



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 – 31 January 2019

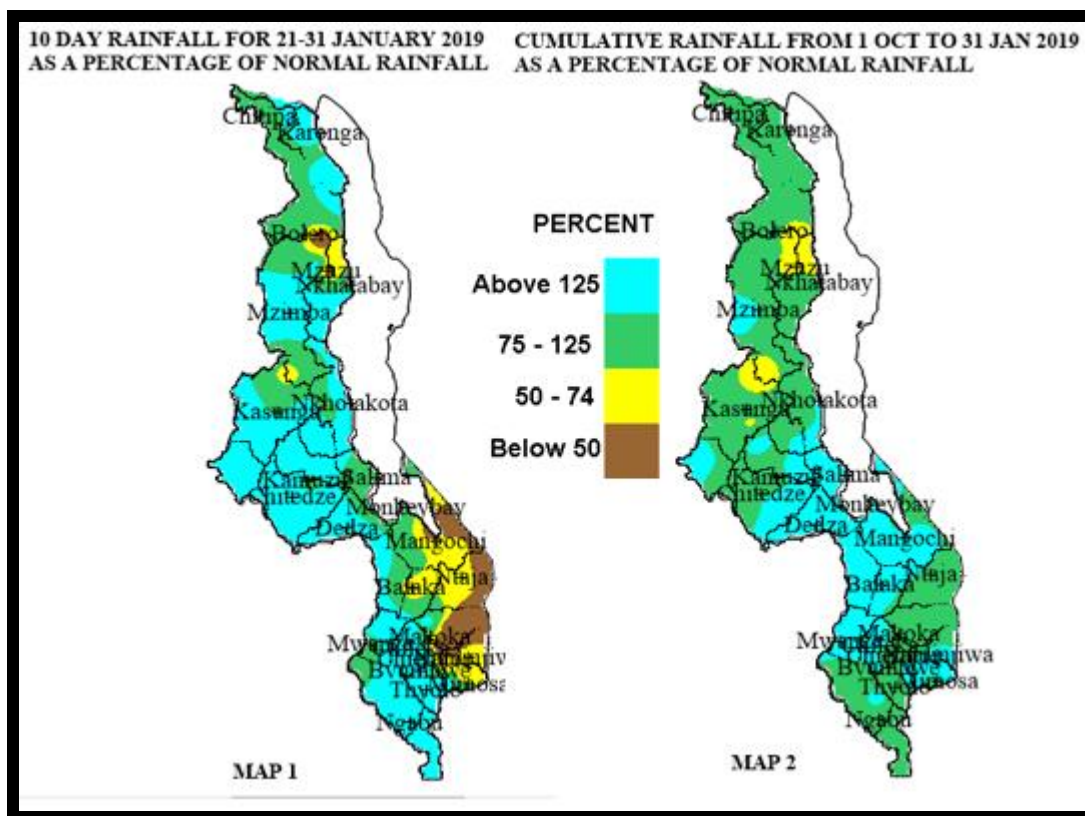
Season: 2018/2019

Issue No.12

Release date: 05 February 2019

## HIGHLIGHTS

- Moderate to locally heavy rainfall amounts were recorded over Malawi...
- Maize crop doing well between vegetative and cob formation stages...
- More rainfall expected during the period 01 to 10 February 2019...



Rainfall Maps for 21 to 31 January 2019

## 1.0 WEATHER SUMMARY

During the period 21 to 31 January 2019, Tropical Storm Desmond influenced weather mainly over southern Malawi while the Inter Tropical Convergence Zone oscillated over Central and Northern Malawi. As a result, more areas over northern, central and parts of southern Malawi experienced moderate to locally heavy rainfall amounts (Green and light blue colours on Map 1) with cases of light rainfall amounts over Machinga, Mangochi, Balaka, parts of Rumphu and Zomba (Yellow and Brown colours on Map1)

