



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

Period: 21 – 30 November 2019

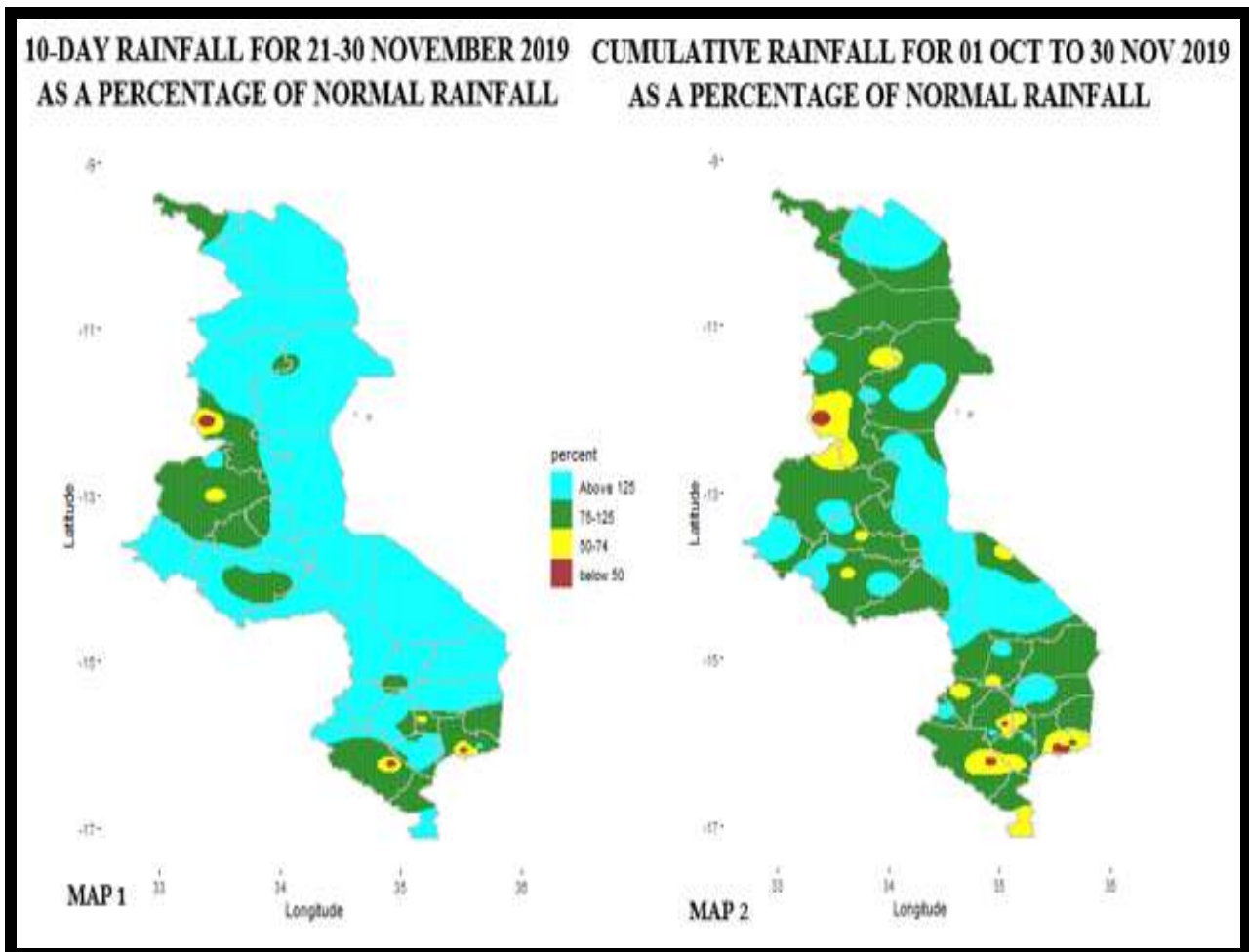
Season: 2019/2020

Issue No.06

Release date: 04 December 2019

HIGHLIGHTS

- Moderate to heavy rainfall experienced over Malawi ...
- Major agro-activities included land preparation, acquisition of farm inputs, and planting...
- Moderate to locally heavy rainfall expected during the period 01-10 December 2019



1.0 WEATHER SUMMARY

During the last ten days of November 2019, the equatorial trough was active over Malawi. Hence moderate to heavy rainfall amounts were observed over the country.

