



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 April 2019

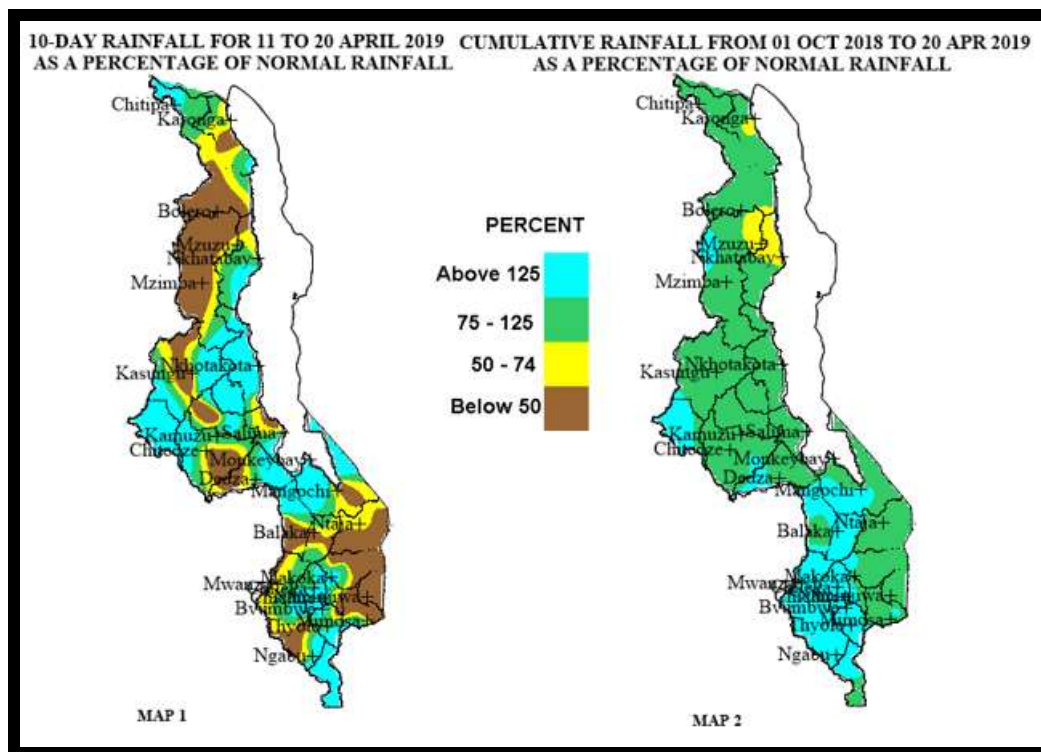
Season: 2018/2019

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## HIGHLIGHTS

- Average to above average seasonal rainfall amounts experienced over most areas...
- Moderate to locally heavy rainfall amounts experienced over some areas during the dekad...
- Occasional rainfall to persist during the period 21 to 30 April 2019 over Malwi...



Rainfall Maps for 11 to 20 April 2019

## 1.0 WEATHER SUMMARY

During the period 11 to 20 April 2019, as the rainfall season is tailing off, relatively moist and unstable Easterly air mass was active over more areas of Malawi thereby influencing weather over these areas. As a result, more Lakeshore areas, Shire Valley, selected central plain and northern areas received normal to above normal rainfall amounts (green and light blue colours on Map 1) while some areas over Malawi received below normal rainfall amounts, represented by brown and yellow colours on Map 1.

