



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: 01 – 10 March 2018

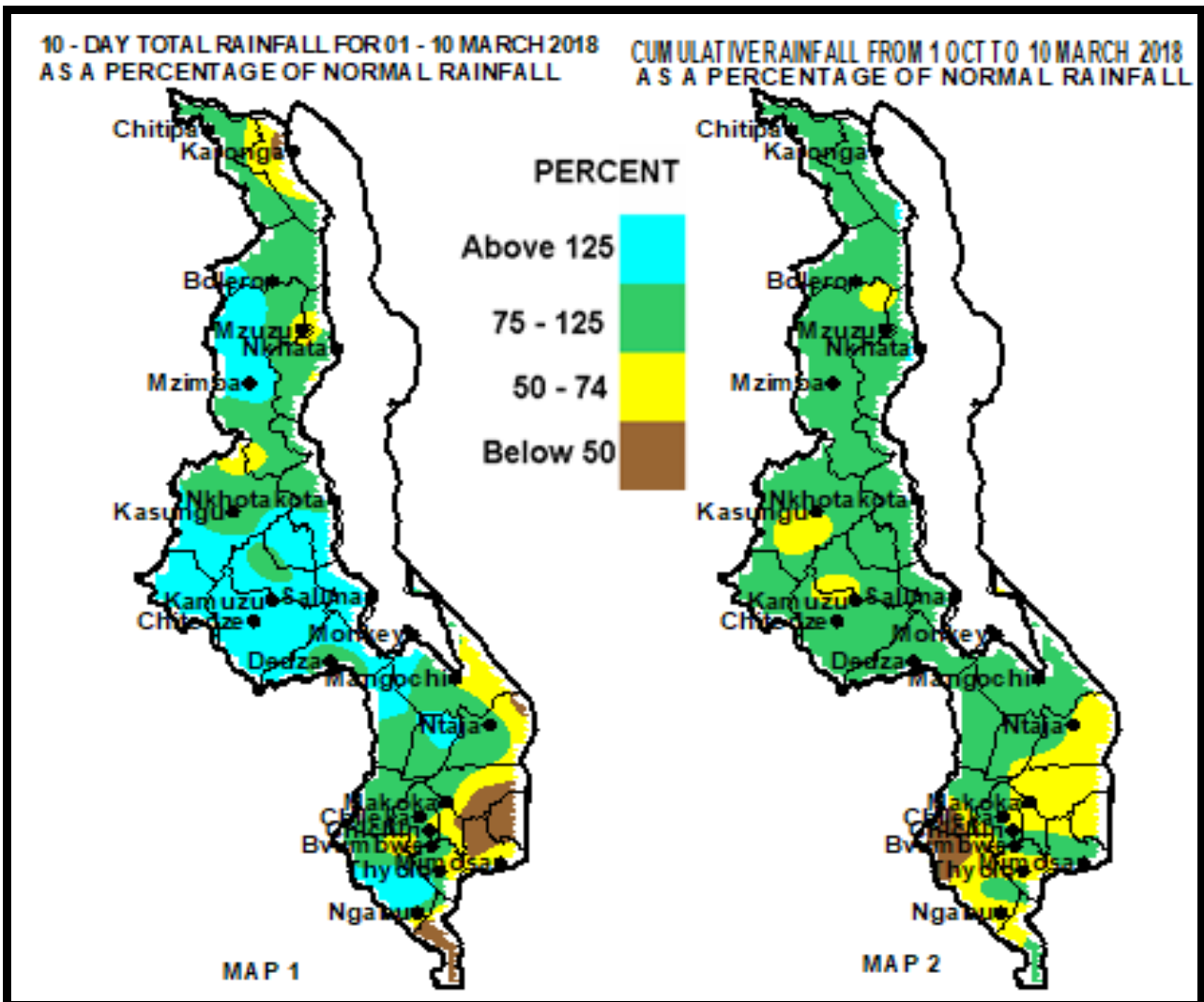
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HIGHLIGHTS

- Heavy rains cause devastating riverine flooding in Lilongwe City...
- Average cumulative rainfall amounts experienced in Malawi...
- More rains expected over Malawi during the period 11 to 20 March 2018...



