



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 March 2018

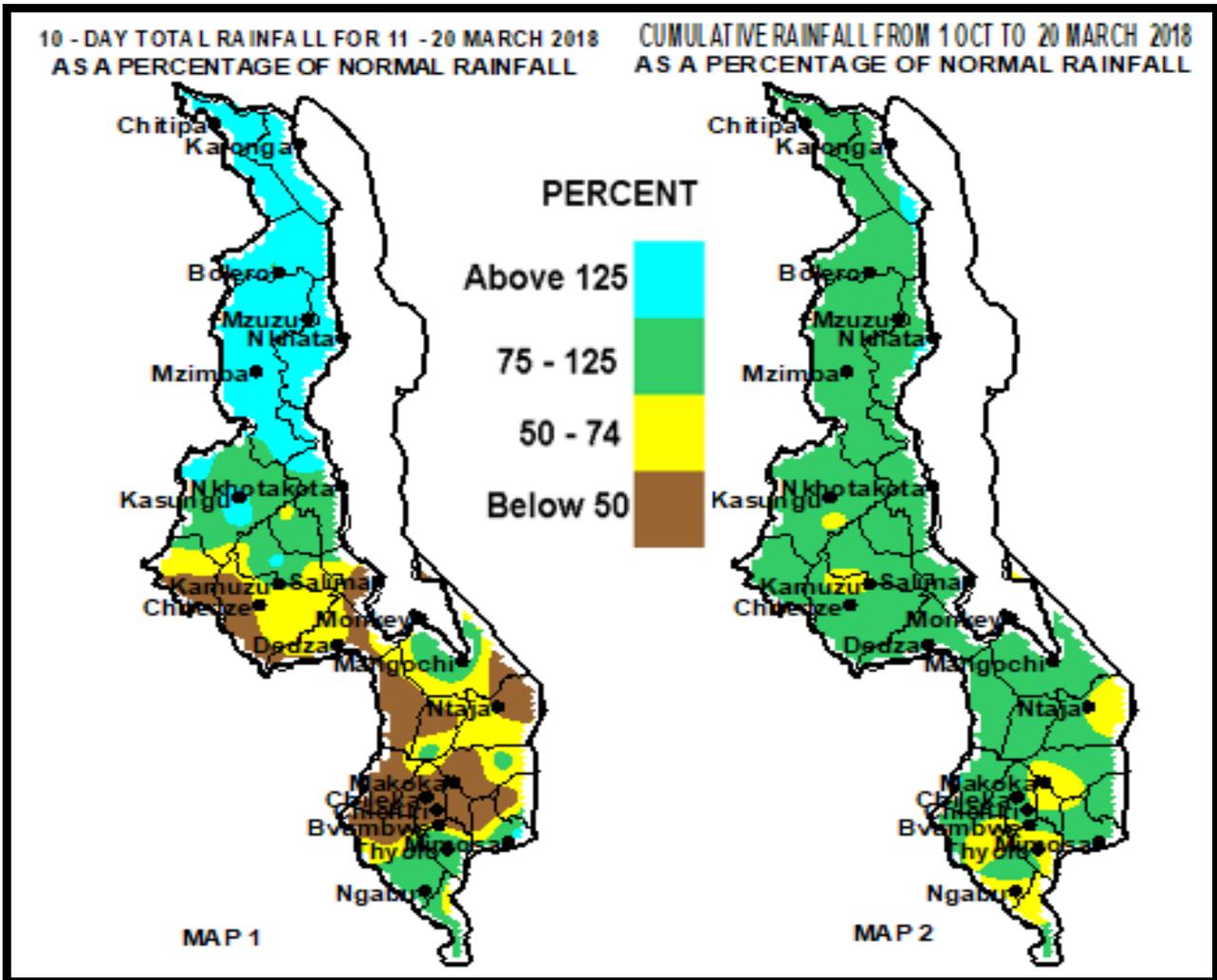
Season: 2017/2018

Issue No.17

Release date: 24 March 2018

HIGHLIGHTS

- Heavy rains experienced over most areas in northern Malawi...
- Average cumulative rainfall amounts experienced in Malawi...
- More rainfall expected over Malawi during the period 21 to 31 March 2018...



