



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 2017

Season: 2016/2017

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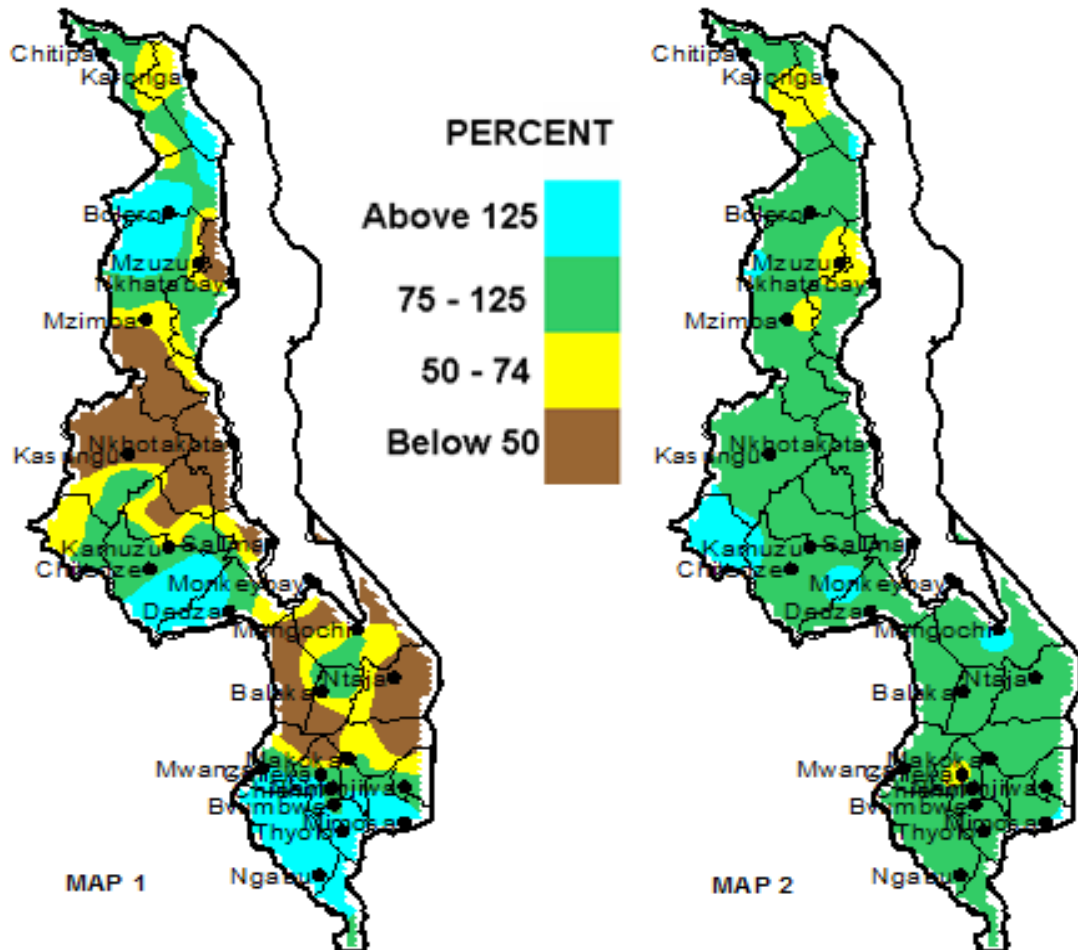
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HIGHLIGHTS

- Locally heavy rainfall experienced over some parts of Malawi...
- Maize crop was between maturity and harvesting stages...
- More rains expected over Malawi during the period 21 to 31 March 2017...

10- DAY TOTAL RAINFALL FOR 11 - 20 MARCH 2017
AS A PERCENTAGE OF NORMAL RAINFALL

CUMULATIVE RAINFALL FROM 1 OCT TO 20 MARCH 2017
AS A PERCENTAGE OF NORMAL RAINFALL



Rainfall Maps for 11 to 20 March 2017

1.0 WEATHER SUMMARY

During the period 11 to 20 March 2017, Easterly waves had covered most parts of Southern and Central Malawi while the North was within the Equatorial Trough. As a result average to above average rainfall was registered in some parts of Malawi particularly over the extreme south and most of the highlands (Green and light Blue colours on Map 1).

