



Government of Malawi  
Ministry of Forestry and Natural Resources

# 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: 11 – 20 November 2021

Season: 2021/2022

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## HIGHLIGHTS

- Isolated light to moderate rainfall amounts received over parts of Malawi ...
- Land preparation remains in progress over most parts of the country...
- Scattered moderate rainfall amounts expected during 21 to 30 November 2021...

## 1.0 WEATHER SUMMARY

During the period 11 to 20 November 2021, convergence of cool and moist south easterly air mass with warm north easterly airmass resulted in isolated light to moderate rainfall experienced in some areas of the country.

### 1.1 RAINFALL SITUATION

During the period 11 to 20 November 2021, isolated cases of light to moderate rainfall amounts were recorded over some areas of the country. Areas that recorded at least 30.0mm of rainfall included Thyolo Meteorological station which recorded 87.4mm, Mpemba Veterinary in Blantyre recorded 74.7mm, Lujeri Tea estate in Mulanje recorded 59.0mm, Chikwawa Boma recorded 48.0mm, Chiradzulu Agriculture recorded 45.6mm, Toleza Farm in Balaka recorded 42.2mm, Kasinthula Research station in Chikwawa recorded 42.0mm, Chileka International Airport in Blantyre recorded 37.0mm, Mimosa Meteorological station recorded 36.3mm, Chichiri Meteorological station in Blantyre recorded 35.3mm, Makoka Meteorological station in Zomba recorded 32.2mm, and Mulanje Agriculture recorded 31.6mm. More details in Table 1

### 1.2 AIR TEMPERATURE

Malawi continued to experience hot to locally very hot conditions during the period 11 to 20 November 2021. Mean daily maximum temperatures had ranged from 28.9°C at Dedza Meteorological station to 39.5°C at Ngabu Meteorological station in Chikwawa. Absolute maximum temperature reported at Ngabu during the period under review was 43.1°C. Mean daily minimum temperatures had ranged from 15.8°C at Mzuzu Meteorological station to 25.7°C at Monkey Bay Meteorological station in Mangochi. Details in Table 2.

### 1.3 WIND SPEEDS

During the period 11 to 20 November 2021 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 2.9 km per hour at Nkhotakota, Nkhata Bay and Bolero Meteorological station in Rumphu district to 12.2 km per hour at Chileka Meteorological station. More details in Table 2.

### 1.4 RELATIVE HUMIDITY

During the period 11 to 20 November 2021, air over Malawi was mainly dry. Daily average relative humidity values recorded from various weather stations had ranged from 33% at Bolero Meteorological station to 62% at Mimosa Meteorological station. Details as in Table 2

### 1.5 SUNSHINE HOURS

Generally medium to long hours of bright sunshine were observed over Malawi during the period 11 to 20 November 2021. Daily average values had ranged from 7.6 hours per day at Mzuzu and Dedza Meteorological stations to 11.0 hours per day at Ngabu Meteorological station and consequently the amount of Solar Radiation had ranged from 9.5 to 11.7 cal/cm<sup>2</sup>/day. For details see Table 2.

## 2. AGROMETEOROLOGICAL ASSESSMENT

During the period under review, the main on-farm activity over Malawi remained land preparation in readiness for effective planting rains. Farmers have also started accessing farm inputs under the Affordable Farm Inputs (AIP) programme.

## 3. PROSPECTS FOR 2021/2022 RAINFALL SEASON

La Nina conditions have been established over eastern-central equatorial Pacific Ocean. Global models are projecting that these conditions are likely to persist throughout the 2021/2022 rainfall season. The rainfall forecast for the 2021/2022 season is that:

**"During October to December 2021, most of the southern and central areas are expected to receive normal to below-normal rainfall amounts while most of the northern areas are expected to receive normal to above-normal rainfall amounts."**

**During January to March 2022, most areas in the south, center and the north are expected to receive normal to above-normal rainfall amounts."**

At national level, there are higher chances of normal to above normal rainfall amounts over most parts of the country.

#### 4. OUTLOOK FOR 21-30 NOVEMBER 2021

As the effective rains set in, models for short and medium range forecasts indicate high chance of convective activities over Malawi during the period 21 to 30 November 2020.