1.1 RAINFALL SITUATION

During the last ten days of November 2019, moderate to locally heavy rainfall amounts were reported over Malawi. The cumulative ten-day rainfall amounts were generally higher than the long-term average rainfall amounts for the period over most areas of Malawi (light blue and green colours in Map1). Areas that had reported ten-day rainfall amounts exceeding 65mm included Mwanza boma which recorded 238.6mm, Chinthече Agriculture recorded 189.6mm, Lujeri Tea estate recorded 164.6mm, Nkhotakota Meteorological station recorded 150.4mm, Baka Research station in Karonga recorded 140.2mm, Nkhata Bay Meteorological station recorded 133.2mm, Namwera Agriculture recorded 128.4mm, Thuchila Agriculture recorded 122.6mm, Mpemba Vet recorded 114.0mm, Dwangwa Sugar Estate recorded 111.6mm, Kasiya Agriculture in Lilongwe recorded 111.5mm, Chancellor College recorded 107.1mm, Chizunga factory recorded 106.6mm, Balaka township recorded 102.3mm, Chileka in Lilongwe recorded 101.5mm, Chingale Agriculture recorded 96.2mm, Makoka Meteorological station recorded 94.5mm, Zomba Agriculture recorded 92.7mm, Chikangawa forest recorded 92.5mm, Mlangeni in Ntcheu recorded 91.1mm, Mkanda in Mchinji district recorded 88.8mm, Nankumba Agriculture recorded 86.5mm, Nyika-Chelinda recorded 85.9mm, Chichiri Meteorological station recorded 85.2mm, Mangochi Meteorological station recorded 84.0mm, Lifuwu recorded 82.8mm, Dedza Meteorological station recorded 82.0mm, Nsanje boma recorded 73.6mm, Chikweo Agriculture recorded 72.9mm, Nkhanda in Ntcheu recorded 72.3mm, Masambanjati Agriculture recorded 71.7mm, Satemwa Tea estate recorded 71.0mm, Kamuzu International Airport recorded 69.2mm, Toleza farm in Balaka recorded 68.8mm, Chileka International Airport recorded 66.6mm and Lupembe in Karonga recorded 66.0mm. More details in Table 1.

Map 2 indicates the spatial cumulative rainfall distribution since the start of the 2019/20 rainfall season in October 2019, up to 30 November 2019. The map generally indicates that most areas over Malawi have received normal to above normal rainfall amounts (green and light blue colours) with isolated cases of below normal rainfall amounts mostly over parts of central and southern Malawi as shown by pockets of yellow and brown colours.

1.3 AIR TEMPERATURE

Generally hot temperatures were experienced over Malawi during the period 21 to 30 November 2019. Mean daily maximum temperatures had ranged from 26.1°C at Dedza to 36.4°C at Ngabu. On the other hand, mean daily minimum temperatures had ranged from 17.2°C at Chitipa Meteorological station to 25.5°C at Ngabu. Details in Table 2.

1.4 WIND SPEED

During the period 21 to 30 November 2019 most parts of Malawi experienced light wind speed. Daily average wind speeds measured at a height of two metres above the ground level across the country had ranged from 0.3 km per hour at Mangochi Meteorological station to 9.4 km per hour at Chitipa Meteorological station. More details in Table 2.

1.5 RELATIVE HUMIDITY

During the period 21 to 30 November 2019, air over Malawi was moderately humid. Daily average relative humidity values recorded from various weather stations in Malawi had ranged from 54% at Ngabu to 86% at Kasungu Meteorological station. Details as in Table 2.

1.6 SUNSHINE HOURS

Generally medium hours of bright sunshine were observed over Malawi during the period under review. Mean daily values had ranged from 5.3 hours per day at Mzimba Meteorological station to 6.3 hours per day at Chileka International Airport and consequently the amount of Solar Radiation had ranged from 8.0 to 8.6 cal/cm²/day. For details see Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

During the last ten days of November 2019, there was an improvement in spatial coverage of rainfall over Malawi and moderate to locally heavy rainfall amounts were recorded. Most areas over southern Malawi, farmers were reported to have planted and some crops have germinated while most farmers over central and northern Malawi were reported to planting.

For proper utilization of rain water, farmers should adhere to principles of good agricultural practices including use of recommended seeds, moisture conservation, timely control of weeds, pests and diseases and fertilizer/ manure application.

3. PROSPECTS FOR 2018/2019 RAINFALL SEASON

ENSO-neutral conditions are prevailing over central tropical Pacific Ocean. Climate models are projecting that the ENSO-neutral conditions are likely to persist throughout the 2019/2020 rainfall season. Based on these expectations and other analyses conducted, the rainfall forecast for the 2019/2020 is that:

“During October to December 2019, most of the north and northern parts of central areas of the country are expected to receive normal to below normal rainfall amounts, while most of the south and southern parts of central areas are expected to receive normal to above normal rainfall amounts;

During January to March 2020, most of the north and northern parts of central areas of the country are expected to receive above normal to normal rainfall amounts, while southern areas and southern parts of central areas are expected to receive normal to below normal rainfall amounts.”