1.1 RAINFALL SITUATION

During the second ten days of March 2017, moderate to locally heavy rainfall amounts were reported over some parts of Malawi particularly over the extreme south and most of the highlands (Green and light Blue colours on Map 1). However, below average rainfall (Yellow and Brown colours in Map 1) was still registered in some parts of the country. High cumulative rainfall amounts of at least 100mm during the ten day period were reported at several places including 223mm recorded at Vinthukutu Agric in Karonga South, Lujeri Tea Estate in Mulanje 209mm, Chintheche Agric in Nkhata Bay received 199mm, Masambanjati Agric in Mulanje 165mm, Chikwawa Boma 159mm, Mulanje Agric 156mm, Nchalo 138mm, Mimosa Met 121mm, 108mm at Ngabu Met, and Thyolo Agric had 103mm. Many more areas had registered rainfall amounts of between 50 and 99mm. However a few stations particularly over central and southern Malawi still had recorded rainfall amounts of less than 25mm and this represented below average rainfall situation. More details are in Table 1 and Map 1.

Map 2 indicates the spatial cumulative rainfall distribution since the start of the 2016/17 rainfall season in October 2016, up to 20 March 2017. The map generally shows that normal to above normal rainfall amounts have been received in southern and central Malawi (Green and light Blue colours) while the north has registered normal rainfall with some pockets of below normal rainfall (Yellow colour).

1.3 AIR TEMPERATURE

Warm to hot temperatures were still experienced in most parts of Malawi during the second ten of March 2017. Mean daily maximum temperatures had ranged from 23°C at Bvumbwe in Thyolo district to 32°C at Ngabu while the mean daily minimum temperatures had ranged from 13°C at Dedza to 22°C at Ngabu. During the same period the hottest temperature was 35°C still recorded at Ngabu in Chikwawa. The lowest temperature was 11°C recorded at Dedza Met. Details are in Table 2.

1.4 WIND SPEEDS

During the period 11 to 20 March 2017 most parts of Malawi had experienced light to moderate wind speeds. For instance, daily average wind speeds measured at a height of two metres above the ground level across the country had ranged from 1.8km per hour at Ngabu in Chikwawa district to 10.4km per hour at Chileka Airport in Blantyre district. More details are in Table 2.

1.5 RELATIVE HUMIDITY

In the second ten days of March 2017, air over Malawi was fairly moist Daily average relative humidity values recorded from various weather stations in Malawi had ranged from 64% at Salima in Central Malawi to 82% at Chitipa in Northern Malawi. Details are on the Table 2.

1.6 SUNSHINE HOURS

Generally there was a slight improvement in amounts of sunshine hours during the second ten days of March 2017. The highest amount was 9.2 hours reported at Monkey Bay in Mangochi district while the lowest was 4.8 hours that was recorded at Nkhata Bay Met at Mkondezi. For details see Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

During the second ten days of March 2017, good rains for agriculture production continued in most parts of Malawi. Most areas had recorded rainfall amounts of above 75mm which was good enough to satisfy daily crop water requirements. These rains have also facilitated planting, growth and development of tuber crops and have improved water resources, soil moisture reserves and pasture availability for communal grazing of livestock.

Cereal crops including Maize across the country were between maturity and harvesting stages and required more sunshine hours to dry properly. Harvesting of early planted crops was in progress in some parts of Southern Malawi. This has improved household food security. However, persistent moderate to heavy rains that were received had hindered harvesting and drying of matured crops.

3. PROSPECTS FOR 2016/2017 RAINFALL SEASON

Updated climate models indicate that weak La Nina conditions are over and neutral conditions have taken hold and are likely to persist through March to May 2017. Neutral conditions mean that neither La Nina nor El Nino will be in effect. Therefore expect normal rainfall between March and May (MAM) 2017.