Rainfall Maps by 10 March 2018

1.0 WEATHER SUMMARY

During the first ten days of March 2018, moist and unstable Congo Air mass was more active over central Malawi. As a result, widespread locally heavy and above average cumulative rainfall amounts were experienced particularly over central Malawi (Light Blue Colour on Map 1).

1.1 RAINFALL SITUATION

There was a further improvement in rainfall performance during the first ten days of March 2018 as more areas in Malawi had received heavy rainfall amounts. Several places had recorded above average cumulative rainfall amounts. In the City of Lilongwe, high rainfall amounts resulted in flooding of Lingadzi River at Ntandire and destruction of property. Heavy cumulative rainfall amounts in excess of 120mm were recorded over several places particularly in central Malawi. For instance, in Central Malawi Salima Met recorded 285mm, Lifuwu Research Station had 246mm, Chileka Namitete reported 214mm, Ntchisi Agric 211mm, Kasiya Agric 166mm, Kamuzu International Airport (KIA) Met recorded 148mm and Mlangeni Njolomole 137mm while in southern Malawi Nchalo had 152mm and Mulanje Boma 148mm. Up north Mzimba Met had 124mm. Otherwise several places had experienced wet weather conditions with an average of 5 to 6 rainy days. More details are in Table 1 and Map 1. The spatial distribution of cumulative rainfall since the start of 2017/18 rainfall season in October 2017 up to 10 March 2018 is shown in Map 2. The map shows that average cumulative rainfall amounts (Green colour) have been received over the larger part of Malawi. However, by 10 March 2018 pockets of below average rainfall amounts still existed particularly over southern Malawi (Yellow colour on the map) due to low rainfall and prolonged dry spells that were experienced in January 2018.

1.3 AIR TEMPERATURE

Warm to hot temperatures had persisted over Malawi during the first ten days of March 2018. Mean daily maximum temperatures ranged from 25°C at Dedza to 33°C at Ngabu while daily average minimum temperatures had ranged from 15°C to 24°C. During the same period the highest temperature was 38°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 first 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 0.7km per hour at Bolero to 9.7km per hour at Chileka. More details are in Table 2.

1.5 RELATIVE HUMIDITY

During the period 01 to 10 March 2018, air over Malawi was generally moist. Daily average relative humidity

values recorded from various weather stations in Malawi had ranged from 61% at Monkey Bay to 84% at Mzuzu. Details are on the Table 2.

1.6 SUNSHINE HOURS

During the period 01 to 10 March 2018, Malawi had experienced increased cloudiness. The daily average values of sunshine hours were generally lower than 6 hours per day. Consequently, the amount of solar radiation received over most areas was between 7 and 9 calories per square centimeter per day. More details are in Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

During the first ten days of March 2018 moderate to heavy rainfall fell over most parts 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 have 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 particularly the early maturing crop varieties were mostly between maturity and drying stages.

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 to above normal cumulative rainfall amounts.

