



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 January 2019

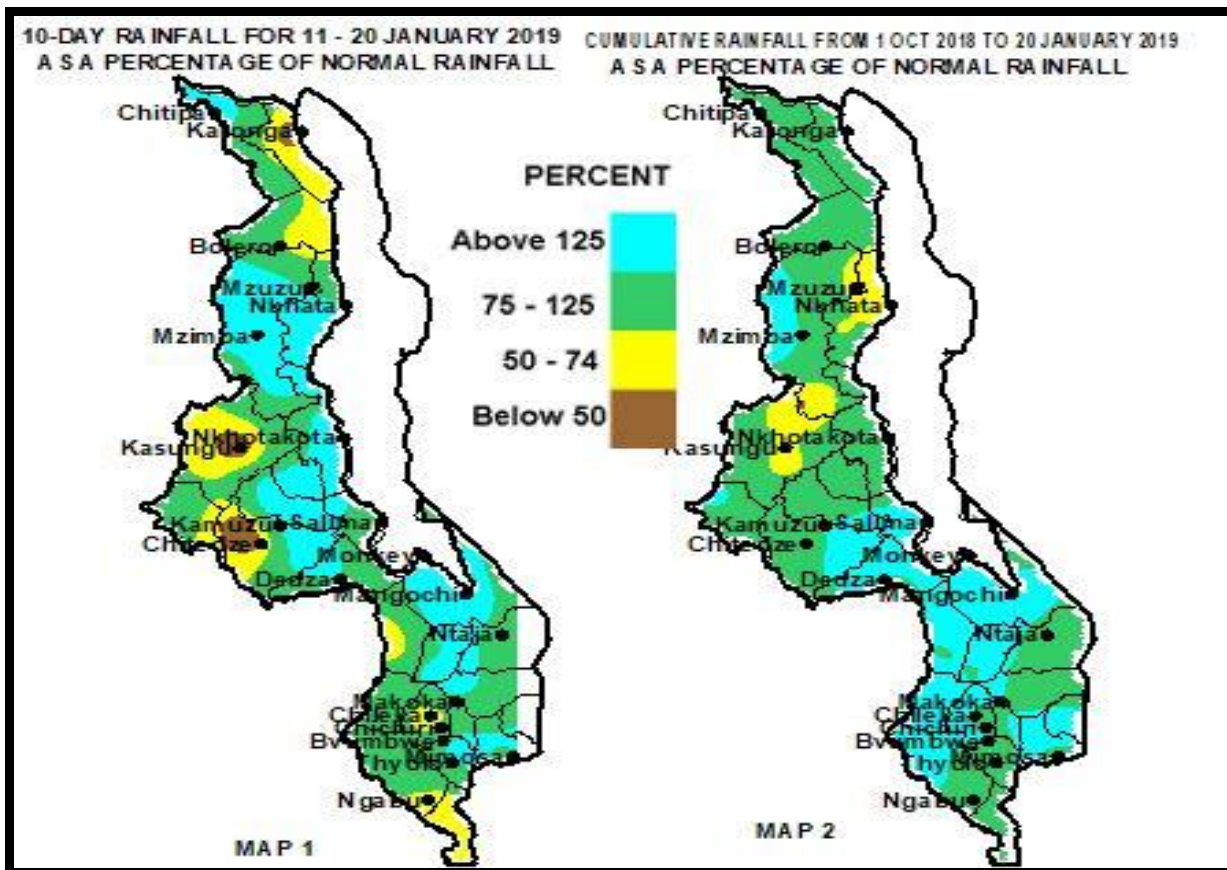
Season: 2018/2019

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## HIGHLIGHTS

- Locally heavy light to moderate rainfall amounts were experienced over Malawi ...
- Maize crop doing well between vegetative and tasseling stages...
- More rainfall expected during the period 21 to 31 January 2019...



