



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 January 2018

Season: 2017/2018

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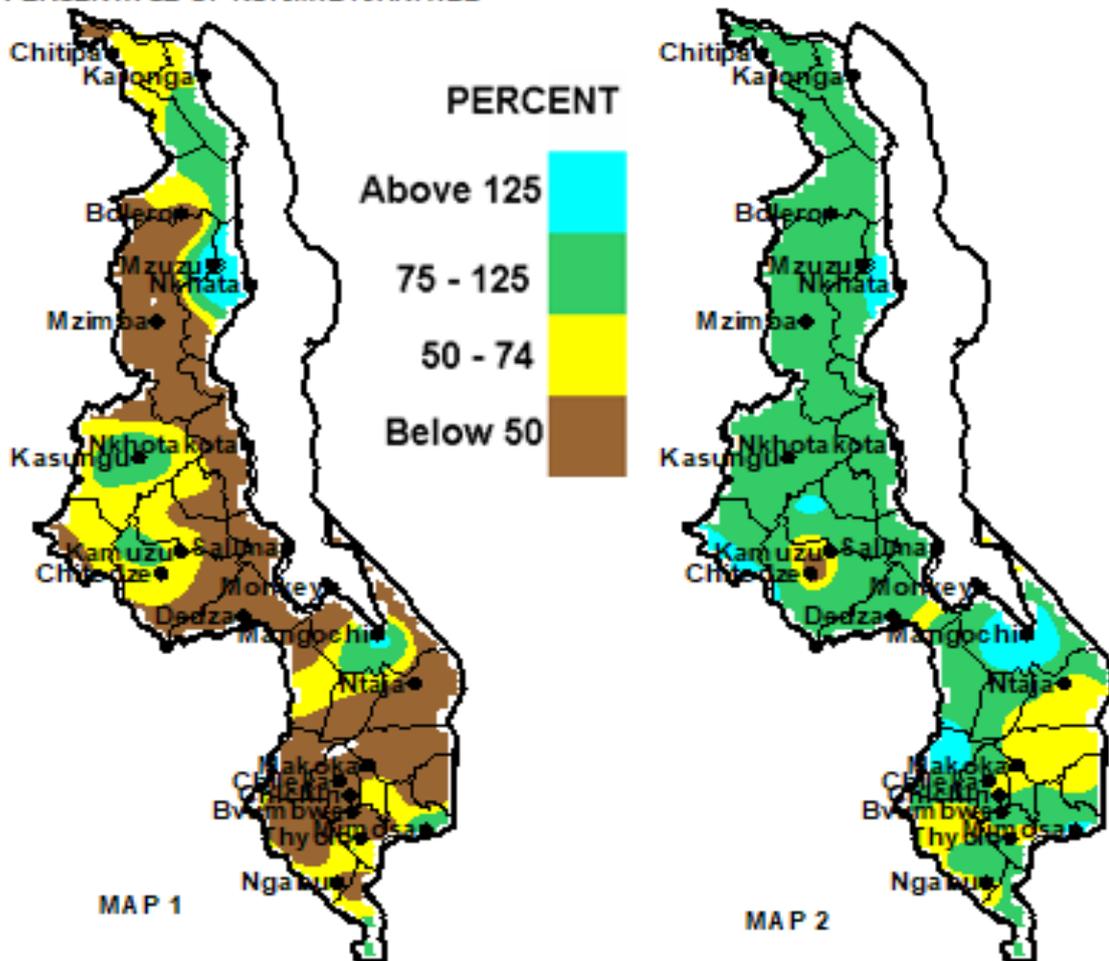
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HIGHLIGHTS

- Mostly below average rainfall experienced over Malawi...
- Low rainfall and dry spells negatively affect crop production ...
- Wet weather likely to return to most areas during 11 to 20 January 2018...