### 1.1 RAINFALL SITUATION

During the period 11 to 20 April 2019, moderate to locally heavy rainfall amounts were recorded over more Lakeshore areas and selected northern, central and southern areas of Malawi. The ten-day total rainfall amounts were higher than the long-term average rainfall amounts for the period over these areas while some areas recorded ten-day total rainfall amounts that were below the long-term average rainfall amounts (brown and yellow colours in Map1). Areas that had recorded cumulative rainfall amounts of at least 15mm included Chinthече Agriculture in NkhataBay which recorded 270.3mm, Nkhotakota Met station recorded 172mm, Vinthukutu Agriculture in Karonga recorded 114.9mm, Dwangwa Sugar recorded 94.3mm, Makhanga Met station in Nsanje recorded 81mm, Mchinji recorded 72.2mm, Mulanje recorded 65.2mm, Baka Research station recorded 63.8mm, NkhataBay Met station recorded 57.7mm, Mzuzu Met station recorded 54.0mm, Mpemba Vet in Blantyre recorded 50.4mm, Chichiri Met recorded 50.2mm, Nsanje recorded 44.9mm, Bvumbwe Met station recorded 37.9mm, Njolomole in Ntcheu recorded 37.4mm, Satemwa Tea Estate in Thyolo recorded 37.4mm, Chizunga Factory in Thyolo recorded 34.1mm, Monkey Bay Met station recorded 31.8mm, Makoka Met station in Zomba recorded 28.9mm, Salima Met station recorded 26.9mm, Chitipa Aerodrome recorded 23.9mm, Zomba Agriculture recorded 23.2mm, Chikangawa forest recorded 22.6mm, Mimosa Met station in Mulanje recorded 21.9mm, Karonga Aerodrome recorded 20.4mm, Lifuwu in Salima recorded 19.6mm, Malomo Agriculture in Ntchisi recorded 18.9mm, Chileka International Airport recorded 18.5mm, Chelinda in Rumphu recorded 18.4mm, Phalula Agriculture in Balaka recorded 16.5mm, Dowa Agriculture recorded 15.8mm, Emfeni Agriculture in Mzimba and Toleza Farm in Balaka recorded 15mm. More details in Table 1.

Map 2 indicates the spatial cumulative rainfall distribution since the start of the 2018/19 rainfall season in October 2018, up to 20 April 2019. The map generally indicates that most areas over Malawi have received normal to above normal seasonal rainfall amounts (green and light blue colours) with isolated cases of below normal seasonal rainfall amounts over parts of Karonga, Nkhatabay and Mzimba Districts in the north as shown by Yellow colour on Map 2.

### 1.3 AIR TEMPERATURE

Generally warm to hot temperatures were experienced over Malawi during the period 11 to 20 April 2019. Mean daily maximum temperatures had ranged from 23.9°C at Dedza to 32.9°C at Ngabu in Chikwawa district while the mean daily minimum temperatures had ranged from 16.2°C at Dedza to 22.9°C at Ngabu in Chikwawa. Details in Table 2.

### 1.4 WIND SPEEDS

During the period 11 to 20 April 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 0.7 km per hour at Ngabu in Chikwawa district to 12.0 km per hour at Chitipa Aerodrome. More details in Table 2.

### 1.5 RELATIVE HUMIDITY

During the period 11 to 20 April 2019, air over Malawi was relatively moist. Daily average relative humidity values recorded from various weather stations in Malawi had ranged from 59% at Ngabu in Chikwawa district to 84% at Mzuzu Airport. See details in Table 2.

### 1.6 SUNSHINE HOURS

Generally medium to long hours of bright sunshine were observed over Malawi during the period 11 to 20 April 2019. The daily values had ranged from 6.3 hours per day at Dedza to 8.3 hours per day at Salima Met station and consequently the amount of Solar Radiation had ranged from 8.2 to 9.4 cal/cm<sup>2</sup>/day. For details see Table 2.

## 2. AGROMETEOROLOGICAL ASSESSMENT

During the period under review, wet conditions prevailed over more Lakeshore areas and selected central plain, northern and Shire valley areas with drier conditions prevailing elsewhere. Rainfall experienced over northern and Lakeshore areas provided much needed moisture to support growth and development of Rice growth in Rice growing areas like Karonga, Nkhotakota, Salima among others.

Furthermore, the rains supported the growth and development of pastures for Livestock production as well as boosting soil moisture reserves for growth and development of root and tuber crops like potatoes.

In some cases, the rains disrupted the drying of matured crops and harvesting of fully dried crops. Maize was reported mostly at drying stage over north while farmers were reportedly harvesting over south and selected central areas.

Basing on field reports, good crop yields and production are anticipated this season. However, in some northern (Karonga and Rumphu) and southern areas crops have been negatively affected by the heavy rains and flooding which occurred in mid April and early March respectively, a situation which is likely to cause localised reduction in the 2018/19 production.

## 3. PROSPECTS FOR 2018/2019 RAINFALL SEASON

ENSO-neutral to weak El-nino conditions are present. Therefore, as the 2018/19 rainfall season comes to an end, northern and Lakeshore areas are likely to experience occasional moderate to locally heavy rainfall.