4. OUTLOOK FOR 21 TO 31 MARCH 2017

Models for medium range weather forecast suggest that Easterly waves over Malawi during the period 21 to 31 March 2017. Therefore expect fairly scattered moderate to locally heavy rainfall over most parts of Malawi during the period. These rains are likely to facilitate planting, growth and development of tuber crops and will also improve water resources and soil moisture reserves during the last days of March 2017.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR 11 TO 20 MARCH 2017

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.	62.3	140.0	45	535.7	871.3	61	7	
	Chitipa Met	64.5	66.1	98	693.3	827.7	84	9	
	Karonga Met.	48.2	78.9	61	653.1	693.7	94	8	
	Lupembe	79.0	62.8	126	346.5	621.4	56	6	
	Vinthukutu Agric	222.9	79.5	280	1190.6	758.5	157	6	
MZUZU	Bolero Met	81.1	27.9	291	503.4	566.3	89	4	
	Bwengu Agric.	26.1	47.5	55	373.4	662.9	56	2	
	Chikangawa forest	35.7	63.1	57	581.2	873.5	67	3	
	Chelinda (Nyika)	26.5	85.1	31	464.0	982.6	47	9	
	Chintheche Agric	198.9	124.2	160	1307.4	1135.6	115	4	
	Ekwendeni Agric.	29.0	31.9	91	351.7	692.3	51	1	
	Euthini Agric.	57.4	41.2	139	916.8	680.9	135	3	
	Mbawa Res. Stn	4.5	40.4	11	789.6	729.3	108	1	
	Mzimba Met	28.1	41.7	67	557.6	790.6	71	5	
	Mzuzu Met.	23.6	58.2	41	475.5	775.3	61	5	
	NkhataBay Met.	34.6	96.7	36	660.2	915.9	72	4	
	Rumphu Boma	57.8	37.7	153	496.4	638.4	78	2	
	Zombwe Agric	59.4	35.5	167	491.5	624.2	79	2	
KASUNGU	Dowa Agric	42.1	45.4	93	866.0	794.1	109	2	
	Kasungu Met	2.9	38.7	7	788.7	712.1	111	1	
	Lisasadzi	46.7	33.7	139	663.2	752.8	88	3	
	Malomo Agric	19.2	46.7	41	708.3	761.3	93	1	
	Madisi Agric	10.6	33.6	32	935.0	768.9	122	2	
	Mchinji Boma	27.3	46.7	58	1420.0	898.0	158	2	
	Mponela Agric	11.1	35.1	32	706.0	739.5	95	1	
	Mwimba Research	12.8	38.9	33	735.6	810.1	91	2	
	Ntchisi Boma	23.9	82.4	29	803.2	1074.1	75	2	
	SALIMA	Lifuwu	14.5	78.7	18	1389.4	1057.2	131	2
Nkhotakota Met		39.3	113.7	35	1011.8	1102.1	92	5	
Salima Met		11.3	85.6	13	1231.8	1051.8	117	2	
LILONGWE	Chitedze Met.	43.1	51.1	84	893.2	788.1	113	3	
	Dzonzi Forest	7.5	57.0	13	777.2	893.3	87	1	
	K.I.A Met	26.5	41.8	63	743.6	763.5	97	3	
	Kasiya Agric	48.9	38.9	126	1028.0	873.0	118	2	
	Mlangeni Njolomole	9.5	54.0	18	963.4	870.9	111	2	
	Nathenje Agric	94.5	39.1	242	1072.8	757.8	142	3	
	Nicheu – Nkhanda	7.0	50.4	14	993.6	947.0	105	2	
	Dedza Met	39.3	49.2	80	955.3	900.7	106	3	
	MACHINGA	Balaka Agric	29.1	40.2	72	797.9	776.7	103	2
		Chikweo Agric.	29.4	67.3	44	769.3	945.3	81	2
Chingale Agric		34.7	52.0	67	759.9	833.1	91	1	
Mpilipili (Makanjila)		12.3	39.6	31	791.8	810.5	98	2	
Makoka Met		43.2	46.7	93	855.6	871.8	98	4	
Mangochi Met.		31.2	44.1	71	868.5	630.1	138	3	
Monkey Bay Met.		10.1	16.3	62	511.2	538.2	95	1	
Namiasi Agric		5.9	49.7	12	602.6	709.5	85	2	
Namwera Agric		34.1	69.3	49	779.2	920.5	85	1	
Ntaja Met.		10.7	44.6	24	780.3	778.6	100	3	
BLANTYRE	Phalula Agric	5.6	37.0	15	591.2	757.6	78	1	
	Toleza Farm	59.0	45.4	130	826.0	776.8	106	2	
	Zomba RTC	23.5	73.9	32	936.1	1053.6	89	2	
	Bvumbwe Met.	65.5	54.2	121	1053.2	958.2	110	4	
	Chichiri Met.	38.8	16.1	241	907.8	1013.2	90	5	
	Chileka Airport	20.4	45.8	45	499.8	782.4	64	2	
	Chiradzulu Agric	26.0	38.1	68	808.5	875.0	92	3	
	Chizunga Factory	50.3	84.5	60	897.0	1131.8	79	4	
	Lujeri Tea Estate	209.2	146.5	143	2409.8	1612.8	149	6	
	Masambanjati Agric	165.3	74.7	221	897.5	1123.7	80	4	
SHIRE VALLEY	Mimosa Met.	120.9	89.0	136	1316.3	1186.7	111	6	
	Mpemba Vet	67.0	61.9	108	879.3	988.4	89	2	
	Mulanje Boma	155.6	70.2	222	1575.4	1399.1	113	2	
	Mwanza Boma	78.5	55.4	142	781.8	901.7	87	5	
	Naminjiwa Agric	42.1	44.3	95	769.4	873.6	88	2	
	Thuchila Agric	70.9	37.9	187	974.2	774.9	126	4	
	Thyolo Boma	103.1	78.0	132	1081.2	996.3	109	5	
	Thyolo Met	62.3	58.6	106	663.4	1050.8	63	4	
	Chikwawa Boma	158.9	32.9	483	555.5	680.1	82	4	
	Nchalo	137.6	19.3	713	762.5	578.8	132	4	
SHIRE VALLEY	Ngabu Met.	107.9	37.3	289	752.5	669.7	112	4	
	Nsanje Boma	39.3	49.9	79	701.1	942.8	74	3	