Rainfall Maps for 11 to 20 January 2019

## 1.0 WEATHER SUMMARY

During the second ten days of January 2019, moist and unstable Congo Airmass influenced weather over Malawi. As a result, more areas over Malawi experienced moderate to locally heavy rainfall amounts (Green and light blue colours on Map 1) with isolated cases of light rainfall amounts in Karonga and Rumphi east in northern Malawi, Kasungu and Lilongwe West in Central Malawi and in Nsanje in Southern Malawi (Yellow and Brown colours on Map1).

### 1.1 RAINFALL SITUATION

During the period 11 to 20 January 2019, moderate to heavy rainfall amounts were reported over more areas of Malawi. The ten day total amounts were generally higher than the long-term mean rainfall amounts for the period over most areas (light Blue colour in Map1) with isolated cases of ten day total amounts being lower than long-term rainfall amounts (Yellow and Brown colours in Map1). Areas that had recorded cumulative rainfall amounts exceeding 125mm during the ten-day period included Lujeri Tea Estate where 205mm was deposited, Mzimba Met had 177mm, Chinthече Agric 171mm, Nkhotakota Met 170mm, Malomo Agric in Ntchisi recorded 142mm, Dowa Agric 141mm, Lifuwu Agric 137mm, Namiasi Agric in Mangochi 127mm, Mponela Agric reported 126mm, Ntchisi Agric, Mangochi and KIA Meteorological stations received 122mm each. In some places these ten-day cumulative rainfall amounts were higher than the long-term mean rainfall amounts for the period (light Blue colour in Map1). At the same time, a few places in Malawi had registered below average cumulative rainfall amounts

Map 2 indicates the spatial cumulative rainfall distribution since the start of the 2018/19 rainfall season in October 2018, up to 20 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 and northern lakeshore areas (Brown and Yellow colours).

### 1.3 AIR TEMPERATURE

Warm to hot temperatures were reported over Malawi during the period 11 to 20 January 2019. Mean daily maximum temperatures ranged from around 24°C at Dedza Boma to 34°C at Ngabu in Chikwawa district while the average daily minimum temperatures ranged from 17°C at Dedza Boma to 24°C at Ngabu in Chikwawa district. During the same period the highest temperature was 36°C recorded at Karonga Boma. On the otherhand the lowest temperature was 13°C recorded at Chileka International Airport in Blantyre. Details are in Table 2.

### 1.4 WIND SPEEDS

During the period 11 to 20 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 1.8km per hour at Ngabu in Chikwawa

District to 7.9km per hour in Salima and Chitedze in Lilongwe District. More details in Table 2.

### 1.5 RELATIVE HUMIDITY

During the second ten days of January 2019, air over Malawi was fairly moist. Daily average relative humidity values recorded from various weather stations in Malawi ranged from 61% at Nkhotakota to 83% at Salima and Makoka in Zomba. Details are on the Table 2.

### 1.6 SUNSHINE HOURS

Generally low hours of bright sunshine were observed over Malawi during the second ten days of January 2019. The daily values had ranged from around 2.4 hours per day at Chitedze and KIA in Lilongwe District to around 5 hours per day at Mzimba and consequently the amount of Solar Radiation had ranged from 6 to around 8 cal/cm<sup>2</sup>/day. For details see Table 2.

## 2. AGROMETEOROLOGICAL ASSESSMENT

During the second ten days of 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 over central and northern Malawi was reported at vegetative to tasseling stage to while over southern areas was reported at tasseling to cob formation stage. 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 31 JANUARY 2019