Rainfall Maps by 20 March 2018

1.0 WEATHER SUMMARY

During the period 11 to 20 March 2018, moist and unstable Congo Air mass was more active over northern Malawi while central and southern Malawi was under a weak rain belt. As a result, widespread locally heavy and above average cumulative rainfall amounts were experienced particularly over northern Malawi (Light Blue Colour on Map 1) and sporadic light and below average rainfall was experienced in central and southern Malawi. (Yellow and Brown Colours on Map 1)

1.1 RAINFALL SITUATION

Good rainfall performance was maintained over northern and Lakeshore areas of Malawi as several places had reported above average cumulative rainfall amounts during the second ten days of March 2018. Heavy cumulative rainfall amounts in excess of 120mm were recorded over several places especially in northern and lakeshore areas including the following stations: Baka Research Station had 238mm, Chinthече Agric reported 221mm, Chelinda(Nyika) received 199mm, Vinthukutu Agric 195mm, Nkhotakota Met had 194mm, Namiasi Agric in Mangochi had 129mm and Lupembe Agric in Karonga 128mm, Otherwise several places in northern and lakeshore areas had reported wet weather conditions with an average of 4 to 5 rainy days. More details are in Table 1 and Map 1.

The spatial distribution of cumulative rainfall since the 2017/18 rainfall season started in October 2017 up to 20 March 2018 is shown in Map 2. The map shows that average cumulative rainfall amounts (Green colour) have been attained over the larger part of Malawi. However, pockets of below average rainfall amounts still existed particularly over southern Malawi (Yellow colour on Map 2) due to low rainfall and prolonged dry spells that were experienced particularly in January 2018.

1.3 AIR TEMPERATURE

Warm to hot temperatures had prevailed over Malawi during the period 11 to 20 March 2018. Mean daily maximum temperatures ranged from 25°C at Dedza to 34°C at Ngabu while daily average minimum temperatures had ranged from 16°C to 24°C. During the same period the highest temperature was 35°C reported at Ngabu in Chikwawa. On the otherhand the lowest temperature was 13°C recorded at Dedza. Details are in Table 2.

1.4 WIND SPEEDS

During the second ten days of March 2018 most parts of Malawi continued to experience light to moderate wind speeds. The daily average wind speeds measured at a height of two metres above the ground level across the Malawi had ranged from 1.1km per hour at Bolero to 10.4km per hour at Chileka. More details are in Table 2.

1.5 RELATIVE HUMIDITY

During the period 11 to 20 March 2018, air over Malawi was generally moist. Daily average relative humidity values recorded from various weather stations in Malawi had ranged from 65% at Monkey Bay to 82% at Mzuzu and Nkhata Bay. Details are on the Table 2.

1.6 SUNSHINE HOURS

During the period 11 to 20 March 2018, Malawi had experienced more sunshine hours. The daily average values of sunshine hours were generally between 5 and 9 hours per day. Consequently, the amount of solar radiation received over most areas was between 5 and 10 calories per square centimeter per day. More details are in Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

During the second ten days of March 2018 moderate to heavy rainfall fell over northern and lakeshore areas of Malawi. Most areas had recorded rainfall amounts of above 75mm which was sufficient to satisfy daily crop water requirements for most crop varieties. These rains have continued to improve water resources, soil moisture reserves and pasture availability for grazing of livestock and also in drought affected areas these rains supported planting of early maturing crop varieties like sweet potatoes and cassava. Otherwise the crop situation in most fields in the south was reported in poor state while in most of the north and some parts of the Central Malawi the crop situation was reported good. Maize crop had ranged between maturity and drying stages and need more sunshine for proper drying.

3. PROSPECTS FOR 2017/2018 RAINFALL SEASON

The Sea Surface Temperatures which drive the rainfall patterns of the world including Malawi indicate that weak La Niña conditions are likely to persist up to April 2018. Based on weak La Niña conditions, the updated rainfall forecast for March to May 2018 is that most parts of Malawi are likely to experience normal cumulative rainfall amounts.

4. OUTLOOK FOR 21 TO 31 MARCH 2018

Models for short and medium range forecasts suggest that Easterly waves are likely to remain dominant over Malawi during the last ten days of March 2018. Therefore, scattered rainfall is expected over Malawi and farmers with irrigable land are encouraged to start preparing for winter cropping and planting early maturing crop varieties like sweet potatoes and cassava and are also advised to practice infield rainwater harvesting technologies.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR 11 TO 20 MARCH 2018

