



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: 11 – 20 February 2019

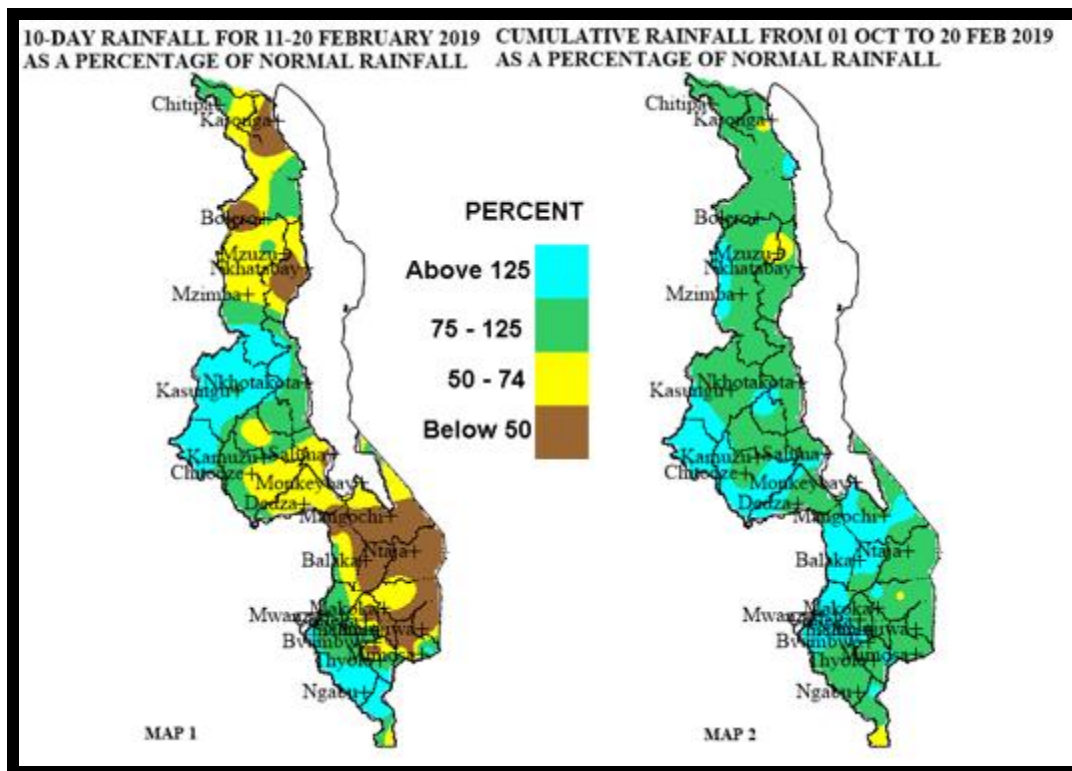
Season: 2018/2019

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## HIGHLIGHTS

- Moderate to locally heavy rainfall amounts were experienced over Malawi...
- Maize crop doing well between cob formation and maturing stages...
- More rainfall expected over the centre and north during the period 21 to 28 February 2019...



Rainfall Maps for 11 to 20 February 2019

## 1.0 WEATHER SUMMARY

During the period 11 to 20 February 2019, a diffused Inter-Tropical Convergence Zone (ITCZ) oscillated over Malawi. As a result, most areas received below normal to normal rainfall amounts with isolated cases of above normal rainfall amounts particularly over central region districts of Nkhotakota, Kasungu, Mchinji and Lower Shire Valley district of Chikwawa (light blue colours on Map 1).

