



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 – 28 February 2018

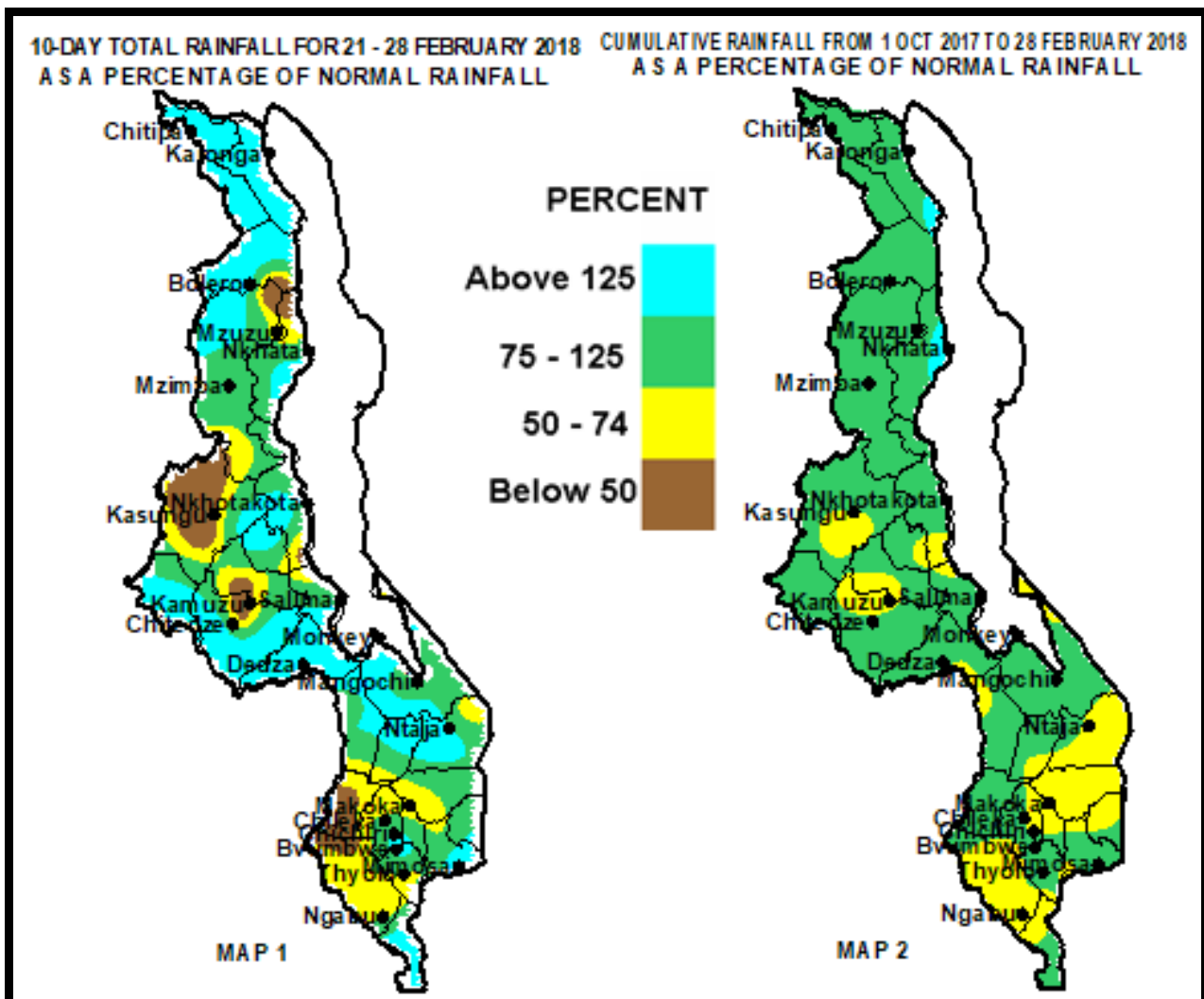
Season: 2017/2018

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HIGHLIGHTS

- Moderate to local heavy rainfall amounts experienced in more areas...
- Average cumulative rainfall amounts recorded over most parts of Malawi...
- More rains expected over Malawi during the period 01 to 10 March 2018...



Rainfall Maps by 28 February 2018

1.0 WEATHER SUMMARY

During the period 21 to 28 February 2018, the Inter Tropical Convergence Zone (ITCZ) and moist westerly air mass became active over Malawi. As a result, moderate to locally heavy rainfall amounts were experienced over Malawi and more areas reported above average cumulative rainfall amounts (Light Blue Colour on Map 1).