### 1.1 RAINFALL SITUATION

During the period 21 to 31 January 2019, moderate to heavy rainfall amounts were reported over more areas of Malawi. The ten-day total rainfall amounts were generally higher than the long-term mean rainfall amounts for the period over most northern and central areas of Malawi (light Blue colour in Map1) with cases of ten-day total rainfall amounts being lower than long-term average rainfall amounts (Yellow and Brown colours in Map1) over some southern districts. Areas that had recorded cumulative rainfall amounts exceeding 150mm during the period under review included Chizunga Factory in Mulanje recorded 381.9mm, Mpemba Agric in Blantyre recorded 246.7mm, Mkanda Agric in Mchinji District recorded 229.6mm, Mchinji Boma recorded 222.4mm, Kasiya Agric in Lilongwe recorded 213.1mm, Bvumbwe Met in Thyolo recorded 200.7mm, Nkhotakota Met recorded 199.7, Chichiri Met in Blantyre District registered 194.6mm, Neno Agric recorded 189mm, Chileka Namitete in Lilongwe District recorded 185mm, Chintheche Agric in Nkhatabay recorded 172.2mm, Thyolo Met recorded 171.4mm, Dedza recorded 163.4mm, Nathenje Agric in Lilongwe District recorded 163.2mm and Vinthukutu in Karonga District recorded 153.2mm. More details as in Table 1 and on Map 1.

Map2 indicates the spatial cumulative rainfall distribution since the start of the 2018/19 rainfall season in October 2018, up to 31 January 2019. The map generally indicates that most areas over Malawi have received normal to above normal rainfall (Green to light Blue colours) with few patches of below normal rainfall amount over central Malawi (parts of Kasungu and Mzimba districts) as well as northern Malawi (parts of Rumphi, Nkhatabay and Mzimba districts) 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 21 to 31 January 2019. Mean daily maximum temperatures had ranged from 23°C at Dedza to 31°C at Nkhata Bay and Karongain Chikwawa while the mean daily minimum temperatures had ranged from 16°C at Dedza to 23°C at Ngabu in Chikwawa District. Details in Table 2.

### 1.4 WIND SPEEDS

During the period 21 to 31 January 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 in Ngabu in Chikwawa

to 9.7km at Chileka in Blantyre District. More details in Table 2.

### 1.5 RELATIVE HUMIDITY

During the period 21 to 31 January 2019, air over Malawi was moist. Daily average relative humidity values recorded from various weather stations in Malawi had ranged from 70% at Ngabu in Chikwawa District to 90% at Makoka in Zomba district. Details as in Table 2.

### 1.6 SUNSHINE HOURS

Generally low hours of bright sunshine were observed over Malawi during the period 21 to 31 January 2019. The daily values had ranged from around 3.0 hours per day at Bvumbwe in Thyolo District and Chichiri in Blantyre District to around 6 hours per day in Nkhotakota and consequently the amount of Solar Radiation had ranged from 6.5 to 8.6 cal/cm<sup>2</sup>/day. For details see Table 2.

## 2. AGROMETEOROLOGICAL ASSESSMENT

During the period 21 to 31 January 2019 there was good spatial coverage of rainfall over more areas of Malawi with moderate to locally heavy rainfall amounts recorded. The rains boosted the soil moisture reserves thereby enabling good support to vegetative crop growth as well as water resources over most parts of the country. Furthermore, the rains supported the growth of pastures countrywide for Livestock production.

Maize was reported to between vegetative and tasseling stages over central and northern Malawi while over southern areas was reported ranging from tasseling to cob formation stages. 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 01 TO 10 February 2019

Models for short and medium range forecasts show that most parts of Malawi are likely to experience good rainfall performance during the first ten days of February 2019. The rains will support growth and development of crops over most parts of the country.