4. OUTLOOK FOR 1-10 DECEMBER 2019

Models for short and medium range forecasts indicate that the Equatorial rain-belt will continue oscillating over Malawi thereby influencing weather over Malawi during the first ten days of December 2019 and provide the required rainfall amounts for planting over areas that have not yet planted especially over northern Malawi.

TABLE 1: 10-DAY RAINFALL TOTALS AT SELECTED STATIONS FOR 21 TO 30 NOVEMBER 2019

ADD	STATION NAME	ACTUAL DEKADAL TOTAL RAINFALL (mm)	DEKADAL NORMAL EXPECTED RAINFALL (mm)	ACTUAL TOTAL AS PERCENTAGE OF NORMAL (EXPECTED RAINFALL)	ACTUAL TOTAL RAINFALL TO DATE (mm)	NORMAL (EXPECTED) RAINFALL TO DATE (mm)	ACTUAL TO DATE AS PERCENTAGE OF NORMAL (EXPECTED RAINFALL)	RAINY DAYS ≥.3mm
KARONGA	Baka Res. Stn.	140.2	31.7	442	216.0	42.9	503	6
	Chitipa Met	56.1	44.8	125	78.4	75.9	103	6
	Lupembe	66.0	22.2	297	97.0	39.4	246	5
MZUZU	Chikangawa forest	92.5	32.2	287	127.5	87.9	145	6
	Chelinda (Nyika)	85.9	50.4	170	100.9	124.6	81	4
	Chintheche Agric	189.6	40.0	474	209.7	131.7	159	3
	Emfeni Agric	18.5	22.8	81	29.5	44.9	66	2
	Ekwendeni Agric.	41.0	12.1	339	69.9	102.9	68	6
	Euthini Agric.	64.2	26.4	243	88.7	60.2	147	2
	Mbawa Res. Stn	4.4	25.4	17	14.6	70.2	21	3
	Mzimba Met	38.9	24.2	161	42.2	63.3	67	7
	Mzuzu Met.	29.6	30.5	97	73.3	107.4	68	6
	NkhataBay Met.	133.2	31.7	420	169.5	95.6	177	6
KASUNGU	Zombwe Agric	45.1	19.5	231	45.1	60.2	75	4
	Dowa Agric	37.2	24.0	155	47.3	57.8	82	3
	Kasungu Met	15.8	25.3	62	53.1	52.9	100	3
	Lisasadzi	26.5	22.6	117	69.7	45.4	154	1
	Madisi Agric	23.5	19.3	122	70.7	49.3	143	3
	Mkanda Met	88.8	30.0	296	119.5	85.9	139	5
	Mponela Agric	26.4	28.9	91	40.0	63.4	63	2
LILONGWE	Ntchisi Boma	42.2	33.0	128	131.9	62.2	212	4
	Chileka Namitete	101.5	39.6	256	139.5	99.9	140	3
	Chitedze Met.	25.2	32.5	78	44.7	86.0	52	5
	Dzonzi Forest	57.4	34.3	167	90.4	93.9	96	5
	K.I.A Met	69.2	19.1	362	71.9	65.7	109	5
	Kasiya Agric	111.5	31.8	351	138.0	109.7	126	5
	Mlangeni Njolomole	91.1	29.9	305	194.5	89.8	217	4
	Nathenje Agric	31.0	29.0	107	106.0	73.6	144	2
	Ntcheu - Nkhande	72.3	34.1	212	118.2	92.0	128	8
SALIMA	Dedza RTC	82.0	22.1	371	99.9	82.7	121	6
	Dwangwa Sugar Corp.	111.6	39.8	280	125.0	92.2	136	4
	Lifuwu	82.8	22.1	375	105.7	42.4	249	5
	Nkhotakota Met	150.4	25.5	590	152.7	55.9	273	6
MACHINGA	Salima Met	56.1	16.8	334	93.9	42.7	220	5
	Balaka Township	102.3	34.3	298	121.3	100.7	120	4
	Chancellor College	107.1	48.0	223	181.4	123.5	147	6
	Chikweo Agric.	72.9	25.7	284	88.9	84.7	105	5
	Chingale Agric	96.2	36.2	266	115.7	88.7	130	7
	Mpilipili (Makanjila)	27.2	20.6	132	43.4	64.1	68	2
	Makoka Met	94.5	35.0	270	144.9	92.9	156	6
	Mangochi Met.	84.0	16.9	497	106.8	45.4	235	6
	Mimosa Met.	32.3	58.6	55	56.5	203.7	28	3
	Monkey Bay Met.	35.6	8.1	440	54.0	22.0	245	2
	Namwera Agric	128.4	32.8	391	141.6	94.2	150	5
	Nankumba Agric	86.5	27.2	318	86.5	63.3	137	4
	Ntaja Met.	18.5	29.6	63	N/A	73.8	N/A	N/A
	Phalula Agric	33.3	40.7	82	70.5	114.1	62	7
BLANTYRE	Toleza Farm	68.8	23.2	297	212.5	82.6	257	5
	Zomba RTC	92.7	46.5	199	150.4	110.5	136	6
	Bvumbwe Met.	49.6	43.7	114	92.6	128.6	72	6
	Chichiri Met.	85.2	75.9	112	124.2	301.6	41	6
	Chileka Airport	66.6	43.9	152	113.4	123.0	92	5
	Chiradzulu Agric	27.5	42.1	65	64.4	122.9	52	5
	Chizunga Factory	106.6	42.0	254	138.5	157.6	88	6
	Lujeri Tea Estate	164.6	67.8	243	329.2	316.2	104	5
	Masambanjati Agric	71.7	45.4	158	92.6	150.4	62	4
	Mpemba Vet	114.0	49.3	231	188.3	145.9	129	7
	Mulanje Boma	30.8	81.8	38	141.3	293.9	48	2
	Mwanza Boma	238.6	52.5	454	300.1	143.7	209	5
	Neno Agric	62.6	40.7	154	74.1	117.5	63	4
	Satemwa Tea Est. No.1	71.0	43.5	163	103.5	134.4	77	6
	Thuchila Agric	122.6	28.4	432	241.0	95.1	253	4
SHIRE VALLEY	Chikwawa Boma	0.0	42.2	0	21.6	97.7	22	0
	Kasinthula Res. Stn.	54.7	20.4	268	65.7	80.4	82	2
	Makhanga Met	28.5	28.5	100	82.5	92.7	89	2
	Nchalo Sucoma	6.3	28.0	23	37.7	78.1	48	3
	Ngabu Met.	29.2	32.8	89	67.9	88.3	77	3
	Nsanje Boma	73.6	35.1	210	100.1	154.3	65	5