10-DAY RAINFALL FOR 01 - 10 JANUARY 2018
AS A PERCENTAGE OF NORMAL RAINFALL

CUMULATIVE RAINFALL FROM 1 OCTOBER TO 10 JANUARY 2018
AS A PERCENTAGE OF NORMAL RAINFALL



Rainfall Maps by 10 January 2018

1.0 WEATHER SUMMARY

During the period 01 to 10 January 2018, the Inter Tropical Convergence Zone (ITCZ) remained over northern Malawi and was less active while a ridge of high pressure covered most of southern and central Malawi. As a result most areas in southern and central Malawi experienced dry weather conditions and below average cumulative rainfall amounts (Yellow and Brown colours on Map 1).

1.1 RAINFALL SITUATION

During the first ten days of January 2018, very few areas mostly in northern Malawi reported locally heavy rainfall amounts. High cumulative rainfall amounts of at least 100mm during the ten day period were confined to few places including Nkhata Bay Met 338mm, Lujeri Tea Estate in Mulanje 176mm, Mzuzu Met had 175mm, Chintheche Agric recorded 126mm, Mimosa Met in Mulanje reported 122mm and Mulanje Agric in Mulanje had 108mm. Otherwise dry weather conditions and below average rainfall amounts were experienced over most areas in Malawi. More details are in Table 1 and Map 1.

Map 2 indicates the spatial cumulative rainfall distribution since the start of the 2017/18 rainfall season in October 2017 up to 10 January 2018. The map shows that most areas in Malawi have received normal to above normal rainfall amounts (Green to light Blue colours). However, pockets of below average seasonal rainfall amounts still existed over southern Malawi (Yellow and brown colours).

1.3 AIR TEMPERATURE

Warm to hot temperatures were experienced over most parts of Malawi during the period 01 to 10 January 2018. Mean daily maximum temperatures ranged between 25 and 34°C while the average daily minimum temperatures had ranged from 14°C at Dedza to 24°C at Mangochi. During the same period the hottest temperature was 40°C still reported at Ngabu in Chikwawa. On the otherhand the lowest temperature was 12°C recorded at Dedza Boma. Details are in Table 2.

1.4 WIND SPEEDS

During the first ten days of January 2018 most parts of Malawi experienced 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 2.5km per hour at Nkhotakota to 11.5km per hour at Chileka Airport. More details are in Table 2.

1.5 RELATIVE HUMIDITY

During the period 01 to 10 January 2018, air over Malawi was fairly moist. Daily average relative humidity values recorded from various weather stations in Malawi had ranged from 55% at Chileka Airport in Blantyre district to 77% at Mzuzu in Mzimba district. Details are on the Table 2.

1.6 SUNSHINE HOURS

Mostly sunny weather was observed over most areas in Malawi during the period 01 to 10 January 2018. The daily average values of sunshine hours had ranged between 5 and 10 hours. Consequently the amount of solar radiation received over most areas was between eight (8) and eleven (11) calories per square centimeter per day. More details are in Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

During the period 01 to 10 January 2018 good rains with better distribution and amounts were only confined to some parts northern Malawi and in Mulanje district in Southern Malawi while low rainfall and prolonged dry spells negatively affected crop production in southern and some parts of central Malawi. Low rainfall and prolonged dry spells that were experienced in most parts of southern and some parts of central Malawi had caused soil moisture stress and wilting of crops. On the other hand good rains that fell in northern Malawi and some parts of Mulanje facilitated planting of roots and tubers, growth and development of crops, improved water availability, soil moisture reserves and pasture availability. The general crop stand in the fields was threatened by soil moisture stress. Maize crop was mostly at vegetative stage.

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 have been established and are predicted to persist up to March 2018. Based on weak La Niña conditions, the updated rainfall forecast for 2017/18 season in Malawi is that during the period January to March 2018 a greater part of the country would experience normal to above normal total rainfall amounts.