**TABLE 1: 10-DAY RAINFALL TOTALS AT SELECTED STATIONS FOR 11 TO 20 NOVEMBER 2019**

ADD	STATION NAME	ACTUAL DEKADAL TOTAL RAINFALL (mm)	DEKADAL NORMAL EXPECTED RAINFALL (mm)	ACTUAL TOTAL AS PERCENTAGE OF NORMAL (EXPECTED RAINFALL)	RAINY DAYS $\geq 3$ mm	ACTUAL TOTAL RAINFALL TO DATE (mm)	NORMAL (EXPECTED) RAINFALL TO DATE (mm)	ACTUAL TO DATE AS PERCENTAGE OF NORMAL (EXPECTED RAINFALL)
KARONGA	Baka Res. Stn.	0.0	6.6	0	0	0.0	11.2	0
	Karonga Met.	0.0	15.6	0	0	0.0	20.8	0
	Vinthukutu Agric	0.0	24.8	0	0	0.0	39.9	0
MZUZU	Mzimba Met	2.3	24.1	10	1	3.3	39.1	8
	Bolero Met	0.0	13.5	0	0	3.7	23.4	16
	Bwengu Agric.	0.0	16.3	0	0	3.3	35.1	9
	Chikangawa forest	0.0	27.2	0	0	32.6	55.7	59
	Ekwendeni Agric.	0.0	52.3	0	0	29.2	90.8	32
	Euthini Agric.	0.0	19.4	0	0	0.0	33.8	0
	Mbalachanda	0.0	27.0	0	0	0.0	41.7	0
	Mbawa Res. Stn	0.0	24.8	0	0	3.5	44.8	8
	Mzuzu Met.	0.0	28.1	0	0	63.0	76.9	82
	NkhataBay Met.	0.0	33.1	0	0	0.0	63.9	0
	Zombwe Agric	0.0	26.4	0	0	12.9	40.7	32
KASUNGU	Madisi Agric	21.0	16.7	126	1	21.0	30.0	70
	Chikweo Agric.	19.8	32.9	60	2	19.8	59.0	34
	Mkanda Met	12.0	30.8	39	2	12.0	55.9	21
	Mchinji Boma	10.5	28.6	37	1	13.6	73.4	19
	Dowa Agric	0.0	17.5	0	0	0.0	33.8	0
	Kaluluma DTC	0.0	21.0	0	0	0.0	28.0	0
	Kasungu Met	0.0	14.8	0	0	0.1	27.6	0
	Malomo Agric	0.0	16.2	0	0	0.0	22.5	0
	Mwimba Research	0.0	21.3	0	0	10.0	44.4	23
	Ntchisi Boma	0.0	15.5	0	0	1.4	29.2	5
LILONGWE	Chileka Namitete	0.0	29.1	0	0	0.0	60.3	0
	Dzonzi Forest	0.0	22.8	0	0	0.8	59.6	1
	K.I.A Met	0.0	26.3	0	0	3.7	46.6	8
	Mlangeni Njolomole	0.0	16.5	0	0	19.5	59.9	33
	Ntcheu - Nkhanda	0.0	17.4	0	0	0.0	57.9	0
	Dedza RTC	0.0	24.8	0	0	0.4	60.6	1
SALIMA	Nkhotakota Met	12.1	14.0	86	2	12.1	30.4	40
	Dwangwa Sugar Corp.	0.0	30.3	0	0	2.5	52.4	5
	Lifuwu	0.0	13.5	0	0	0.0	20.3	0
	Salima Met	0.0	11.9	0	0	0.6	25.9	2
MACHINGA	Toleza Farm	42.2	23.6	179	3	60.2	59.4	101
	Makoka Met	32.2	18.1	178	3	49.6	57.9	86
	Balaka Township	21.9	20.2	108	2	21.9	66.4	33
	Chancellor College	14.6	27.5	53	2	49.6	75.5	66
	Mpilipili (Makanjila)	0.0	15.9	0	0	0.0	43.5	0
	Mangochi Met.	0.0	7.3	0	0	6.3	28.5	22
	Monkey Bay Met.	0.0	3.9	0	0	0.0	13.9	0
	Namwera Agric	0.0	27.1	0	0	7.8	61.4	13
BLANTYRE	Thyolo Met	87.4	24.5	357	4	167.4	98.9	169
	Mpemba Vet	74.7	33.0	226	2	74.7	96.6	77
	Lujeri Tea Estate	59.0	90.5	65	5	138.6	248.4	56
	Chiradzulu Agric	45.6	23.5	194	5	73.5	80.8	91
	Chileka Airport	37.0	30.7	121	5	42.1	79.1	53
	Mimosa Met.	36.3	49.4	73	4	93.9	145.1	65
	Chichiri Met.	35.3	59.2	60	5	62.5	225.7	28
	Mulanje Boma	31.6	49.8	63	3	43.9	212.1	21
	Masambanjati Agric	26.6	39.5	67	3	75.3	105.0	72
	Mwanza Boma	22.1	21.7	102	1	35.1	91.2	38
	Bvumbwe Met.	19.4	34.0	57	4	34.9	84.9	41
	Neno Agric	12.1	23.0	53	2	12.1	76.8	16
	Satemwa Tea Est. No.1	0.0	26.4	0	0	34.7	90.9	38
	Zoa Tea Est.	0.0	31.1	0	0	15.2	120.1	13
SHIRE VALLEY	Chikwawa Boma	48.0	21.9	219	2	48.0	55.5	86
	Kasinthula Res. Stn.	42.0	13.7	307	3	64.2	60.0	107
	Nchalo Sucoma	12.1	19.4	62	3	24.0	50.1	48
	Ngabu Met.	8.1	15.5	52	1	10.2	55.5	18
	Makhanga Met	7.8	20.9	37	2	8.8	64.2	14