ADD	RAINFALL STATION	ACTUAL DEKADAL TOTAL RAINFALL (mm)	DEKADAL NORMAL (EXPECTED) RAINFALL (mm)	ACTUAL TOTAL AS PERCENTAGE OF NORMAL (EXPECTED) RAINFALL	ACTUAL TOTAL RAINFALL TODATE (mm)	NORMAL (EXPECTED) RAINFALL TODATE (mm)	ACTUAL TODATE AS PERCENTAGE OF NORMAL (EXPECTED) RAINFALL	RAINY DAYS ≥ 0.3 mm
KARONGA	Baka Res. Stn.	237.9	140.0	170	927.3	871.3	106	7
	Chitipa Met	40.7	66.1	62	771.2	827.7	93	6
	Karonga Met.	129.0	78.9	163	724.1	693.7	104	9
	Lupembe	128.0	62.8	204	712.9	621.4	115	5
	Vinthukutu Agric	195.2	79.5	246	1113.1	758.5	147	7
MZUZU	Bolero Met	35.2	27.9	126	530.6	566.3	94	3
	Bwengu Agric.	14.8	47.5	31	335.9	662.9	51	4
	Chikangawa forest	39.6	63.1	63	673.6	873.5	77	5
	Chelinda (Nyika)	199.3	85.1	234	960.5	982.6	98	9
	Chintheche Agric	221.2	124.2	178	1520.1	1135.6	134	3
	Emfeni Agric	20.2	38.2	53	101.5	717.9	14	2
	Ekwendeni Agric.	27.4	31.9	86	442.8	692.3	64	4
	Mbawa Res. Stn	42.9	40.4	106	809.6	729.3	111	4
	Mzimba Met	29.5	41.7	71	787.3	790.6	100	7
	Mzuzu Met.	26.9	58.2	46	823.4	775.3	106	5
	NkhataBay Met.	93.7	96.7	97	1168.7	915.9	128	7
	Rumpho Boma	9.5	37.7	25	657.4	638.4	103	3
	Zombwe Agric	23.2	35.5	65	580.9	624.2	93	2
	KASUNGU	Dowa Agric	53.7	45.4	118	725.7	794.1	91
Kaluluma DTC		13.7	50.3	27	317.4	736.9	43	2
Kasungu Met		10.0	38.7	26	643.1	712.1	90	3
Lisasadzi		13.6	33.7	40	434.2	752.8	58	2
Malomo Agric		19.9	46.7	43	659.7	761.3	87	3
Madisi Agric		40.3	33.6	120	843.3	768.9	110	4
Mchinji Boma		112.9	46.7	242	1021.8	898	114	5
Mponela Agric		36.4	35.1	104	503.8	739.5	68	4
Ntchisi Boma		62.5	82.4	76	840.3	1074.1	78	3
SALIMA	Lifuwu	94.2	78.7	120	1017.1	1057.2	96	6
	Nkhotakota Met	194.3	113.7	171	1229.6	1102.1	112	6
	Salima Met	50.8	85.6	59	984.5	1051.8	94	6
LILONGWE	Chileka Namitete	81.3	44.6	182	1012.1	827	122	4
	Dzonzi Forest	37.0	57.0	65	687.7	893.3	77	2
	K.I.A Met	14.6	41.8	35	534.3	763.5	70	3
	Kasiya Agric	25.1	38.9	65	526.8	873	60	3
	Mlangeni Njolomole	29.8	54.0	55	623.7	870.9	72	5
	Nathenje Agric	38.6	39.1	99	863	757.8	114	3
	Ntcheu - Nkhande	91.1	50.4	181	849.3	947	90	5
	Dedza RTC	91.7	49.2	186	675.8	900.7	75	7
MACHINGA	Balaka Township	28.1	40.2	70	567.4	776.7	73	3
	Chikweo Agric.	88.9	67.3	132	604.8	945.3	64	2
	Chingale Agric	0.0	52.0	0	337.8	833.1	41	0
	Mpilipili (Makanjila)	77.2	39.6	195	466.8	810.5	58	4
	Makoka Met	10.4	46.7	22	479.3	871.8	55	2
	Mangochi Met.	66.7	44.1	151	732.3	630.1	116	5
	Monkey Bay Met.	103.4	16.3	634	683.5	538.2	127	5
	Namiasi Agric	129.0	49.7	260	619.2	709.5	87	4
	Namwera Agric	68.0	69.3	98	885.4	920.5	96	5
	Ntaja Met.	13.0	44.6	29	545.8	778.6	70	4
	Phalula Agric	0.0	37.0	0	595.5	757.6	79	0
	Toleza Farm	32.0	45.4	70	933	776.8	120	3
Zomba RTC	9.1	73.9	12	718.2	1053.6	68	1	
BLANTYRE	Bvumbwe Met.	25.2	54.2	46	870.6	958.2	91	4
	Chichiri Met.	43.4	16.1	270	752.7	1013.2	74	7
	Chileka Airport	12.4	45.8	27	701.5	782.4	90	4
	Chiradzulu Agric	50.5	38.1	133	497.7	875	57	2
	Chizunga Factory	7.4	84.5	9	700	1131.8	62	2
	Lujeri Tea Estate	75.2	146.5	51	1967.4	1612.8	122	6
	Masambanjati Agric	25.8	74.7	35	857.7	1123.7	76	4
	Mimosa Met.	54.6	89.0	61	1175.9	1186.7	99	5
	Mpemba Vet	10.2	61.9	16	703.4	988.4	71	1
	Mulanje Boma	83.3	70.2	119	1595	1399.1	114	4
	Naminjiwa Agric	7.1	44.3	16	539.9	873.6	62	1
	Satemwa Tea Est	12.2	63.1	19	455.4	917.2	50	4
	Thuchila Agric	14.9	37.9	39	698.1	774.9	90	3
	SHIRE VALLEY	Chikwawa Boma	1.6	32.9	5	322.6	680.1	47
Kasinthula Res. Stn.		7.7	29.6	26	306.2	646	47	4
Makhanga Met		10.3	38.0	27	411.8	650.5	63	1
Nchalo Sucoma		37.5	19.3	194	622.3	578.8	108	4
Ngabu Met.		24.5	37.3	66	362.1	669.7	54	4
Nsanje Boma		15.3	49.9	31	820.8	942.8	87	5