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 21 TO 30 NOVEMBER 2019

ADD/STATION	MAX TEMP (°C)	MIN TEMP (°C)	ABS MAX (°C)	ABS MIN (°C)	WIND SPEED Km/Hr	RH %	SUN SHINE HOURS	Eo mm per day	Et mm per day	RADIATION cal cm ⁻² p/day
KARONGA ADD										
CHITIPA	28.7	17.2	33.0	11.1	9.4	65	5.8	8.0	6.8	8.3
KARONGA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MZUZU ADD										
BOLERO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MZIMBA	29.3	18.9	32.9	17.6	3.6	66	5.3	6.6	5.4	8.0
MZUZU	28.4	18.7	32.1	17.2	5.4	68	6.2	7.2	5.9	8.6
NKHATA BAY	33.7	21.6	38.0	20.3	2.9	78	5.9	6.9	5.6	8.4
KASUNGU ADD										
KASUNGU	30.3	20.0	33.6	18.2	7.6	86	6.1	6.8	5.5	8.5
LILONGWE ADD										
CHITEDZE	30.0	20.2	34.6	19.1	3.2	66	6.2	7.0	5.7	8.6
DEDZA	26.1	17.6	30.1	16.4	5.0	75	5.7	6.4	5.2	8.3
K I A	29.8	19.6	33.8	18.0	7.2	67	6.1	7.8	6.5	8.5
SALIMA ADD										
NKHOTAKOTA	31.7	23.0	36.1	19.5	3.2	71	5.5	7.2	5.9	8.1
SALIMA	32.1	24.4	35.9	21.5	8.6	69	5.9	8.7	7.4	8.4
MACHINGA ADD										
NTAJA	31.4	22.0	35.6	20.9	6.5	68	6.0	8.0	6.7	8.5
MAKOKA	29.1	19.9	33.6	18.6	2.9	74	5.9	6.5	5.3	8.4
MANGOCHI	33.6	21.1	38.7	14.5	0.3	70	6.1	6.6	5.3	8.5
MONKEY BAY	32.5	25.1	35.6	21.6	8.6	62	6.0	9.4	8.1	8.4
BLANTYRE ADD										
BVUMBWE	27.4	19.2	32.0	18.1	6.1	75	5.8	6.8	5.6	8.3
CHICHIRI	28.3	19.4	32.3	18.9	2.2	71	5.9	6.4	5.1	8.4
CHILEKA	30.5	21.6	35.6	20.6	8.6	69	6.3	8.4	7.1	8.6
MIMOSA	31.9	21.0	36.4	19.1	3.2	61	5.7	7.3	6.0	8.3
SHIRE VALLEY ADD										
NGABU	36.4	25.5	41.3	23.5	2.2	54	6.2	8.1	6.7	8.6

Glossary of some terms on this table

- Eo = Potential Evaporation, Et = 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 Kilometres per hour (Km/hr) to Meters Per Second (mps) = Km/hr ÷3.6