### 1.1 RAINFALL SITUATION

During the period 11 to 20 February 2019, light to moderate rainfall amounts were reported over more areas of Malawi. The ten-day total rainfall amounts were generally lower than the long-term mean rainfall amounts for the period (Yellow and Brown colours in Map1) with cases of ten-day total rainfall amounts being above the long-term mean rainfall amounts (light blue colour in Map1) over some districts in southern and central Malawi. Areas that had recorded cumulative rainfall amounts of at least 65mm during the period under review included Lujeri Tea Estate which recorded 205mm, Lisasadzi in Kasungu District recorded 109.6mm, Ngabu in Chikwawa District recorded 109.4mm, Makhanga Agric recorded 109mm, Emfeni Agric in Mzimba District recorded 107mm, Ntchisi Agric recorded 99.1mm, Mwimba Research Station recorded 98.2mm, Rumphi Agric recorded 92.3mm, Mkanda Agric in Mchinji District recorded 86.6mm, Malomo Agric in Ntchisi District recorded 82.8mm, Mwanza Boma recorded 80.1mm, Nchalo recorded 74.7mm, Dwangwa recorded 73.9mm, Vinthukutu in Karonga District recorded 69.3mm, Nkhotakota Met recorded 69mm, Kasungu Met recorded 68.5mm, Ekwendeni Agric in Mzimba District recorded 67.5mm, Chitipa met recorded 66.7mm, Kasiya Agric in Lilongwe recorded 66.3mm, Ntcheu-Nkhonde recorded 65.6mm, Neno Agric recorded 65.5mm and Bvumbwe Met in Thyolo District recorded 65.3mm. More details as in Table 1 and on Map 1.

Map 2 indicates the spatial cumulative rainfall distribution since the start of the 2018/19 rainfall season in October 2018, up to 20 February 2019. The map generally indicates that most areas in Malawi have received normal to above normal rainfall (Green to light Blue colours) with few spots of below normal rainfall amount over Karonga as well as northern parts of Nkhata Bay and Mzimba districts in the north and Nsanje District in the south as shown by Brown and Yellow colours on Map 2.

### 1.3 AIR TEMPERATURE

Generally warm to hot temperatures were experienced over Malawi during the period 11 to 20 February 2019. Mean daily maximum temperatures had ranged from 25°C at Dedza to 34°C at Ngabu in Chikwawa District while the mean daily minimum temperatures had ranged from 16°C at Dedza to 24°C at Ngabu in Chikwawa District. Details in Table 2.

### 1.4 WIND SPEEDS

During the period 11 to 20 February 2019 most parts of Malawi continued to experience 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 1.4km per hour at Ngabu in Chikwawa District, Bolero in Rumphi District to 9.7km per hour at Chileka in Blantyre District. More details in Table 2.

### 1.5 RELATIVE HUMIDITY

During the period 11 to 20 February 2019, air over Malawi was relatively moist. Daily average relative humidity values recorded from various weather stations in Malawi had ranged from 73% at Bolero to 82% at Makoka in Zomba District. Details as in Table 2.

### 1.6 SUNSHINE HOURS

Generally medium hours of bright sunshine were observed over Malawi during the period 11 to 20 February 2019. The daily values had ranged from around 4.5 hours per day at Dedza and Mimosa in Mulanje District to 7.5 hours per day Ngabu in Chikwawa District and consequently the amount of Solar Radiation had ranged from 7.4 to 9.3 cal/cm<sup>2</sup>/day. For details see Table 2.

## 2. AGROMETEOROLOGICAL ASSESSMENT

Dry conditions that prevailed some parts of the country during the second ten days of February 2019 facilitate harvesting and drying of matured crops. On the other hand, light to moderate rainfall amounts that were recorded boosted the soil moisture reserves thereby supporting crop growth and development as well as water resources over most parts of the country. Furthermore, the rains supported the growth of pastures for Livestock production.

Maize was reported doing well at various growing stages. Countrywide the crop had ranged between tasseling and drying stages. For the crop that was at drying stage, more sunshine is required for proper drying. Basing on the current crop stand, good crop yields and production are anticipated this season provided good rains continue through March 2019.

## 3. PROSPECTS FOR 2018/2019 RAINFALL SEASON

ENSO-neutral conditions are present. Therefore, the rainfall forecast for the 2018/19 season in Malawi is likely to remain favourable for agricultural purposes.

## 4. OUTLOOK FOR 21 TO 28 February 2019

Models for short and medium range forecasts show that more rains are expected over central and northern Malawi while dry weather conditions are more likely over southern Malawi during the remaining days of February 2019. Dry conditions will facilitate harvesting and drying of matured crops.

