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

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HIGHLIGHTS

- **Most areas experienced an improvement in rainfall performance…**
- **Planting of crops was in progress in most areas …**
- **Widespread locally heavy rains expected during 21 to 31 December 2014…**

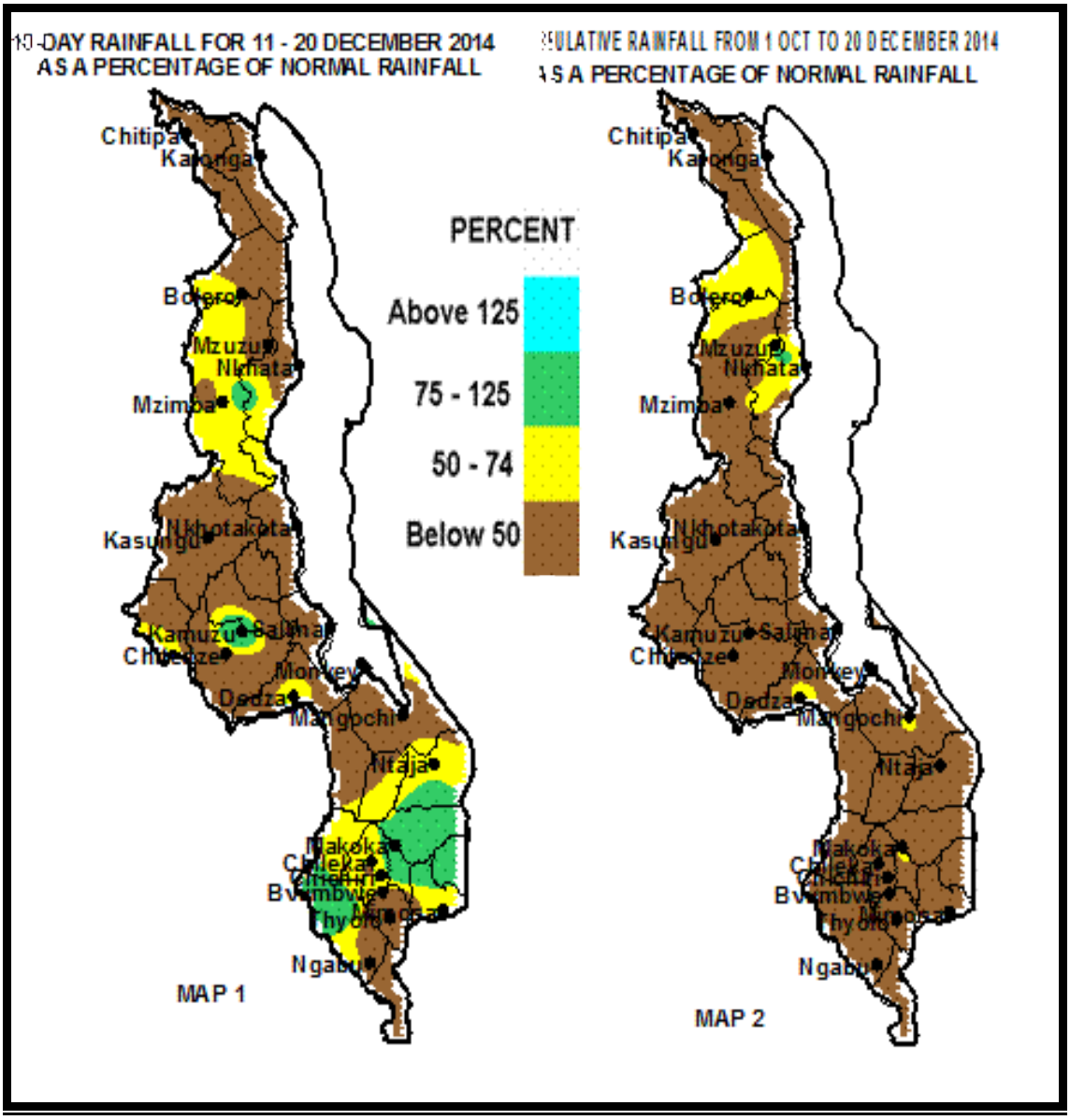

Figure 1: Rainfall Maps for Malawi for 11 – 20 December 2014

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1.0 WEATHER SUMMARY

During the period 11 to 20 December 2014 most areas in Malawi had experienced rainfall and some areas had rainfall in excess of 60mm.

1.1 RAINFALL SITUATION

Moderate to heavy rains were recorded over Malawi during the period 11 to 20 December 2014. A few areas had registered high rainfall amounts of up to 60mm within the period under review. Such areas in the south included Zomba Agric which had accumulated 106mm with two rainy days. Chiradzulu Agric recorded 84mm with three days, Lujeri Tea estate in Mulanje had recorded 80mm with two rainy days, Mimosa in Mulamje had reported a total of 78mm in two days while Mulanje Boma received 64mm in four days. In central region 75mm was deposited in two days at Kamuzu International Airport while in the north Chikangawa Forest had recorded 70mm in three days.

Map 2 in Figure 1 indicates cumulative rainfall performance from 01 October 2014 to 20 December 2014. The map shows that most areas in Malawi have received less than half of the expected rainfall amounts (brown colour).

1.2 AIR TEMPERATURE

Hot tempratures were experienced over most parts of Malawi during the period 11 to 20 December 2014. Mean maximum temperatures had ranged from 28°C at Dedza to 37°C at Mangochi and Ntaja. Compared to the previous ten day period, maximum temperatures this time continued to drop due to increased cloud cover. Mean minimum temperatures had ranged from around 16.5°C at Dedza to 25.4°C at Monkey Bay (Table 1). The highest absolute maximum temperature for the period was 39.8°C, observed at Ngabu in Shire Valley on 13th December 2014.