4. OUTLOOK FOR 11 TO 20 JANUARY 2018

Models for short and medium range forecasts show that both rain bearings namely Congo Air mass and Inter Tropical Convergence Zone are likely to become active over Malawi particularly from 15th January 2018 onwards. Therefore locally heavy rainfall and wet weather are likely to return to most parts of southern and central Malawi during the period 11 to 20 January 2018.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR 01 TO 10 JANUARY 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.	60.3	66.1	91	360.5	322.3	112	5
	Karonga Met.	29.0	63.0	46	293.8	276.4	106	5
	Lupembe	46.0	62.6	73	170.3	226.4	75	3
	Vinthukutu Agric	66.2	72.5	91	404.9	313.4	129	6
MZUZU	Bolero Met	35.2	62.6	56	218.4	238.2	92	6
	Bwengu Agric.	16.9	63.8	26	N/A	273.7	N/A	3
	Chikangawa forest	14.9	82.4	18	168.1	368.8	46	4
	Chelinda (Nyika)	68.0	77.0	88	416.0	419.4	99	6
	Chintheche Agric	125.6	107.7	117	673.7	481.0	140	3
	Emfeni Agric	24.9	77.0	32	N/A	313.2	N/A	2
	Euthini Agric.	30.0	72.9	41	N/A	296.6	N/A	3
	Mbawa Res. Stn	10.4	76.3	14	311.0	318.2	98	3
	Mzimba Met	4.5	92.7	5	254.5	336.6	76	1
	Mzuzu Met.	174.7	66.6	262	424.2	337.8	126	8
	NkhataBay Met.	337.9	89.9	376	650.3	409.2	159	6
	Rumphi Boma	20.0	64.5	31	370.3	245.6	151	4
Zombwe Agric	26.0	68.6	38	284.9	265.2	107	4	
KASUNGU	Dowa Agric	38.5	70.6	55	365.5	312.0	117	3
	Kaluluma DTC	6.7	59.1	11	N/A	307.1	N/A	2
	Kasungu Met	92.3	70.1	132	309.3	281.9	110	5
	Lisasadzi	50.7	77.2	66	156.5	321.1	49	7
	Malomo Agric	42.4	66.0	64	229.0	254.0	90	4
	Mchinji Boma	29.2	83.0	35	567.9	427.8	133	2
	Mponela Agric	23.1	68.0	34	113.8	282.1	40	2
	Ntchisi Boma	40.0	93.3	43	296.8	434.5	68	4
SALIMA	Dwangwa Sugar Corp.	13.5	85.8	16	338.7	418.9	81	1
	Lifuwu	0.0	85.3	0	248.1	344.6	72	0
	Nkhotakota Met	17.1	108.8	16	521.2	423.0	123	2
	Salima Met	3.3	94.8	3	287.1	364.3	79	2
LILONGWE	Chileka Namitete	47.6	86.1	55	526.6	384.6	137	2
	Dzonzi Forest	62.0	70.9	87	381.7	389.4	98	3
	K.I.A Met	43.4	72.7	60	189.3	295.4	64	5
	Kasiya Agric	86.7	87.3	99	219.9	419.5	52	4
	Mlangeni Njolomole	13.0	70.8	18	275.2	356.1	77	2
	Nathenje Agric	32.0	72.1	44	404.7	311.2	130	2
	Ntcheu - Nkhande	43.7	86.3	51	368.3	405.5	91	3
	Dedza Met	7.5	75.4	10	254.3	346.9	73	3
MACHINGA	Balaka Township	40.2	84.1	48	306.8	333.5	92	3
	Chancellor College	13.1	100.5	13	295.1	512.1	58	2
	Chikweo Agric.	20.4	86.1	24	353.1	389.3	91	2
	Chingale Agric	0.0	70.4	0	204.2	362.6	56	0
	Mpilipili (Makanjila)	0.0	91.9	0	167.7	346.7	48	0
	Makoka Met	11.7	76.4	15	220.9	379.4	58	3
	Mangochi Met.	91.0	54.2	168	487.7	210.7	231	2
	Namiasi Agric	42.7	59.0	72	151.8	269.6	56	2
	Namwera Agric	16.6	89.6	19	333.5	385.2	87	2
	Ntaja Met.	14.3	70.1	20	193.1	329.4	59	3
	Phalula Agric	0.0	72.7	0	296.6	345.1	86	0
	Toleza Farm	35.0	64.8	54	291.5	338.3	86	3
	Zomba RTC	5.5	81.7	7	316.6	469.0	68	2
BLANTYRE	Bvumbwe Met.	28.2	80.2	35	422.6	416.5	101	4
	Chichiri Met.	23.0	88.2	26	350.3	666.2	53	5
	Chileka Airport	5.4	68.1	8	337.2	352.8	96	1
	Chiradzulu Agric	68.1	66.4	103	278.9	385.5	72	4
	Chizunga Factory	25.7	96.6	27	364.6	573.8	64	3
	Lujeri Tea Estate	175.8	135.4	130	1198.4	813.6	147	4
	Masambanjati Agric	86.0	96.9	89	512.5	513.9	100	5
	Mimosa Met.	121.5	97.7	124	600.7	561.7	107	5
	Mpemba Vet	13.5	87.5	15	390.7	456.5	86	2
	Mulanje Boma	106.7	107.1	100	959.8	702.4	137	4
	Mwanza Boma	39.2	73.5	53	N/A	401.6	N/A	4
	Naminjiwa Agric	2.0	76.2	3	243.7	373.3	65	1
	Satembwa Tea Est	47.4	75.6	63	284.6	417.4	68	4
	Thuchila Agric	36.5	67.7	54	442.0	331.5	133	4
SHIRE VALLEY	Chikwawa Boma	21.6	66.8	32	137.1	326.7	42	3
	Kasinthula Res. Stn.	15.1	62.9	24	157.1	291.5	54	2
	Makhanga Met	12.6	62.2	20	272.3	320.6	85	2
	Nchalo Sucoma	23.6	53.1	44	335.7	255.9	131	3
	Ngabu Met.	36.2	61.3	59	174.5	312.3	56	4
	Nsanje Boma	85.5	75.7	113	463.7	430.9	108	4