Models for short and medium range weather forecasts show that most parts of Malawi are likely to experience good rainfall performance during the final ten days of January 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 11 TO 20 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.	3.1	60.6	5	N/A	382.9	N/A	3
	Chitipa Met	101.9	65.9	155	369.7	398.2	93	10
	Karonga Met.	23.0	55.3	42	249.6	331.7	75	5
	Lupembe	35.0	49.3	71	255.6	275.7	93	2
	Vinthukutu Agric	37.2	69.0	54	350.8	382.4	92	5
MZUZU	Bwengu Agric.	40.8	59.2	69	260.3	332.9	78	7
	Chelinda ( Nyika)	69.7	79.6	88	508.2	499.0	102	10
	Chintheche Agric	170.6	83.1	205	442.5	564.1	78	6
	Emfeni Agric	68.0	61.1	111	158.5	374.3	42	4
	Mbawa Res. Stn	57.5	59.4	97	509.8	377.6	135	7
	Mzimba Met	177.3	71.1	249	504.8	407.7	124	8
	Mzuzu Met.	77.0	69.3	111	288.3	407.1	71	9
	NkhataBay Met.	77.7	65.6	118	307.2	474.8	65	5
	Rumpho Boma	37.4	57.9	65	230.7	303.5	76	8
	Zombwe Agric	68.9	54.0	128	254.1	319.2	80	6
KASUNGU	Dowa Agric	140.8	82.0	172	467.6	394.0	119	6
	Kasungu Met	13.6	62.3	22	273.1	344.2	79	4
	Lisasadzi Agric	50.9	67.7	75	N/A	388.8	N/A	6
	Malomo Agric	141.6	125.7	113	477.4	379.7	126	4
	Madisi Agric	107.8	81.5	132	425.4	371.8	114	5
	Mchinji Boma	85.3	79.7	107	445.9	507.5	88	5
	Mkanda Met	81.8	83.3	98	595.8	432.5	138	5
	Mponela Agric	126.4	68.1	186	292.5	350.2	84	7
	Mwimba Research	43.2	82.4	52	273.2	405.7	67	3
	Ntchisi Boma	121.7	98.2	124	544.9	532.7	102	6
LILONGWE	Chitedze Met.	41.7	79.5	52	356.0	400.5	89	8
	Dzonzi Forest	49.3	81.9	60	567.2	471.3	120	6
	K.I.A Met	121.9	87.2	140	484.8	382.6	127	4
	Kasiya Agric	14.4	53.9	27	417.5	473.4	88	5
	Nathenje Agric	84.8	57.7	147	575.4	368.9	156	4
	Ntcheu - Nkhande	51.7	97.6	53	715.4	503.1	142	7
	Dedza RTC	105.1	87.2	121	483.0	434.1	111	8
SALIMA	Dwangwa Sugar	97.0	81.6	119	441.7	500.5	88	5
	Lifuwu Agric	137.0	128.0	107	640.2	472.6	135	4
	Nkhotakota Met	170.3	105.9	161	563.9	528.9	107	8
	Salima Met	53.7	117.2	46	699.7	481.5	145	5
MACHINGA	Balaka Agric	73.5	70.2	105	583.7	403.7	145	6
	Chancellor College	75.6	89.4	85	N/A	601.5	N/A	8
	Chikweo Agric.	77.7	107.3	72	508.6	496.6	102	5
	Chingale Agric	104.5	64.4	162	593.4	427.0	139	6
	Mpilipili (Makanjila)	68.1	65.9	103	336.2	412.6	81	6
	Makoka Met	79.8	79.4	101	572.9	458.8	125	9
	Mangochi Met.	121.9	64.6	189	461.3	275.3	168	4
	Monkey Bay Met.	77.0	54.0	143	400.4	253.4	158	4
	Namiasi Agric	127.1	78.3	162	420.0	347.9	121	4
	Namwera Agric	93.4	86.6	108	667.5	471.8	141	4
	Phalula Agric	89.3	61.9	144	476.9	407.0	117	7
	Toleza Farm	92.5	70.8	131	712.8	409.1	174	7
	Zomba Agric.	60.1	90.7	66	530.3	559.7	95	7
BLANYTRE	Bvumbwe Met.	92.6	84.0	110	572.6	500.5	114	5
	Chichiri Met.	78.9	74.8	105	626.5	741.0	85	6
	Chileka Airport	28.3	63.9	44	494.9	416.7	119	5
	Chiradzulu Agric	38.2	60.3	63	597.1	445.8	134	6
	Chizunga Factory	37.9	70.9	53	527.2	644.7	82	4
	Lujeri Tea Estate	205.0	127.7	161	1219.7	941.3	130	8
	Mimosa Met.	84.5	93.8	90	597.3	655.5	91	6
	Mpemba Vet	77.5	88.8	87	747.1	545.3	137	6
	Mulanje Boma	106.3	109.7	97	948.6	812.1	117	4
	Mwanza Boma	70.4	69.9	101	863.5	471.5	183	5
	Naminjiwa Agric	102.6	84.8	121	688.4	458.1	150	5
	Neno Agric	95.2	95.7	99	829.4	510.9	162	9
	Satemwa Tea Est.	86.3	61.5	140	465.8	478.9	97	6
	Thuchila Agric	110.3	67.6	163	524.8	399.1	131	4
	Thyolo Met	60.0	84.0	71	N/A	517.7	N/A	4
SHIRE VALLEY	Chikwawa Boma	70.4	61.2	115	481.3	387.9	124	3
	Kasinthula Res. Stn.	49.9	33.3	150	466.4	324.8	144	5
	Makhanga Met	35.8	47.7	75	402.0	368.3	109	2
	Nchalo Sucoma	72.7	58.1	125	364.3	314.0	116	5
	Ngabu Met.	26.9	55.8	48	419.5	368.1	114	4

**TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 11 TO 20 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	26.9	18.2	28.1	17.5	5.8	72	3.8	5.3	4.3	7.0
KARONGA	31.8	22.0	35.9	20.7	5.4	69	5.1	6.4	5.2	7.9
<b>MZUZU ADD</b>										
BOLERO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MZIMBA	26.1	17.1	28.5	16.3	2.9	81	5.0	5.3	4.2	7.8
MZUZU	27.2	16.9	28.3	18.4	5.0	80	4.5	5.3	4.2	7.5
NKHATA BAY	31.3	22.0	33.7	20.8	2.5	72	5.1	6.1	4.9	7.9
<b>KASUNGU ADD</b>										
KASUNGU	27.5	19.7	28.5	18.9	4.7	76	2.5	4.8	3.9	6.2
<b>LILONGWE ADD</b>										
CHITEDZE	27.0	19.1	28.3	18.2	1.8	80	2.4	4.6	3.6	6.1
DEDZA	24.3	16.7	25.8	16.1	4.7	81	2.5	4.5	3.5	6.2
K I A	27.0	19.0	28.0	17.9	5.0	82	2.4	4.6	3.7	6.1
<b>SALIMA ADD</b>										
NKHOTAKOTA	29.3	21.1	31.2	20.0	2.9	61	4.1	6.0	4.8	7.3
SALIMA	29.0	22.4	31.4	20.3	7.9	83	4.1	5.6	4.5	7.3
<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	27.0	19.7	29.0	18.0	5.4	83	4.4	5.4	4.3	7.5
MANGOCHI	30.1	23.1	32.1	21.7	3.2	76	4.1	5.7	4.6	7.3
MONKEY BAY	29.0	23.3	31.0	21.3	7.2	81	4.1	5.7	4.6	7.3
<b>BLANTYRE ADD</b>										
BVUMBWE	26.0	19.0	27.4	16.9	5.4	78	4.3	5.4	4.3	7.4
CHICHIRI	25.8	19.6	27.5	18.0	5.8	81	4.3	5.3	4.2	7.4
CHILEKA	28.4	20.3	30.2	13.4	7.6	76	4.4	5.8	4.7	7.5
MIMOSA	29.2	20.8	32.4	19.6	2.2	79	4.2	5.5	4.4	7.4
<b>SHIRE VALLEY ADD</b>										
NGABU	34.4	24.4	35.5	22.6	1.8	71	4.4	6.3	5.1	7.5

**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