | 33.5 | 20.4 | 36.2 | 17.9 | 13.7 | 46 | 10.8 | 9.6 | 7.8 | 11.6 |
| Mimosa | 32.9 | 18.2 | 35.4 | 15.8 | 5.4 | 51 | 10.5 | 8.3 | 6.6 | 11.4 |
| **SHIRE VALLEY ADD** | | | | | | | | | | |
| Ngabu | 38.7 | 23.3 | 40.4 | 21.7 | 16.6 | 51 | 11.0 | 11.0 | 9.2 | 11.7 |

**Glossary of some terms on this table**

- RH = Relative Humidity
- Mean Temperature of the day =(Max of the day + Min of the same day )/2
- ABS Max (Min) = Absolute Maximum (minimum) is the highest (lowest) of maximum (minimum) temperatures observed for a given number of days (calendar month) of a specified period of months (years).
- To convert Meters Per Second (mps) to Kilometers per hour (Km/hr) = mpsx3.6