Government of Malawi
Ministry of Natural Resources, Energy and Mining

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

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HIGHLIGHTS

- **Substantial rainfall amounts recorded in southern Malawi…**
- **Major agro-activities included land preparation and procurement of farm inputs …**
- **Sporadic rainfall to persist over Malawi during the period 01 to 10 November 2017…**

1.0 WEATHER SUMMARY

During the period 21 to 31 October 2017, a local convergence between relatively warm air mass from the north east and cool air mass from the south east had caused fairly scattered thunderstorms and rain showers particularly over southern Malawi and some parts of central Malawi. As a result most areas in the south and a few areas in central Malawi had recorded significant rainfall amounts. Otherwise hot to very hot temperatures had prevailed over most areas in Malawi.

1.1 RAINFALL SITUATION

During the third ten days of October 2017, some place mainly over the southern Malawi particularly on 28 and 29 October 2017 had registered an increase in rainfall activities. Significant rainfall amounts were received in places like Lujeri Tea Estate recorded 304mm, Mulanje Agric received 289mm, Thyolo(Nchima) recorded 159mm, Thyolo Agric 105mm, Nchalo and Livunzu Agric in Chikwawa had 98mm Thuchila Agric 79mm, Neno Agric 78mm, Toleza farm in Balaka, 75mm, Balaka Township 61mm, Mangochi Met 58mm, Chizunga factory 49mm, Mimosa Met 44mm, Chancellor College 38mm, Bvumbwe 35mm, Phalula Agric in Balaka 35mm, Naminjiwa in Phalombe 29mm, Zomba Agric 27mm and many more places recorded rainfall amounts of less than 25mm. In contrast, just a few places in the Central and northern Malawi received significant amounts. These included places like Nkhande in Ntcheu (67mm), Dzonzi Forest in Ntcheu 37mm, Northern Malawi was mainly dry with only Mzuzu Met reporting a ten day rainfall total of 26.5mm. Sporadic pre-season rainfall (Chidzimalupsya) is likely to persist over Malawi until major rain bearing systems get established over the country.

1.3 AIR TEMPERATURE

Hot to very hot temperatures were reported over Malawi during the period 21 to 31 October 2017. Mean maximum temperatures had ranged from 26.6°C at Dedza to 34.9°C at Mangochi while mean minimum temperatures had ranged from 16.2°C at Bvumbwe to 24.8°C at Ngabu. The highest maximum temperature was recorded at Ngabu (43.6°C) in Chikwawa while the lowest temperature was 11.1°C recorded at Bvumbwe. For more details see Table 1.

1.4 WIND SPEEDS

Mean wind speeds measured at a height of two metres above the ground level across Malawi had ranged from 4.0Km per hour at Nkhata Bay to 18.7km per hour at Chitipa More details are in Table 1.

1.5 RELATIVE HUMIDITY

During the last ten days of October 2017, air over Malawi was generally dry. Daily average relative humidity values ranged from 34% at Bolero in Rumphi and Ntaja in Machinga to 67% at Ngabu in Chikwawa. Details are on the Table 1.

1.6 SUNSHINE HOURS

During the period 21 to 31 October 2017 durations of sunshine hours per day showed that most areas experienced sunny conditions. Daily averages across Malawi had ranged from 8.5 to 11.0 hours per day. As a result most areas had experienced high radiation and evapotranspiration rates. Details are on the Table 1.

2. AGROMETEOROLOGICAL ASSESSMENT

The significant rainfall that was received towards the last days of October had prompted a few farmers particularly in southern Malawi to start planting crops on a very small scale. Otherwise the major agricultural activities continued to be land preparation and procurement of farm inputs in readiness for the effective start of 2017/18 main rainfall season.