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 11 TO 20 MARCH 2017

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	17.4	27.1	15.9	6.5	82	5.1	5.3	4.1	7.6
Karonga	29.6	21.0	30.5	19.5	3.6	77	5.1	5.7	4.6	7.6
MZUZU ADD										
Bolero	28.0	18.2	29.0	16.8	5.4	79	5.7	5.7	4.5	8.0
Mzimba	26.1	16.2	28.0	13.8	4.3	75	5.6	5.4	4.3	8.0
Mzuzu	24.0	17.2	26.6	15.0	6.5	81	5.5	5.3	4.1	7.9
Nkhata Bay	28.8	20.8	30.9	19.0	3.2	79	4.8	5.5	4.3	7.4
KASUNGU ADD										
Kasungu	27.6	17.9	29.0	15.6	3.2	70	8.0	6.4	5.0	9.5
LILONGWE ADD										
Chitedze	25.8	15.9	28.4	14.6	2.5	75	6.8	5.7	4.4	8.8
Dedza	23.4	13.0	25.6	10.9	5.4	76	6.5	5.3	4.1	8.6
KIA	25.3	15.6	27.1	13.5	5.0	76	6.8	5.7	4.5	8.8
SALIMA ADD										
Nkhotakota	30.8	21.2	30.5	20.4	4.7	72	8.1	6.9	5.5	9.6
Salima	29.7	21.9	30.5	20.4	9.0	64	9.1	7.0	5.5	10.3
MACHINGA ADD										
Makoka	25.5	16.0	28.2	13.0	4.3	78	5.4	5.2	4.1	7.9
Mangochi	30.5	21.0	33.0	19.5	3.2	71	9.0	7.3	5.8	10.2
Monkey Bay	29.6	21.5	30.9	19.6	6.5	74	9.2	7.5	6.0	10.3
Ntaja	28.1	19.0	31.2	16.7	3.6	71	7.4	6.4	5.0	9.2
BLANTYRE ADD										
Bvumbwe	22.7	14.7	25.7	13.4	6.8	79	5.4	5.0	3.9	7.9
Chichiri	24.3	16.6	27.6	14.6	5.8	78	5.3	5.2	4.1	7.8
Chileka	26.7	18.2	29.5	17.0	10.4	69	6.3	6.3	5.0	8.4
Mimosa	26.6	18.1	29.5	14.5	4.0	71	5.5	5.6	4.4	7.9
SHIRE VALLEY ADD										
Ngabu	32.1	22.2	34.5	20.4	1.8	66	5.7	6.3	5.0	8.1

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 Kilometers per hour (Km/hr) = mpsx3.6