1.1 RAINFALL SITUATION

There was an improvement in rainfall performance during the period 21 to 28 February 2018 as more areas had received moderate to locally heavy rainfall amounts. Several places had recorded above average cumulative rainfall amounts. Heavy rainfall amounts in excess of 100mm were reported at several places Chintheche Agric in Nkhata Bay which had reported 152mm, Namitete Agric in Lilongwe had recorded 148mm, Vinthukutu Agric in Karonga South had reported 142mm, Nathenje Agric in Lilongwe and Nsanje Boma received 133mm each, Mimosa Met in Mulanje district which had recorded 130mm, Lupembe Agric in Karonga had 129mm, Chitipa Met had 119mm, Malomo Agric in Ntchisi district reported 118mm and Ntaja Met in Machinga reported 107mm. Otherwise several places had experienced 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 28 February 2018 is shown in Map 2. The map indicates that most parts of Malawi have received their long term average cumulative rainfall amounts (Green colour). However, pockets of below average rainfall amounts still existed in some areas particularly over southern and central 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 continued to prevail over Malawi during the last days of February 2018. Mean daily maximum temperatures ranged from 25°C at Dedza to 35°C at Ngabu while daily average minimum temperatures had ranged from 16°C to 25°C. During the same period the highest temperature was 37°C reported at Ngabu in Chikwawa. On the otherhand the lowest temperature was 12°C recorded at Mzuzu. Details are in Table 2.

1.4 WIND SPEEDS

During the period 21 to 28 February 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 7.6km per hour at Chileka. More details are in Table 2.

1.5 RELATIVE HUMIDITY

During the last days of February 2018, air over Malawi was generally moist. Daily average relative humidity

values recorded from various weather stations in Malawi were mostly above 75%. Details are on the Table 2.

1.6 SUNSHINE HOURS

During the period 21 to 28 February 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 had also decreased and most areas had recorded between 7 and 9 calories per square centimeter per day. More details are in Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

During the period 21 to 28th February 2018 there was an improvement in rainfall performance as moderate to locally 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 have supported planting of early maturing crop varieties like sweet potatoes and cassava particularly in areas where crops like maize, the staple food crop, has dried up permanently due to prolonged dry spells experienced in January 2018. Otherwise the crop situation in most fields particularly in the south was reported in poor state and reduced harvests are expected in 2017/18 season. Maize crop was reported to be ranging from flowering to maturity 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 01 TO 10 MARCH 2018

Models for short and medium range forecasts show that moist and unstable Congo Air mass is likely to be more active over Malawi during the first ten days of March 2018. Hence, farmers particularly are strongly advised to utilize this rainfall by 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 21 TO 28 FEBRUARY 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.	60.2	54.6	110	659.6	615.5	107	3
	Chitipa Met	119.0	58.7	203	660.5	697.3	95	4
	Karonga Met.	72.7	55.9	130	570.1	541.4	105	4
	Lupembe	128.5	52.4	245	547.4	493.0	111	3
	Vinthukutu Agric	141.7	48.9	290	856.7	602.3	142	3
MZUZU	Bolero Met	57.1	35.1	163	440.7	490.5	90	5
	Bwengu Agric.	0.0	45.4	0	N/A	577.3	N/A	0
	Chikangawa forest	39.2	63.9	61	539.7	734.3	73	5
	Chintheche Agric	151.5	66.2	229	1217.9	875.3	139	3
	Mbawa Res. Stn	43.9	46.8	94	700.8	620.1	113	5
	Mzimba Met	52.2	54.4	96	633.9	677.2	94	4
	Mzuzu Met.	22.5	42.9	52	747.1	636.1	117	4
	NkhataBay Met.	48.1	55.3	87	978.5	721.7	136	4
	Rumpho Boma	0.5	44.5	1	579.0	539.3	107	1
	Zombwe Agric	62.9	47.4	133	487.0	532.2	92	4
	KASUNGU	Dowa Agric	53.9	64.9	83	586.0	673.9	87
Kaluluma Agric		9.5	40.8	23	264.5	617.1	43	3
Kasungu Met		14.6	59.6	24	553.8	609.1	91	3
Lisasadzi		10.6	54.8	19	341.3	666.2	51	5
Malomo Agric		117.6	48.8	241	523.1	630.3	83	2
Madisi Agric		73.8	73.7	100	729.5	668.6	109	2
Mponela Agric		17.0	61.3	28	403.8	643.2	63	1
Mwimba Research		22.4	69.8	32	359.6	694.7	52	2
Ntchisi Boma		19.0	75.3	25	567.2	905.4	63	2
Dowa Agric		53.9	64.9	83	586.0	673.9	87	5
SALIMA		Dwangwa.	64.8	70.1	92	748.7	792.1	95
	Lifuwu	74.2	86.4	86	677.2	879.8	77	6
	Nkhotakota Met	92.8	85.7	108	933.9	870.2	107	6
	Salima Met	95.3	92.8	103	648.5	867.5	75	6
LILONGWE	Chileka Namitete	148.4	60.4	246	717.2	737.7	97	3
	Chitedze Met.	31.8	66.9	48	600.6	669.5	90	4
	Dzonzi Forest	42.7	46.0	93	597.0	753.4	79	5
	K.I.A Met	22.7	66.5	34	371.9	652.6	57	5
	Mlangeni Njolomole	28.2	57.8	49	456.9	738.6	62	2
	Nathenje Agric	133.3	66.5	200	731.8	656.0	112	6
	Ntcheu - Nkhande	97.3	69.3	140	652.2	817.3	80	5
	Dedza Met	99.8	42.3	236	530.3	764.7	69	5
MACHINGA	Balaka Agric	59.1	47.2	125	481.1	679.0	71	5
	Chikweo Agric.	24.8	67.5	37	481.0	806.4	60	3
	Chingale Agric	38.2	54.0	71	291.9	723.5	40	3
	Mpilipili (Makanjila) Agric	24.3	58.4	42	353.7	709.4	50	2
	Makoka Met	24.5	56.8	43	424.7	760.0	56	3
	Monkey Bay Met.	89.6	33.7	266	506.3	479.5	106	4
	Namiasi Agric	24.2	50.0	48	463.2	615.8	75	3
	Namwera Agric	97.5	63.1	155	766.3	780.1	98	5
	Ntaja Met.	106.7	57.5	186	463.1	676.0	69	5
	Phalula Agric	35.1	57.6	61	521.4	663.4	79	4
	Toleza Farm	86.0	49.9	172	802.0	667.4	120	4
Zomba Agric	46.3	66.1	70	663.6	903.7	73	2	
BLANTYRE	Bvumbwe Met.	94.0	62.4	151	762.3	833.7	91	5
	Chichiri Met.	82.1	52.5	156	696.8	972.5	72	6
	Chileka Airport Met	50.8	47.9	106	615.1	684.8	90	5
	Chiradzulu Agric	27.7	53.3	52	411.7	763.8	54	3
	Chizunga Factory	68.8	60.7	113	635.7	958.2	66	4
	Masambanjati Agric	61.5	75.6	81	748.4	948.7	79	1
	Mimosa Met.	130.2	62.9	207	1040.5	1002.6	104	4
	Mpemba Agric	35.9	54.7	66	674.6	848.6	79	2
	Mulanje Boma	89.4	55.9	160	1363.3	1209.8	113	5
	Mwanza Boma	11.0	57.4	19	N/A	780.5	N/A	2
	Naminjiwa Agric	54.6	53.5	102	515.3	763.0	68	2
	Neno Agric	77	51.2	150	1152.6	841.7	137	4
	Thuchila Agric	39.6	47.4	84	662.3	668.4	99	3
	SHIRE VALLEY	Chikwawa Boma	24.2	32.8	74	290.4	603.4	48
Kasinthula Res. Stn.		25.2	41.4	61	277.0	529.2	52	2
Ngabu Met.		21.8	40.9	53	322.7	590.6	55	2
Nsanje Boma		132.9	43.6	305	788.9	811.4	97	4