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 11 TO 20 NOVEMBER 2021

ADD/STATION NAME	MAX TEMP (°C)	MIN TEMP (°C)	ABS MAX (°C)	ABS MIN (°C)	WIND SPEED (Km/Hr)	RH (%)	SUN SHINE (Hrs)	E <sub>o</sub> mm per day	E <sub>t</sub> mm per day	RADIATION cal cm <sup>-2</sup> p/day
KARONGA ADD										
KARONGA	36.4	22.8	38.4	21.6	6.8	44	9.1	10.3	8.8	10.4
MZUZU ADD										
BOLERO	34.0	22.8	36.2	18.4	2.9	33	8.1	7.9	6.4	9.8
MZIMBA	31.6	18.9	33.0	16.6	6.5	40	7.9	9.1	7.5	9.6
MZUZU	30.3	15.8	31.8	14.1	5.0	48	7.6	7.2	5.9	9.5
NKHATA BAY	36.3	19.9	37.8	17.6	2.9	47	8.5	8.3	6.8	10.0
KASUNGU ADD										
KASUNGU	33.1	21.0	35.6	18.1	6.8	48	8.3	9.8	8.3	9.9
LILONGWE ADD										
CHITEDZE	32.8	19.6	35.2	17.0	3.2	45	7.9	7.9	6.4	9.6
DEDZA	28.9	16.8	31.6	14.9	5.8	50	7.6	6.9	5.6	9.5
K I A	32.2	18.7	34.6	16.4	7.6	42	8.2	9.4	8.0	9.8
SALIMA ADD										
NKHOTAKOTA	35.4	23.7	36.6	21.1	2.9	48	9.2	9.0	7.4	10.5
SALIMA	35.8	24.9	37.5	21.6	10.4	47	10.5	12.9	11.3	11.3
MACHINGA ADD										
MAKOKA	31.5	19.8	34.5	18.0	4.7	61	8.2	7.5	6.2	9.9
MANGOCHI	37.1	24.2	39.6	22.2	4.0	50	9.5	9.3	7.7	10.7
MONKEY BAY	36.1	25.7	37.6	23.2	8.6	48	9.4	10.9	9.3	10.6
BLANTYRE ADD										
BVUMBWE	30.1	19.4	33.5	17.8	6.8	59	7.8	7.4	6.2	9.6
CHICHIRI	30.1	19.8	34.0	18.5	4.7	58	7.8	7.0	5.7	9.6
CHILEKA	32.1	22.1	35.7	20.5	12.2	52	9.3	10.9	9.5	10.5
MIMOSA	33.1	22.0	36.8	18.0	4.7	62	7.9	7.5	6.1	9.6
SHIRE VALLEY ADD										
NGABU	39.5	25.2	43.1	21.1	4.7	45	11.0	10.8	7.7	11.7

**Glossary of some terms on this table**

- E<sub>o</sub> = Potential Evaporation, E<sub>t</sub> = Potential Evapotranspiration and 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 Kilometres per hour (Km/hr) = mpsx3.6