## 4. OUTLOOK FOR 21 TO 30 April 2019

Models for short and medium range forecasts indicate that during the period 21-30 April 2019, rain showers and occasional thunderstorms are likely to persist over Lakeshore and northern areas, and may possibly be enhanced with the proximity of Tropical Cyclone Kenneth which is expected to make landfall over Northeast Mozambique. The Southern half will be affected by Southeasterly airflow which will result in rain drizzles and a drop in temperatures mainly over highlands.

TABLE 1: 10-DAY RAINFALL TOTALS AT SELECTED STATIONS FOR 11 TO 21 APRIL 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. S	63.8	76.4	84	858.7	1276.8	67	6
	Chitipa Met	23.9	17.4	137	994.4	935.8	106	3
	Karonga M	20.4	59.2	34	849.6	954.9	89	5
	Lupembe	0	36	0	598.7	809.9	74	0
	Vinthukutu	114.9	73.5	156	1195.3	1067.2	112	7
MZUZU	Bolero Met	0.6	10.8	6	466.7	624.9	75	1
	Bwengu Agr	0	17.5	0	506.6	751.4	67	0
	Chikangawa	22.6	29.5	77	911.4	1068.5	85	5
	Chelinda	18.4	41.6	44	1062.3	1165.6	91	4
	Chintheche	270.3	128.5	210	1464.1	1600.8	91	6
	Emfeni Ag	15	25.8	58	642.3	801.6	80	1
	Ekwendeni	6.1	18	34	558.9	797.8	70	4
	Euthini Agri	6.1	13.3	46	1084.9	761.4	142	1
	Mbawa Res.	2.2	12.3	18	906.9	793.9	114	2
	Mzimba Met	0.5	13.9	4	906.1	876.2	103	1
	Mzuzu Met.	54	65.6	82	670	1031	65	6
NkhataBay	57.7	96	60	823.7	1311.9	63	7	
KASUNGU	Dowa Agric	15.8	9.6	165	928.4	869.5	107	2
	Kasungu M	1.7	5.6	30	660.5	766.4	86	1
	Lisasadzi	7	13.4	52	798.4	805.5	99	1
	Malomo Agr	18.9	2.5	756	984.1	810.9	121	3
	Madisi Agric	0	11.6	0	885.9	824.3	107	0
	Mchinji Bom	72.2	15.3	472	1479.1	993.2	149	7
	Mkanda Met	13.9	3.4	409	1214.5	856.7	142	1
	Mponela Agr	0	5.3	0	776.5	784.3	99	0
	Mwimba Res	0	6.8	0	831.8	863	96	0
Ntchisi B	14.4	24.8	58	1041.1	1213.8	86	2	
LILONGWE	Chitedze Me	4	9	44	780.8	868	90	2
	K.I.A Met	1.8	1.6	113	902	832	108	1
	Kasiya Agric	10.6	7.3	145	966.7	935.5	103	1
	Mlangeni Nj	37.4	14	267	1234.1	953.5	129	3
	Nathenje Ag	0	11.5	0	1106.5	851.8	130	0
	Ntcheu - N	5.6	16.8	33	1371.8	1027.8	133	1
	Dedza RTC	6.9	6.4	108	1173.9	973.9	121	3
SALIMA	Dwangwa S.	94.3	58.2	162	1108.7	1287.1	86	3
	Lifuwu	19.6	41.4	47	1153.6	1216.6	95	4
	Nkhotakota	172	56.1	307	1487.4	1397.8	106	5
	Salima Met	26.9	27.6	97	1093.9	1195.8	91	4
MACHINGA	Balaka Town	1.3	11.8	11	1129.3	842.7	134	1
	Chancellor C	4.5	21.2	21	938.8	1257.8	75	2
	Chingale Ag	0	15.5	0	1188.9	904.6	131	0
	Makoka Met	28.9	14.1	205	1102.2	949.1	116	4
	Mangochi M	5.6	9.4	60	917.9	692.9	132	1
	Monkey Bay	31.8	3.3	964	704.8	561.4	126	1
	Naminjwa	0	9.6	0	1133.6	938.3	121	0
	Namwera A	13.5	20.4	66	1263.04	1027.1	123	1
	Ntaja Met.	9.1	14	65	931	872.4	107	1
	Phalula Agr	16.5	12.7	130	1002.7	811.8	124	1
	Toleza Farm	15	16.6	90	1197	850.4	141	2
Zomba RTC	23.2	19.7	118	1076.5	1173.5	92	1	
BLANTYRE	Bvumbwe	37.9	19.6	193	1454.4	1066.4	136	7
	Chichiri Met.	50.2	21.1	238	1563	1078.6	145	4
	Chileka	18.5	16.7	111	1221.3	863.6	141	3
	Chiradzulu	7.8	11.9	66	1212.8	953.8	127	1
	Chizunga Fa	34.1	32.9	104	1708	1290.7	132	6
	Lujeri Tea E	0	70.2	0	2467.7	1920.7	128	0
	Mimosa Met.	21.9	43.6	50	1334.5	1375.4	97	6
	Mpemba Vet	50.4	18.5	272	1771.3	1091.1	162	4
	Mulanje	65.2	52.8	123	1941.2	1659.1	117	3
	Neno Agric	13	21.2	61	1875.7	1068.6	176	1
	Satemwa Tea	37.4	24.4	153	1720.5	1049.3	164	5
Thyolo Met	12.1	19.6	62	1383.2	1157.4	120	3	
SHIRE	Chikwawa	11.4	8.1	141	944.8	743.3	127	1

