



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: 01 – 10 February 2021

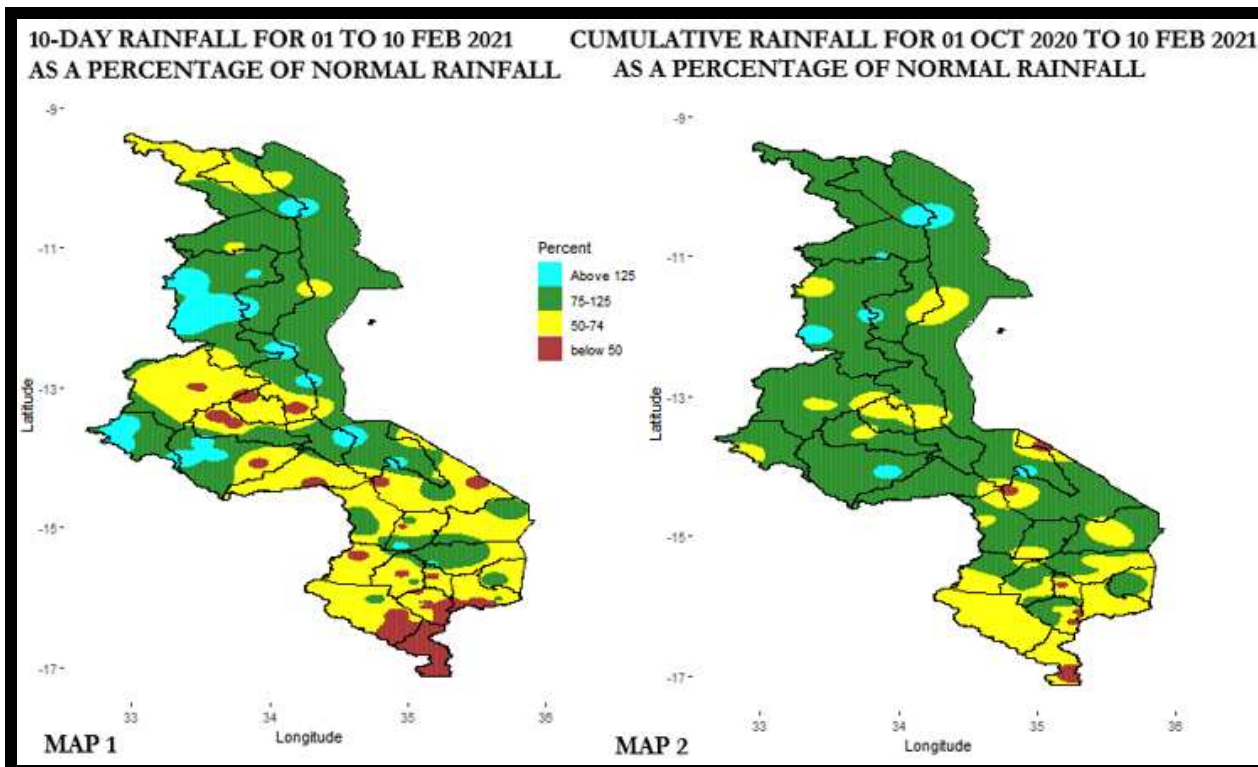
Season: 2020/2021

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HIGHLIGHTS

- Drier conditions mainly over central and southern areas ...
- Maize crop is between tasseling and cobbing stages...
- Moderate to locally heavy rainfall expected during 11 to 20 February 2021 countrywide....



1.0 WEATHER SUMMARY

During the period 01 to 10 February 2021, the Inter-tropical Convergence Zone (ITCZ) influenced weather mainly over northern half of Malawi resulting in fairly scattered rainfall activities with moderate to locally heavy rainfall amounts over the region while relatively drier conditions over southern half.