4. OUTLOOK FOR 11 TO 20 MARCH 2018

Models for short and medium range forecasts suggest that moist and unstable Congo Air mass is likely to remain more active over central and northern Malawi while the south is mostly likely to be under easterly waves during the second ten days of March 2018. Hence, farmers are advised to continue planting early maturing crop varieties like sweet potatoes and cassava and also to practice infield rainwater harvesting technologies.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR 01 TO 10 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.	29.8	115.8	26	689.4	731.3	94	3
	Chitipa Met	70.0	64.3	109	730.5	761.6	96	8
	Karonga Met.	25.0	73.4	34	595.1	614.8	97	6
	Lupembe	37.5	65.6	57	584.9	558.6	105	3
	Vinthukutu Agric	61.2	76.7	80	917.9	679.0	135	5
MZUZU	Bolero Met	54.7	47.9	114	495.4	538.4	92	7
	Bwengu Agric.	40.6	38.1	107	321.1	615.4	52	5
	Chikangawa forest	94.3	76.1	124	634.0	810.4	78	8
	Chintheche Agric	81.0	136.1	60	1298.9	1011.4	128	2
	Ekwendeni Agric.	29.1	46.3	63	415.4	660.4	63	4
	Mbawa Res. Stn	65.9	68.8	96	766.7	688.9	111	8
	Mzimba Met	123.9	71.7	173	757.8	748.9	101	7
	Mzuzu Met.	49.4	81.0	61	796.5	717.1	111	6
	NkhataBay Met.	96.5	97.5	99	1075.0	819.2	131	8
	Rumphi Boma	68.9	61.4	112	647.9	600.7	108	5
Zombwe Agric	70.7	56.5	125	557.7	588.7	95	5	
KASUNGU	Dowa Agric	86.0	74.8	115	672.0	748.7	90	5
	Kaluluma DTC	39.2	69.5	56	303.7	686.6	44	4
	Kasungu Met	79.3	64.3	123	633.1	673.4	94	5
	Lisasadzi	79.3	52.9	150	420.6	719.1	58	6
	Malomo Agric	116.7	84.3	138	639.8	714.6	90	7
	Madisi Agric	73.5	66.7	110	803.0	735.3	109	4
	Mponela Agric	63.6	61.2	104	467.4	704.4	66	6
	Mwimba Research	36.4	76.5	48	396.0	771.2	51	3
SALIMA	Dwangwa	91.0	108.4	84	839.7	900.5	93	5
	Lifuwu	245.7	98.7	249	922.9	978.5	94	7
	Nkhotakota Met	101.4	118.2	86	1035.3	988.4	105	5
	Salima Met	285.2	98.7	289	933.7	966.2	97	6
LILONGWE	Chileka Namitete	213.6	44.7	478	930.8	782.4	119	5
	Chitedze Met.	106.8	67.5	158	707.4	737.0	96	5
	Dzonzi Forest	53.7	82.9	65	650.7	836.3	78	4
	K.I.A Met	147.8	69.1	214	519.7	721.7	72	6
	Kasiya Agric	166.3	83.5	199	501.7	834.1	60	4
	Mlangeni Njolomole	137.0	78.3	175	593.9	816.9	73	4
	Nathenje Agric	92.6	62.7	148	824.4	718.7	115	4
	Ntcheu - Nkhande	106.0	79.3	134	758.2	896.6	85	3
	Dedza Met	53.8	86.8	62	584.1	851.5	69	6
MACHINGA	Balaka Township	58.2	57.5	101	539.3	736.5	73	2
	Chikweo Agric.	34.9	71.6	49	515.9	878.0	59	3
	Chingale Agric	45.9	57.6	80	337.8	781.1	43	4
	Mpilipili (Makanjila)	35.9	61.5	58	389.6	770.9	51	2
	Makoka Met	44.2	65.1	68	468.9	825.1	57	4
	Mangochi Met.	27.9	55.1	51	665.6	586.0	114	4
	Monkey Bay Met.	73.8	42.4	174	580.1	521.9	111	4
	Namiasi Agric	27.0	44.0	61	490.2	659.8	74	3
	Namwera Agric	51.1	71.1	72	817.4	851.2	96	3
	Ntaja Met.	69.7	58.0	120	532.8	734.0	73	6
	Phalula Agric	74.1	57.2	130	595.5	720.6	83	2
	Toleza Farm	99.0	64.0	155	901.0	731.4	123	2
	Zomba RTC	45.5	76.0	60	709.1	979.7	72	4
BLANTYRE	Bvumbwe Met.	83.1	70.3	118	845.4	904.0	94	4
	Chichiri Met.	12.5	24.6	51	709.3	997.1	71	5
	Chileka Airport	74.0	51.8	143	689.1	736.6	94	4
	Chiradzulu Agric	35.5	73.1	49	447.2	836.9	53	3
	Chizunga Factory	56.9	89.1	64	692.6	1047.3	66	5
	Masambanjati Agric	83.5	100.3	83	831.9	1049.0	79	5
	Mimosa Met.	80.8	95.1	85	1121.3	1097.7	102	8
	Mpemba Vet	18.6	77.9	24	693.2	926.5	75	2
	Mulanje Boma	148.4	119.1	125	1511.7	1328.9	114	4
	Mwanza Boma	70.2	65.8	107	N/A	846.3	N/A	1
	Naminjiwa Agric	17.5	66.3	26	532.8	829.3	64	3
	Neno Agric	55.6	79.9	70	1208.2	921.6	131	3
	Satemwa Tea Est.	48.5	73.0	66	443.2	854.1	52	4
	Thuchila Agric	20.9	68.6	30	683.2	737.0	93	3
	SHIRE VALLEY	Chikwawa Boma	30.6	43.8	70	321.0	647.2	50
Kasinthula Res. Stn.		21.5	87.2	25	298.5	616.4	48	3
Nchalo		151.9	41.0	370	584.8	559.5	105	3
Ngabu Met.		14.9	41.8	36	337.6	632.4	53	3
Nsanje Boma		16.6	81.5	20	805.5	892.9	90	2