TABLE 1: 10-DAY RAINFALL TOTALS AT SELECTED STATIONS FOR 21 TO 31 JANUARY 2019

ADD	RAINFALL STATION	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.	77.3	63.6	122	N/A	446.5	N/A	6	
	Chitipa Met	86.6	75.3	115	451.9	473.5	95	7	
	Karonga Met.	81.3	56	145	465.9	387.7	120	6	
	Mbawa Res. Stn	87.9	63.2	139	592.2	440.8	134	7	
	Vinthukutu Agri	153.2	58.8	261	498.4	441.2	113	7	
MZUZU	Bolero Met	36	53.3	68	N/A	343.5	N/A	6	
	Chelinda	82.9	77.4	107	467.2	576.4	81	8	
	Chintheche Agri	172.2	91.6	188	736.8	655.7	112	5	
	Emfeni Agric	40.4	74.1	55	198.9	448.4	44	4	
	Ekwendeni Agr	64.2	41.2	156	203.2	444.9	46	4	
	Mzimba Met	107.9	68.6	157	604.1	476.3	127	7	
	Mzuzu Met.	26.6	68.9	39	340.4	476	72	7	
	NkhataBay Met.	70.4	64.2	110	407.5	539	76	5	
	Rumphu Boma	44.7	70	64	284.1	373.5	76	5	
	Zombwe Agric	54.9	54.2	101	354.7	373.4	95	7	
KASUNGU	Dowa Agric	138.3	92.4	150	690.4	486.4	142	6	
	Kasungu Met	75.1	70	107	399.1	414.2	96	7	
	Malomo Agric	145.4	55.1	264	538.9	434.8	124	4	
	Mchinji Boma	222.4	79.2	281	764.1	586.7	130	8	
	Mkanda Agric	229.6	71	323	685.5	503.5	136	6	
	Ntchisi Boma	78.7	103.3	76	572.6	636	90	7	
LILONGWE	Chileka Namitete	185	86.9	213	520.8	532.8	98	6	
	Chitedze Met.	123.2	79.2	156	583.0	479.7	122	7	
	K.I.A Met	64.3	69.5	93	N/A	452.1	N/A	7	
	Kasiya Agric	213.1	67.3	317	571.8	540.7	106	6	
	Mlangeni Njolo	137.6	73.6	187	722.8	512.1	141	7	
	Nathenje Agric	163.2	90.8	180	704.4	459.7	153	8	
	Dedza Met	163.4	116.3	140	709.8	550.4	129	8	
	SALIMA	Dwangwa Sugar	110.8	84.7	131	595.3	585.2	102	9
SALIMA	Nkhotakota Met	199.7	97.8	204	848	626.7	135	6	
	Salima Met	66.2	99.2	67	853.4	580.7	147	7	
	MACHINGA	Balaka Agric	32.5	102.2	32	793.9	505.9	157	2
MACHINGA	Chancellor College	26.0	103.4	25	N/A	704.9	N/A	5	
	Chikweo Agric.	45.1	98.7	46	669.7	595.3	112	4	
	Chingale Agric	128.1	90.7	141	597.5	517.7	115	9	
	Makoka Met	61.6	89.6	69	588.1	548.4	107	6	
	Mangochi Met.	50.4	70.7	71	755.1	346	218	3	
	Monkey Bay Met.	72.4	74	98	484.4	327.4	148	5	
	Namiasi Agric	12.4	75.1	17	434.1	423	103	1	
	Naminjiwa Agric	71.9	96.5	75	774.6	554.6	140	4	
	Namwera Agric	47.7	100.3	48	733.5	572.1	128	5	
	Ntaja Met.	61.2	91.4	67	525.2	496	106	4	
	Toleza Farm	62.5	90.3	69	680.5	499.4	136	7	
	Zomba RTC	44.9	107.3	42	664.4	667	100	4	
	BLANTYRE	Bvumbwe Met.	200.7	106.7	188	708.1	607.2	117	7
		Chichiri Met.	194.6	53.8	362	769.8	794.8	97	7
Chileka Airport		144.5	81.3	178	696.2	498	140	6	
Chiradzulu Agric		67.2	99.6	67	516	545.4	95	6	
Chizunga Factory		381.9	92.2	414	789.3	736.9	107	5	
Lujeri Tea Estate		83.2	134.8	62	1396.3	1076.1	130	6	
Mimosa Met.		123.4	117.1	105	851.1	772.6	110	5	
Mpemba Agric		246.7	95.8	258	869.2	641.1	136	5	
Mulanje Boma		83.1	145.4	57	1123.7	957.5	117	4	
Mwanza Boma		83.6	94.4	89	771.8	565.9	136	7	
Neno Agric		189	103	183	1098	613.9	179	8	
Thuchila Agric		54.3	83.9	65	675.7	483	140	5	
Thyolo Met		171.4	103.9	165	638.7	621.6	103	5	
SHIRE VALLEY		Chikwawa Boma	112.8	74.5	151	456.6	462.4	99	4
	Kasinthula Res	148.8	62.5	238	561.2	387.3	145	4	
	Makhanga Met	84.6	51.9	163	419.5	420.2	100	5	
	Nchalo Sucoma	104.5	50.7	206	512.2	364.7	140	5	
	Ngabu Met.	92.1	61.2	150	444.8	429.3	104	4	

**TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 21 TO 31 JANUARY 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	27.0	18.4	30.0	17.1	6.5	80	4.9	5.6	4.4	7.7
KARONGA	30.5	21.1	33.2	19.5	4.7	75	4.9	6.0	4.8	7.7
<b>MZUZU ADD</b>										
BOLERO	29.0	19.8	32.5	18.2	2.2	76	4.0	5.3	4.3	7.2
MZIMBA	26.5	17.0	30.6	14.9	2.9	79	4.0	5.0	4.0	7.2
MZUZU	25.9	18.0	27.6	16.7	5.4	80	4.0	5.1	4.1	7.2
NKHATA BAY	30.6	21.4	32.5	19.5	2.9	76	5.6	6.2	4.9	8.2
<b>KASUNGU ADD</b>										
KASUNGU	26.5	19.2	28.5	17.6	4.3	79	4.2	5.3	4.2	7.3
<b>LILONGWE ADD</b>										
CHITEDZE	26.8	18.6	28.6	17.4	2.2	79	4.2	5.2	4.1	7.3
DEDZA	23.1	15.5	27.0	14.0	5.4	86	4.2	4.8	3.7	7.3
K I A	26.5	18.0	28.5	17.1	5.8	83	4.2	5.2	4.1	7.3
<b>SALIMA ADD</b>										
NKHOTAKOTA	28.9	20.2	30.6	19.4	2.2	78	6.1	6.3	5.0	8.6
SALIMA	29.0	22.0	31.3	20.4	7.2	78	5.6	6.3	5.0	8.2
<b>MACHINGA ADD</b>										
NTAJA	27.4	20.3	29.1	19.2	4.7	81	4.2	5.4	4.3	7.3
MAKOKA	27.9	17.8	28.5	16.5	3.6	90	4.5	5.2	4.0	7.5
MANGOCHI	30.1	22.4	34.1	21.1	2.2	73	4.5	5.8	4.7	7.5
MONKEY BAY	29.5	22.4	33.0	21.0	7.6	81	4.5	5.9	4.7	7.5
<b>BLANTYRE ADD</b>										
BVUMBWE	24.9	18.2	25.8	14.4	5.8	81	3.0	4.7	3.8	6.5
CHICHIRI	23.9	17.5	27.0	15.7	5.8	79	3.0	4.7	3.7	6.5
CHILEKA	24.2	19.2	30.4	17.1	9.7	77	3.2	5.1	4.1	6.7
MIMOSA	28.8	20.5	31.1	18.6	5.0	74	3.5	5.4	4.4	6.9
<b>SHIRE VALLEY ADD</b>										
NGABU	30.0	22.8	34.0	21.5	1.4	70	6.0	6.4	5.1	8.5

**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