1.1 RAINFALL SITUATION

During the period 01 to 10 February 2021, scattered cases of moderate to locally heavy rainfall amounts were reported over northern half of the country. The cumulative ten-day rainfall amounts were generally higher than the long-term average rainfall amounts for the period over more northern and lakeshore areas of Malawi (green and light blue colours on Map1) with cases of lower than long-term average rainfall amounts for the dekad mainly over central plain and southern areas of the country (yellow and brown colours on Map1). Areas that recorded at least 100 mm of rainfall included Lifuwu in Salima which recorded 299.7mm, Salima Meteorological station recorded 208.2mm, Mzimba Meteorological station recorded 166.3mm, Dwangwa Sugar estate recorded 160.7mm, Namitete in Lilongwe recorded 150.9mm, Kasiya Agriculture in Lilongwe recorded 138.3mm, Lujeri Tea estate in Mulanje recorded 133.1mm, Mbawa Research station in Mzimba recorded 132.5mm, Makoka Meteorological station in Zomba recorded 123.0mm, Nkhotakota Meteorological station recorded 122.5mm, Mkanda Agriculture in Mchinji recorded 122.2mm, Euthini Agriculture in Mzimba recorded 121.2mm, Monkey Bay Meteorological station in Mangochi recorded 118.5mm, Zomba Agriculture recorded 116.0mm, Chancellor College in Zomba recorded 115.3mm, Phalula Agriculture in Balaka recorded 108.4mm, Chikangawa Forest in Mzimba recorded 105.1mm and Chitedze Meteorological station in Lilongwe recorded 103.3mm. More details in Table1.

Map 2 is a display of the spatial distribution of cumulative rainfall since the start of monitoring of the 2020/2021 rainfall season in October 2020, up to 10 February 2021. The map generally indicates that most areas over northern and central Malawi have received normal rainfall amounts (green and light blue colours) with below normal rainfall amounts mainly over southern areas of the country (yellow and brown colours) with Shire Valley Agriculture Development Division the worst affected.

1.3 AIR TEMPERATURE

Malawi generally experienced hot temperatures during the period 01 to 10 February 2021. Mean daily maximum temperatures had ranged from 25.4°C at Dedza Meteorological station to 35.4°C at Ngabu Meteorological station in Chikwawa. On the other hand, mean daily minimum temperatures had ranged from 16.2°C at Dedza Meteorological station to 25.7°C at Ngabu Meteorological station. Details in Table 2.

1.4 WIND SPEED

During the period 01 to 10 February 2021 most parts of Malawi experienced light to moderate winds. Daily average wind speeds measured at a height of two metres above the ground level across the country had ranged from 0.7 km per hour at Bolero Meteorological station in Rumphu to 9.7 km per hour at Chileka Meteorological station in Blantyre. Details in Table 2.

1.5 RELATIVE HUMIDITY

During the period 01 to 10 February 2021, air over Malawi was generally humid. Daily average relative humidity values recorded from various Meteorological stations in Malawi had ranged from 58% at Ngabu Meteorological station to 83% at Mzuzu Meteorological station. Details are shown in Table 2.

1.6 SUNSHINE HOURS

Generally medium to long hours of bright sunshine were observed over Malawi during the period 01 to 10 February 2021. The daily average values had ranged from 6.3 hours per day at Mzuzu and Dedza Meteorological stations to 7.9 hours per day at Ngabu Meteorological station and consequently the amount of Solar Radiation had ranged from 8.6 to 9.7 cal/cm²/day. For details see Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

During the period under review, there was generally good spatial rainfall distribution over northern and lakeshore areas of the country. These areas also experienced generally good temperatures for majority of the crops including staple crop maize. The rains supported growth and development of crops especially staple crop, maize at its critical stage. The rains also improved pasture availability for livestock production, water resources and soil moisture reserves.

Maize crop is generally at cobbing stage over southern Malawi while the crop is reported at tasseling to cobbing stage over central and northern Malawi. The staple crop is reported doing very well particularly where manure or both basal and top-dressing fertilizers have already been applied. Basing on the current crop stand, good crop yields and production are anticipated this agricultural season provided the rains continue through March 2021.

However, there are incidences of combined Fall Army Worm infestation as well as reported water stress for maize mostly over districts in the Blantyre, Machinga and Shire Valley Agriculture Development Divisions like Balaka, Blantyre, Mwanza, Neno, Ntcheu and Nsanje. This has the potential to negatively impact on the good crop stand if below average rains continue in such areas thereby affecting food security in the region.

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 2020/2021 RAINFALL SEASON

La Nina conditions are expected to continue influencing the rainfall season over Malawi. Global models are projecting that these conditions are likely to persist to the end of the 2020/2021 rainfall season. Based on these expectations, the rainfall forecast for Malawi during the second half of the 2020/2021 season is that:

“During January to March 2021, most areas in the south, center and the north are expected to receive normal to above-normal rainfall amounts. However, pockets of dry conditions are expected mostly over south and center”

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

4. OUTLOOK FOR 11-20 FEBRUARY 2021

Models for short and medium range forecasts indicate high chance of rainfall activities over the country during second dekad of February 2021. This will provide the much needed rain water for crop growth and development particularly over the water stressed districts of southern Malawi.