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 01 TO 10 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	25.9	17.1	29.6	16.1	4.7	78	3.3	4.7	3.7	6.5
Karonga	30.9	21.7	34.0	20.5	4.0	74	3.9	5.5	4.4	6.9
MZUZU ADD										
Bolero	26.5	18.7	29.9	18.0	0.7	76	4.2	5.0	4.0	7.1
Mzimba	24.9	17.2	28.7	15.6	2.9	83	4.1	4.8	3.7	7.1
Mzuzu	24.6	17.1	28.4	14.6	5.4	84	3.4	4.6	3.6	6.6
Nkhata Bay	29.5	21.0	32.5	19.7	1.8	83	4.2	5.2	4.2	7.1
KASUNGU ADD										
Kasungu	27.5	18.3	30.0	17.6	3.2	77	6.0	5.8	4.5	8.3
LILONGWE ADD										
Chitedze	27.6	18.0	30.2	16.2	1.1	78	6.1	5.7	4.4	8.4
Dedza	24.5	15.3	28.1	13.4	3.2	79	6.0	5.4	4.2	8.3
KIA	25.9	17.6	28.5	15.5	3.2	79	5.8	5.5	4.3	8.2
SALIMA ADD										
Nkhotakota	29.3	21.7	31.1	21.1	2.2	76	7.5	6.7	5.3	9.3
Salima	29.3	21.3	31.5	20.3	4.7	80	7.5	6.7	5.3	9.3
MACHINGA ADD										
Makoka	27.9	18.4	31.4	17.0	1.4	79	6.4	5.8	4.6	8.6
Mangochi	32.2	22.8	34.0	22.0	2.9	74	8.4	7.5	5.9	9.9
Monkey Bay	27.0	23.0	33.8	21.6	5.0	61	8.3	7.2	5.7	9.8
Ntaja	29.3	20.8	31.9	19.9	3.2	78	5.9	6.0	4.8	8.2
BLANTYRE ADD										
Bvumbwe	25.6	15.9	28.8	14.6	4.7	79	6.3	5.6	4.4	8.5
Chichiri	27.0	18.6	30.6	17.3	5.0	78	6.5	6.0	4.7	8.6
Chileka	28.7	20.3	33.1	19.4	9.7	72	8.4	7.3	5.8	9.9
Mimosa	29.3	19.9	33.5	18.0	2.9	68	6.1	6.1	4.9	8.4
SHIRE VALLEY ADD										
Ngabu	32.7	24.0	37.6	23.0	1.4	64	8.6	7.6	6.1	10.0

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