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 21 TO 28 FEBRUARY 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	28.2	17.4	30.2	15.4	6.1	74	5.4	5.8	4.6	8.0
Karonga	31.2	21.8	32.5	20.5	4.0	72	5.9	6.5	5.2	8.4
MZUZU ADD										
Bolero	28.7	18.3	31.7	16.8	1.1	73	5.8	5.8	4.6	8.2
Mzimba	27.8	17.5	30.4	16.5	2.9	74	5.7	5.7	4.5	8.2
Mzuzu	26.3	16.3	28.8	12.4	4.7	80	5.7	5.5	4.3	8.2
Nkhata Bay	30.7	21.5	33.0	20.0	2.2	80	4.5	5.6	4.4	7.4
KASUNGU ADD										
Kasungu	28.0	18.6	28.8	17.5	4.0	75	4.8	5.5	4.4	7.6
LILONGWE ADD										
Chitedze	28.1	18.8	29.3	17.6	1.4	80	5.5	5.6	4.4	8.0
Dedza	25.0	16.1	26.2	14.9	4.7	82	5.5	5.3	4.1	8.0
KIA	27.3	17.9	29.0	17.0	4.0	79	5.4	5.6	4.4	8.0
SALIMA ADD										
Nkhotakota	29.3	22.1	32.0	21.1	2.2	52	5.6	6.4	5.2	8.1
Salima	30.5	22.5	33.2	22.0	5.0	75	5.6	6.2	5.0	8.1
MACHINGA ADD										
Makoka	28.4	18.9	29.9	18.0	1.8	80	5.9	5.8	4.5	8.3
Mangochi	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N.A	N/A	N/A
Monkey Bay	30.7	23.4	32.9	21.1	5.8	63	6.5	7.0	5.7	8.7
Ntaja	30.2	20.8	31.2	18.4	4.3	81	5.9	6.1	4.9	8.3
BLANTYRE ADD										
Bvumbwe	25.9	16.8	27.4	15.8	5.0	83	4.6	5.0	4.0	7.4
Chichiri	26.7	19.4	28.6	18.1	4.0	82	4.8	5.3	4.2	7.5
Chileka	29.7	20.8	31.5	19.8	7.6	75	5.8	6.3	5.1	8.2
Mimosa	30.1	20.1	32.3	19.1	3.2	79	5.0	5.7	4.5	7.7
Ngabu										
Ngabu	34.6	24.6	36.8	22.8	1.8	71	8.0	7.7	6.2	9.6

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