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

ADD	STATION NAME	ACTUAL TEN-DAY TOTAL RAINFALL (mm)	TEN-DAY 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.	27.1	63.4	43	300.0	560.9	53	3
	Chitipa Met	66.7	77.5	86	725.5	638.6	114	6
	Karonga Met.	13.3	49.1	27	502.0	485.5	103	4
	Lupembe	0	58.4	0	440.6	440.6	100	0
	Vinthukutu Agric	69.3	58.6	118	759.3	553.4	137	4
MZUZU	Bolero Met	19.5	60.7	32	365.5	455.4	80	4
	Bwengu Agric.	32.9	66.2	50	447.3	531.9	84	1
	Chelinda ( Nyika)	58.2	81.0	72	812.1	740.9	110	5
	Emfeni Agric	107	49.2	217	516.6	562.9	92	4
	Ekwendeni Agric.	67.5	78.6	86	310.6	566.7	55	4
	Euthini Agric.	34.8	63.4	55	736.9	534.2	138	3
	Mbawa Res. Stn	63.3	66.0	96	740.0	573.3	129	5
	Mzimba Met	50.6	79.3	64	714.8	622.8	115	5
	Mzuzu Met.	30.8	65.3	47	384.1	593.2	65	6
	NkhataBay Met.	36.8	62.1	59	564.4	666.4	85	5
	Rumphu Boma	92.3	65.2	142	446.5	494.8	90	5
KASUNGU	Dowa Agric	44.4	56.4	79	735.0	609.0	121	7
	Kasungu Met	68.5	63.3	108	538.2	549.5	98	6
	Lisasadzi	109.6	63.9	172	651.6	611.4	107	7
	Malomo Agric	82.8	65.7	126	825.1	581.5	142	3
	Madisi Agric	29.6	75.9	39	715.2	594.9	120	5
	Mkanda Met	86.6	55.1	157	1018.2	623.2	163	5
	Mwimba Research	98.2	72.3	136	687.4	624.9	110	5
	Ntchisi Boma	99.1	90.3	110	883.8	830.1	106	4
LILONGWE	Chileka Namitete	73.2	68.3	107	938.8	677.3	139	3
	Chitedze Met.	30.7	57.7	53	592.0	602.6	98	5
	K.I.A Met	52.3	61.9	84	666.0	586.1	114	6
	Kasiya Agric	66.3	63.6	104	827.7	668.8	124	3
	Mlangeni Njolomole	31.0	87.2	36	906.7	680.8	133	5
	Nathenje Agric	48.5	73.4	66	900.8	589.5	153	2
	Ntcheu – Nkhande	65.6	75.7	87	1032.7	748	138	4
	Dedza RTC	40.9	68.8	59	687.3	722.4	95	4
SALIMA	Dwangwa Sugar Co	73.9	60.1	123	800.4	722	111	4
	Nkhotakota Met	69	73.6	94	931.5	784.5	119	5
	Salima Met	36.5	91.7	40	976.5	774.7	126	4
MACHINGA	Balaka Township	13.4	46.6	29	884.1	631.8	140	2
	Chancellor College	54.8	74.7	73	612.8	885.8	69	4
	Chikweo Agric.	21.8	65.1	33	639.3	738.9	87	1
	Chingale Agric	48.8	68.2	72	935.9	669.5	140	3
	Makoka Met	35.4	63.1	56	772.7	703.2	110	4
	Mangochi Met.	19.9	65.0	31	604.2	483.4	125	3
	Monkey Bay Met.	34.2	46.7	73	583.4	445.8	131	4
	Namiasi Agric	23.7	50.6	47	610.8	565.8	108	2
	Naminjiwa Agric	7.6	71.3	11	842.2	709.5	119	1
	Namwera Agric	26.9	61.7	44	1014.7	717.0	142	5
	Toleza Farm	8.5	48.6	17	914.5	617.5	148	2
Zomba RTC	52.3	70.4	74	717.9	837.6	86	2	
BLANTYRE	Bvumbwe Met.	65.3	73.8	88	943.7	771.3	122	3
	Chichiri Met.	48.6	52.3	93	1136.0	920	123	3
	Chileka Airport	20.0	50.4	40	721.2	636.9	113	2
	Chiradzulu Agric	21.4	66.2	32	784.3	710.5	110	2
	Chizunga Factory	7.6	86.4	9	952.2	897.5	106	2
	Lujeri Tea Estate	205	138.8	148	1597.7	1341.2	119	8
	Mpemba Vet	73.4	68.0	108	1149.5	793.9	145	3
	Mulanje Boma	34.1	86.9	39	1148.7	1153.9	100	4
	Mwanza Boma	80.1	66.0	121	1058.8	723.1	146	6
	Neno Agric	65.5	68.8	95	1163.1	790.5	147	3
	Thuchila Agric	19.8	57.8	34	637.7	621.0	103	2
Thyolo Met	56.8	73.8	77	781.5	785.7	99	3	
SHIRE VALLEY	Chikwawa Boma	32.8	41.5	79	640.6	570.6	112	2
	Makhanga Agric	109.0	52.0	210	701.1	530.7	132	2
	Nchalo Sucoma	74.7	46.4	161	560.8	481.3	117	3
	Ngabu Met.	109.4	51.3	213	653.7	549.7	119	4
	Nsanje Boma	43.8	72.5	60	481.5	767.8	63	2

**TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 11 TO 20 FEBRUARY 2019**

STATION/ADD	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	RAD-TION Cal cm <sup>-2</sup> p/day
<b>KARONGA ADD</b>										
CHITIPA	27.2	17.9	30.0	16.2	5.4	80	5.6	5.7	4.5	8.2
KARONGA	30.3	21.4	32.7	19.5	2.9	77	6.2	6.4	5.1	8.6
<b>MZUZU ADD</b>										
BOLERO	29.2	19.1	32.9	17.8	1.4	73	6.0	6.0	4.7	8.4
MZIMBA	28.1	17.0	30.3	15.8	2.2	75	6.0	5.8	4.6	8.4
MZUZU	24.6	17.9	30.2	15.5	2.9	78	5.9	5.6	4.4	8.4
NKHATA BAY	31.1	21.6	34.4	20.2	2.5	78	7.0	6.7	5.3	9.1
<b>KASUNGU ADD</b>										
KASUNGU	28.0	19.3	31.0	17.5	3.6	76	4.8	5.6	4.4	7.6
<b>LILONGWE ADD</b>										
CHITEDZE	28.3	18.7	31.1	17.8	1.8	77	4.8	5.4	4.3	7.6
DEDZA	25.4	16.3	28.6	15.0	4.3	77	4.5	5.1	4.0	7.4
K I A	28.0	18.3	31.0	17.2	4.7	74	4.8	5.6	4.5	7.6
<b>SALIMA ADD</b>										
NKHOTAKOTA	30.0	20.9	31.9	19.2	2.2	79	7.1	6.7	5.3	9.2
SALIMA	30.3	22.3	32.7	21.0	5.0	77	7.0	6.8	5.4	9.0
<b>MACHINGA ADD</b>										
NTAJA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAKOKA	27.2	19.0	30.8	17.7	2.5	82	4.5	5.2	4.1	7.4
MANGOCHI	31.4	23.1	33.8	21.8	2.9	74	7.0	6.9	5.5	9.0
MONKEY BAY	30.7	23.2	32.8	22.2	5.0	81	7.0	6.9	5.5	9.0
<b>BLANTYRE ADD</b>										
BVUMBWE	26.3	18.2	29.8	15.9	4.7	81	6.4	5.9	4.6	8.6
CHICHIRI	27.6	18.9	30.5	15.5	4.3	78	6.3	6.0	4.7	8.6
CHILEKA	29.5	20.1	33.7	12.8	9.7	71	6.5	6.8	5.4	8.7
MIMOSA	30.9	20.3	34.7	18.7	3.2	81	4.5	5.5	4.4	7.4
<b>SHIRE VALLEY ADD</b>										
NGABU	34.0	24.2	39.3	22.5	1.4	75	7.5	7.3	5.9	9.3

**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 Meters Per Second (mps) to Kilometres per hour (Km/hr) = mpsx3.6