TABLE 1: 10-DAY RAINFALL TOTALS AT SELECTED STATIONS FOR 01 TO 10 FEBRUARY 2021

ADD	STATION NAME	ACTUAL DEKADAL TOTAL RAINFALL (mm)	DEKADAL NORMAL EXPECTED RAINFALL (mm)	ACTUAL TOTAL AS PERCENTAGE OF NORMAL (EXPECTED RAINFALL)	RAINY DAYS ≥.3mm	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.	34.3	51.0	67	7	425.2	497.5	85
	Chitipa Met	56.0	87.6	64	6	506.3	561.1	90
	Karonga Met.	41.3	48.7	85	7	385.3	436.4	88
	Lupembe	25.0	49.8	50	3	342.1	382.2	90
	Vinthukutu Agric	88.8	53.6	166	4	743.3	494.8	150
MZUZU	Bolero Met	35.4	51.2	69	5	333.8	394.7	85
	Bwengu Agric.	70.3	58.8	120	3	456.9	465.7	98
	Chikangawa forest	105.1	69.4	151	6	800.9	594.8	135
	Emfeni Agric	34.3	65.3	53	3	410.5	513.7	80
	Ekwendeni Agric.	71.1	43.2	165	5	487.4	488.1	100
	Mbawa Res. Stn	132.5	66.5	199	7	781.0	507.3	154
	Mzimba Met	166.3	67.2	247	6	563.1	543.5	104
	Mzuzu Met.	45.9	51.9	88	6	480.8	527.9	91
	NkhataBay Met.	38.1	65.3	58	7	447.8	604.3	74
	Zombwe Agric	53.8	48.8	110	5	390.6	422.2	93
KASUNGU	Dowa Agric	65.9	66.2	100	5	550.4	552.6	100
	Kasungu Met	15.6	72.0	22	5	383.4	486.2	79
	Malomo Agric	20.6	81.0	25	3	322.7	515.8	63
	Madisi Agric	17.5	72.9	24	3	420.6	519.0	81
	Mchinji Boma	83.4	62.1	134	5	452.9	648.8	70
	Mkanda Met	122.2	64.6	189	7	550.9	568.1	97
	Mponela Agric	12.7	83.0	15	2	287.0	510.4	56
	Mwimba Research	49.4	75.8	65	3	411.0	552.6	74
LILONGWE	Chileka Namitete	150.9	76.2	198	4	687.8	609.0	113
	Chitedze Met.	103.3	65.2	158	6	511.3	544.9	94
	Dzonzi Forest	86.3	84.4	102	4	512.6	636.5	81
	K.I.A Met	70.9	72.1	98	5	523.1	524.2	100
	Kasiya Agric	138.3	64.5	214	6	680.1	605.2	112
	Mlangeni Njolomole	61.0	81.5	75	6	602.7	593.6	102
	Nathenje Agric	25.3	56.4	45	2	746.0	516.1	145
	Ntcheu - Nkhande	85.0	84.6	100	5	487.4	672.3	72
	Dedza RTC	51.2	103.2	50	5	642.9	653.6	98
SALIMA	Dwangwa Sugar Corp.	160.7	76.7	210	4	733.5	661.9	111
	Lifuwu	299.7	129.0	232	8	671.2	702.3	96
	Nkhotakota Met	122.5	84.2	145	6	594.4	710.9	84
	Salima Met	208.2	102.3	204	8	679.0	683.0	99
MACHINGA	Balaka Township	38.4	79.3	48	6	488.6	585.2	83
	Chancellor College	115.3	106.2	109	5	504.6	811.1	62
	Chikweo Agric.	86.8	78.5	111	6	555.6	673.8	82
	Chingale Agric	77.6	83.6	93	4	464.8	601.3	77
	Makoka Met	123.0	91.7	134	5	684.3	640.1	107
	Mangochi Met.	67.7	72.4	94	5	490.3	418.4	117
	Monkey Bay Met.	118.5	71.7	165	5	593.9	399.1	149
	Namwera Agric	34.6	83.2	42	7	564.4	655.3	86
	Ntaja Met.	42.5	65.8	65	7	332.4	561.8	59
	Phalula Agric	108.4	67.3	161	5	330.4	548.4	60
BLANTYRE	Zomba RTC	116.0	100.2	116	6	721.7	767.2	94
	Bvumbwe Met.	38.7	90.3	43	5	687.9	697.5	99
	Chichiri Met.	82.4	72.9	113	6	593.8	867.7	68
	Chileka Airport	41.9	88.5	47	5	567.9	586.5	97
	Chizunga Factory	41.7	74.2	56	4	707.9	811.1	87
	Lujeri Tea Estate	133.1	126.3	105	7	776.7	1202.4	65
	Masambanjati Agric	47.8	87.8	54	4	727.3	777.8	94
	Mimosa Met.	26.8	95.2	28	6	523.2	867.8	60
	Mulanje Boma	34.3	109.5	31	4	604.4	1067.0	57
	Mwanza Boma	56.2	91.2	62	6	437.6	657.1	67
	Naminjiwa Agric	78.4	83.6	94	5	577.1	638.2	90
	Neno Agric	39.2	107.8	36	5	667.3	721.7	92
	Satemwa Tea Est. No.1	81.4	87.3	93	5	814.6	656.5	124
	Thuchila Agric	54.6	80.2	68	5	515.0	563.2	91
	Toleza Farm	58.4	69.5	84	2	640.5	568.9	113
	Thyolo Boma	32.1	96.3	33	3	492.9	702.6	70
	Thyolo Met	34.3	90.3	38	3	777.0	711.9	109
SHIRE VALLEY	Chikwawa Boma	51.9	66.7	78	3	334.4	529.1	63
	Kasinthula Res. Stn.	9.0	54.2	17	3	202.1	441.5	46
	Makhanga Met	11.3	58.5	19	3	263.0	478.7	55
	Nchalo Sucoma	18.5	70.2	26	3	311.4	434.9	72
	Ngabu Met.	1.7	69.1	2	1	317.5	498.4	64
	Nsanje Boma	9.7	81.8	12	2	307.6	695.3	44