3. PROSPECTS FOR 2017/18 RAINFALL SEASON

The Sea Surface Temperatures which drive the rainfall patterns of the world including Malawi are in the Neutral El Niño Southern Oscillation (ENSO) phase and climate models are indicating that these neutral conditions are likely to persist during the 2017/2018 rainfall season. Based on neutral

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ENSO conditions, the rainfall forecast for the 2017/18 season in Malawi is that during the period October 2017 to March 2018 a greater part of the country will experience normal total rainfall amounts. This means that there is a high chance for average rainfall than there is for reduced or excess rainfall. Thus priority planning for the 2017/18 season in Malawi should be based on expectations of average rainfall depending on the climate of the area. In view of the 2017/18 climate forecast, farmers in Malawi are advised to:

- finish land preparations on time to ensure timely planting, include water harvesting structures where ridging has been done,
- ensure adequate vegetative soil cover where conservation agriculture is practised,
- plant other drought tolerant food crops such as cassava, sweet potatoes, sorghum and millet, in the early days of the rainy season,
- plant early maturing crop varieties and apply adequate manure to improve soil moisture retention

4. OUTLOOK FOR 01 – 10 NOVEMBER 2017

Models for short and medium range forecasts indicate that Malawi is likely to continue experiencing sporadic thunderstorms and rain showers during the first ten days of November 2017. Farmers are advised to finalize procurement of farm inputs and land preparations on time to ensure planting with first effective rains that are expected from November 2017.

TABLE 1: AGROMETEOROLOGICAL PARAMETERS FOR 21 TO 31 OCTOBER 2017

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	31.4	19.8	34.0	17.0	18.7	45	10.1	9.5	7.8	11.0
Karonga	34.4	23.6	37.5	22.0	7.9	44	9.8	8.9	7.2	10.8
MZUZU ADD										
Bolero	32.6	21.7	36.6	18.0	7.2	43	9.5	8.4	6.7	10.6
Mzimba	30.2	18.7	33.9	14.6	8.6	55	10.2	8.1	6.4	11.1
Mzuzu	28.1	16.7	31.3	13.4	7.2	56	10.0	7.5	5.9	11.0
Nkhata Bay	34.5	20.2	36.6	18.0	4.0	54	8.8	7.8	6.2	10.1
KASUNGU ADD										
Kasungu	31.8	19.8	35.5	15.5	10.1	47	10.4	8.7	6.9	11.2
LILONGWE ADD										
Chitedze	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dedza	26.6	16.3	29.7	11.6	9.0	58	9.0	7.2	5.6	10.2
KIA	29.9	18.5	32.2	13.6	9.0	48	9.0	7.8	6.2	10.2
SALIMA ADD										
Nkhota kota	32.6	22.9	35.2	20.5	5.0	51	9.4	8.4	6.7	10.6
Salima	34.1	23.4	37.1	20.8	11.9	48	10.0	9.2	7.5	10.9
Makoka	33.3	20.3	35.5	13.8	7.6	53	9.1	8.1	6.5	10.3
Mangochi	34.9	22.6	40.0	19.5	4.7	52	10.0	8.5	6.8	10.9
Monkey Bay	34.0	24.7	36.6	20.3	12.2	43	9.5	9.5	7.8	10.6
Ntaja	33.1	21.5	37.7	16.4	11.5	49	9.4	8.8	7.2	10.5
BLANTYRE ADD										
Bvumbwe	29.3	16.2	34.6	11.1	7.9	52	8.5	7.2	5.7	9.8
Chichiri	29.6	19.0	36.4	13.9	8.3	54	8.5	7.5	6.0	9.8
Chileka	32.8	21.7	40.1	17.1	15.1	44	8.7	9.0	7.5	10.0
Mimosa	31.2	19.5	38.8	14.4	5.8	48	9.5	7.8	6.2	10.5
SHIRE VALLEY ADD										
Ngabu	33.6	24.8	43.6	20.4	6.1	58	11.0	9.1	7.3	11.4

Glossary of some terms on this table

- Eo = Potential Evapotranspiration, Et = Actual Evapotranspiration and RH = Mean 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
- N/A – means data was not available at the time of reporting