1.3 WIND SPEEDS

Mean wind speeds at a height of two metres above the ground level ranged from 2.5 to 9.4 Kilometres per hour. The lowest mean wind speed was reported at Nkhata bay while the highest mean wind speed was recorded at Ngabu and Chileka Refer to Table 1.

1.4 RELATIVE HUMIDITY

During the period 11 to 20 December 2014, there was increased moisture over Malawi. Daily average relative humidity values had ranged from 48% at Chitedze and Karonga to 69% at Bvumbwe. Details are on the Table 1.

1.5 SUNSHINE HOURS

The mean durations of bright sunshine hours across Malawi had continued to decrease due to a pick in cloudiness. Most areas had experienced daily average sunshine hours of at least nine hours. The highest mean sunshine hours were still observed in Shire Valley and along the lakeshore. Details are on the Table 1.

1.6 VEGETATION CONDITION

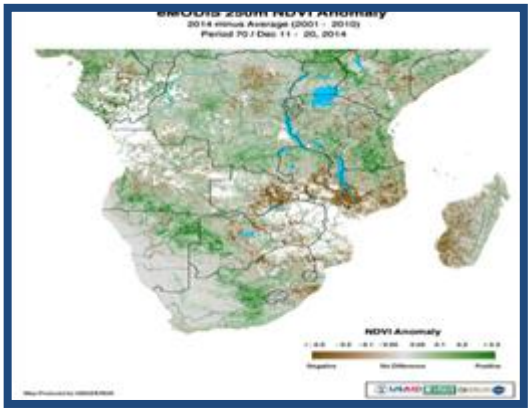

Figure 2: Vegetation Condition over Southern Africa

Vegetation condition for Southern Africa up to20th December 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

During the period 11 to 20 December 2014 widespread moderate to heavy rains fell over most parts of Malawi. These were favourable for planting and good germination of crops. Reports indicated that most farmers started planting of crops during the period under discussion. As such the major on-farm agricultural activities included land preparation, planting and sourcing of farm inputs and equipment. Generally effective planting rains have delayed this season. The delay in southern Malawi is for about one month. This delay in start of the mains rains is likely to compromise on the length of crop growing season. Usually the cessation of the main rains is almost fixed and any delay in the onset is likely to result in a reduced growing season.

3. OUTLOOK FOR 21 – 31 DECEMBER 2014

Models for short and medium term weather forecasts suggest that the main rain-belt is likely to remain active over Malawi. Therefore, widespread locally heavy rains are expected during the last ten days of December 2014.

4 PROSPECTS FOR 2014/15 RAINFALL SEASON

The bottom line for the 2014/15 rainfall forecast is that most areas are likely to receive normal rainfall amounts during the season. However, during the second half, there is a possibility that some areas may experience normal to below normal rainfall amounts that are associated with dry spells. The main rain bearing systems got established over Malawi during the second ten days of December 2014 and most areas had started experiencing moderate to heavy rains. This is likely to cause an improvement in the cumulative rainfall amounts for the month of December 2014.

TABLE 1: AGROMETEOROLOGICAL PARAMETERS FOR THE PERIOD 11 TO 20 DECEMBER 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 calcm-² p/day
KARONGA ADD										
Chitipa	31.3	19.7	32.5	18.0	9.0	55	8.3	7.8	6.3	9.9
Karonga	34.7	23.9	36.3	21.6	5.4	48	9.6	8.7	7.0	10.7
MZUZU ADD										
Bolero	33.5	19.8	35.7	18.5	3.6	51	9.0	7.8	6.2	10.3
Mzuzu	30.3	15.1	31.6	13.5	5.0	56	10.7	7.7	6.0	11.5
Mzimba	31.3	18.4	33.0	15.6	4.0	51	9.0	7.5	5.9	10.4
Nkhata Bay	35.2	20.7	37.4	19.9	2.5	59	10.8	8.6	6.8	11.5
KASUNGU ADD										
Kasungu	33.9	18.5	36.1	18.8	4.0	52	9.0	7.8	6.2	10.4
LILONGWE ADD										
KIA	31.0	19.9	33.7	17.7	6.1	56	7.6	7.4	5.9	9.5
Chitedze	32.3	20.3	34.5	19.5	4.7	48	7.8	7.5	6.0	9.7
Dedza	27.9	16.5	30.0	14.6	7.6	58	6.8	6.7	5.4	9.0
SALIMA ADD										
Salima	34.9	23.8	37.6	21.5	6.5	52	9.3	8.7	7.0	10.6
Nkhota kota	33.6	24.5	36.0	21.0	7.9	53	9.3	9.0	7.4	10.6
MACHINGA ADD										
Mangochi	36.7	23.4	38.7	17.9	6.5	53	8.9	8.8	7.2	10.4
Monkey Bay	34.8	25.4	37.5	23.1	7.9	55	9.1	9.0	7.4	10.5
Makoka	30.7	20.0	34.4	19.0	4.3	65	5.0	6.2	5.0	7.9
Ntaja	36.8	23.7	36.9	21.4	7.6	55	6.5	8.0	6.6	8.9
BLANTYRE ADD										
Bvumbwe	28.7	19.8	32.6	17.4	5.4	68	5.6	6.3	5.0	8.2
Chichiri	31.8	19.9	34.5	19.2	4.7	66	6.5	6.8	5.5	8.8
Chileka	31.9	22.1	36.7	20.5	9.4	64	6.7	7.5	6.1	8.9
Mimosa	34.1	20.9	37.9	17.9	4.0	68	8.0	7.6	6.1	9.8
SHIRE VALLEY ADD										
Ngabu	35.7	21.9	39.8	21.7	9.4	59	10.5	8.8	7.0	11.5

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