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 01 TO 10 FEBRUARY 2021

ADD /STATION NAME	MAX TEMP (°C)	MIN TEMP (°C)	ABS MAX (°C)	ABS MIN (°C)	WIND SPEED (Km/Hr)	RH (%)	SUN SHINE (Hrs)	Eo mm per day	Et mm per day	RAD-TION cal cm ⁻² p/day
KARONGA ADD										
CHITIPA	32.6	18.6	29.0	17.7	5.8	81	6.5	5.5	4.4	8.8
KARONGA	30.7	20.8	31.7	19.4	3.6	82	7.3	6.1	4.8	9.3
MZUZU ADD										
BOLERO	28.3	19.0	30.2	17.2	0.7	74	7.2	4.9	3.8	9.3
MZIMBA	27.5	16.4	29.5	15.5	2.5	76	6.6	4.5	3.6	8.9
MZUZU	25.7	17.6	28.1	16.0	2.9	83	6.3	4.6	3.6	8.7
NKHATA BAY	30.1	21.8	32.2	20.7	2.2	75	7.2	5.8	4.6	9.2
KASUNGU ADD										
KASUNGU	27.9	18.7	29.2	17.0	3.2	80	7.2	5.1	4.1	9.3
LILONGWE ADD										
CHITEDZE	28.2	18.7	29.4	17.4	1.1	78	6.8	4.7	3.7	8.9
DEDZA	25.4	16.2	26.9	14.5	3.6	78	6.3	4.6	3.6	8.6
K I A	27.2	18.0	28.6	16.8	4.3	75	6.8	4.9	3.8	9.0
SALIMA ADD										
NKHOTAKOTA	29.7	20.4	33.1	19.4	2.2	72	7.4	6.2	4.9	9.4
SALIMA	29.8	21.7	32.0	20.6	5.0	82	6.8	5.9	4.7	8.9
MACHINGA ADD										
NTAJA	30.8	21.1	32.4	20.2	1.1	76	7.1	5.9	4.7	9.1
MAKOKA	29.1	18.9	30.5	15.6	2.5	78	6.6	5.4	4.3	8.8
MANGOCHI	32.3	23.1	34.4	22.2	1.8	79	7.4	6.2	5.0	9.3
MONKEY BAY	30.5	22.8	32.1	20.6	4.3	78	7.3	6.2	5.0	9.3
BLANTYRE ADD										
BVUMBWE	27.1	19.1	27.9	18.6	4.7	77	6.7	5.4	4.3	8.9
CHICHIRI	27.3	19.6	29.2	19.0	1.8	75	7	5.5	4.3	9.1
CHILEKA	29.7	21.2	30.8	20.1	7.9	72	7.2	6.0	4.8	9.2
MIMOSA	31.2	20.7	32.2	19.1	3.2	74	6.7	5.5	4.4	8.9
SHIRE VALLEY ADD										
NGABU	35.4	25.7	36.7	24.7	1.8	58	7.9	6.6	5.1	9.7

Glossary of some terms on this table

- Eo = Potential Evaporation, Et = Potential Evapotranspiration and RH = Relative Humidity
- 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