VALLEY	Kasinthula R	2.3	12.4	19	979.8	697.7	140	2
	Makhanga M	81	10.5	771	1295.4	702.9	184	4
	Ngabu Met.	12.2	13.6	90	948.5	736.3	129	3
	Nsanje	44.9	26.2	171	962.7	1048.4	92	3

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 11 TO 20 APRIL 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	RADIATION cal cm <sup>-2</sup> p/day
KARONGA										
CHITIPA	27.1	18.8	29.5	18	12.2	68	6.7	6.9	5.5	9.0
KARONGA	30.6	21.1	31.5	20.3	4.7	76	7	6.9	5.5	9.3
MZUZU										
BOLERO	29.4	18.1	31.7	15.7	2.9	66	8.3	6.3	4.9	9.1
MZIMBA	28.1	17.1	30.5	15.8	4.0	69	7.7	6.0	4.7	8.9
MZUZU	25.3	17.7	27.5	15.7	5.0	84	7.5	5.6	4.3	8.7
NKHATA BAY	30.4	21.2	31.1	20.3	2.9	74	7.3	6.3	5.0	8.6
KASUNGU										
KASUNGU	28	17.9	31	15.5	5.4	72	7	5.9	4.7	8.5
LILONGWE										
CHITEDZE	27.1	17.9	30.5	16.7	1.1	75	7.2	5.7	4.4	8.7
DEDZA	23.9	16.2	26.6	14.9	5.0	72	6.3	5.4	4.2	8.2
K I A	26	17.1	29	15.7	5.4	79	6.7	5.5	4.3	8.3
SALIMA										
NKHOTAKOTA	29.5	21.2	31.5	20	3.2	69	8	6.7	5.3	9.1
SALIMA	29.9	22.5	32.1	21.6	7.2	76	8.3	7.0	5.5	9.4
MACHINGA										
NTAJA	29.1	20.4	32.3	18.4	5.4	77	6.5	6.2	4.9	8.6
MAKOKA	26.7	18	30.6	16.3	3.2	82	6.5	5.7	4.4	8.6
MANGOCHI	30.7	22	33.3	20.4	2.9	67	7.7	6.7	5.3	9.0
MONKEY BAY	30.8	22.7	33	21.1	5.8	61	7.2	6.9	5.5	8.7
BLANTYRE										
BVUMBWE	24.5	17	28.7	15.4	6.8	84	6.5	5.4	4.2	8.4
CHICHIRI	25.9	17.8	29.5	16	4.0	79	6.5	5.6	4.3	8.4
CHILEKA	27.7	18.6	32	16.1	5.4	74	6.5	5.9	4.6	8.3
MIMOSA	28.3	19.7	32.6	17.5	3.2	74	6.5	5.9	4.7	8.4
SHIRE VALLEY										
NGABU	32.9	22.9	37.5	20.9	0.7	57	8	7.0	5.6	9.4

**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