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 11 TO 20 MARCH 2018

ADD/ STATION	MAX TEMP (°C)	MIN TEMP (°C)	ABS MAX (°C)	ABS MIN (°C)	WIND SPEED Km/hour	RH %	SUN SHINE HOURS	Eo mm per day	Et mm per day	RAD- TION calcm ⁻² p/day
KARONGA ADD										
Chitipa	26.7	17.0	28.3	16.5	5.0	77	5.1	5.3	4.2	7.6
Karonga	29.8	21.1	30.5	20.5	3.6	78	6.0	6.1	4.8	8.2
MZUZU ADD										
Bolero	28.3	17.9	29.9	16.0	1.1	73	6.2	5.7	4.5	8.3
Mzimba	27.4	16.7	29.2	14.1	2.5	79	6.0	5.5	4.3	8.2
Mzuzu	25.1	16.8	27.0	15.2	4.7	82	5.3	5.2	4.0	7.8
Nkhata Bay	29.8	21.2	32.4	20.0	2.9	82	6.4	6.1	4.8	8.5
KASUNGU ADD										
Kasungu	26.5	17.9	28.5	16.5	3.2	74	6.6	5.8	4.6	8.6
LILONGWE ADD										
Chitedze	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dedza	24.5	15.6	25.2	12.8	4.3	80	7.5	5.8	4.5	9.2
KIA	26.4	17.7	27.8	15.3	4.7	76	7.7	6.3	4.9	9.3
SALIMA ADD										
Nkhotakota	28.8	21.7	30.9	19.7	2.9	76	7.4	6.7	5.3	9.2
Salima	30.0	22.1	31.5	20.0	6.5	75	7.4	6.8	5.4	9.2
MACHINGA ADD										
Makoka	28.0	18.1	30.4	16.9	2.5	77	6.9	6.0	4.7	8.8
Mangochi	32.4	22.4	34.0	20.5	3.2	72	9.2	7.7	6.1	10.3
Monkey Bay	30.5	22.7	31.1	21.3	6.5	65	9.2	7.8	6.3	10.3
Ntaja	30.2	20.6	31.4	17.6	5.0	72	9.1	7.4	5.8	10.3
BLANTYRE ADD										
Bvumbwe	25.0	16.1	26.4	14.6	5.8	82	6.4	5.5	4.3	8.5
Chichiri	26.1	18.4	27.4	17.2	5.4	78	6.5	5.9	4.6	8.6
Chileka	29.2	19.7	30.5	18.9	10.4	70	7.1	6.9	5.5	9.0
Mimosa	29.5	19.9	31.0	17.4	3.6	68	6.4	6.3	5.0	8.5
SHIRE VALLEY ADD										
Ngabu	33.5	23.7	35.3	22.9	2.2	72	9.2	7.9	6.3	10.4

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
- kWh = 3.6 MJ