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 01 TO 10 JANUARY 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	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Karonga	31.0	21.8	34.0	20.2	7.6	68	5.4	6.6	5.4	8.1
MZUZU ADD										
Bolero	28.3	18.7	31.6	16.5	5.4	71	5.8	6.1	4.9	8.3
Mzimba	27.3	16.8	29.9	14.5	4.7	72	6.1	6.0	4.7	8.6
Mzuzu	25.9	16.6	30.0	14.2	5.4	77	6.0	5.8	4.5	8.5
Nkhata Bay	30.6	20.6	33.5	19.4	3.2	74	6.1	6.4	5.1	8.5
KASUNGU ADD										
Kasungu	28.0	15.3	30.0	18.0	5.0	66	8.2	6.7	5.3	9.9
LILONGWE ADD										
Chitedze	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dedza	26.5	14.3	28.9	12.3	6.5	69	8.5	6.7	5.2	10.2
KIA	28.2	17.8	30.2	15.3	6.5	66	8.5	7.2	5.7	10.1
SALIMA ADD										
Nkhotakota	30.2	22.4	31.5	21.0	2.5	67	9.1	7.7	6.1	10.6
Salima	31.4	22.3	33.0	22.0	10.8	65	10.3	8.8	7.0	11.3
MACHINGA ADD										
Makoka	28.9	17.8	31.7	15.1	6.5	66	9.9	7.8	6.1	11.1
Mangochi	32.1	23.4	35.4	20.5	5.4	62	9.5	8.4	6.7	10.8
Monkey Bay	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ntaja	31.4	20.2	33.6	18.2	6.5	65	9.1	7.9	6.3	10.6
BLANTYRE ADD										
Bvumbwe	26.3	15.0	29.8	12.2	6.1	72	9.7	7.1	5.5	11.0
Chichiri	27.7	17.8	30.8	14.7	5.4	64	9.6	7.5	5.9	10.9
Chileka	30.9	19.9	34.5	17.4	11.5	55	10.2	8.8	7.1	11.3
Mimosa	30.3	18.1	35.3	16.0	3.6	58	9.4	7.6	6.0	10.8
SHIRE VALLEY ADD										
Ngabu	34.1	23.1	39.5	20.7	2.5	65	9.8	8.5	6.8	11.1

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