REPUBLIC OF MALAWI

Ministry of Natural Resources, Energy and Mining
Department of Climate Change and Meteorological Services

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In support of national early warning systems and food security

Be wise be weather-wise

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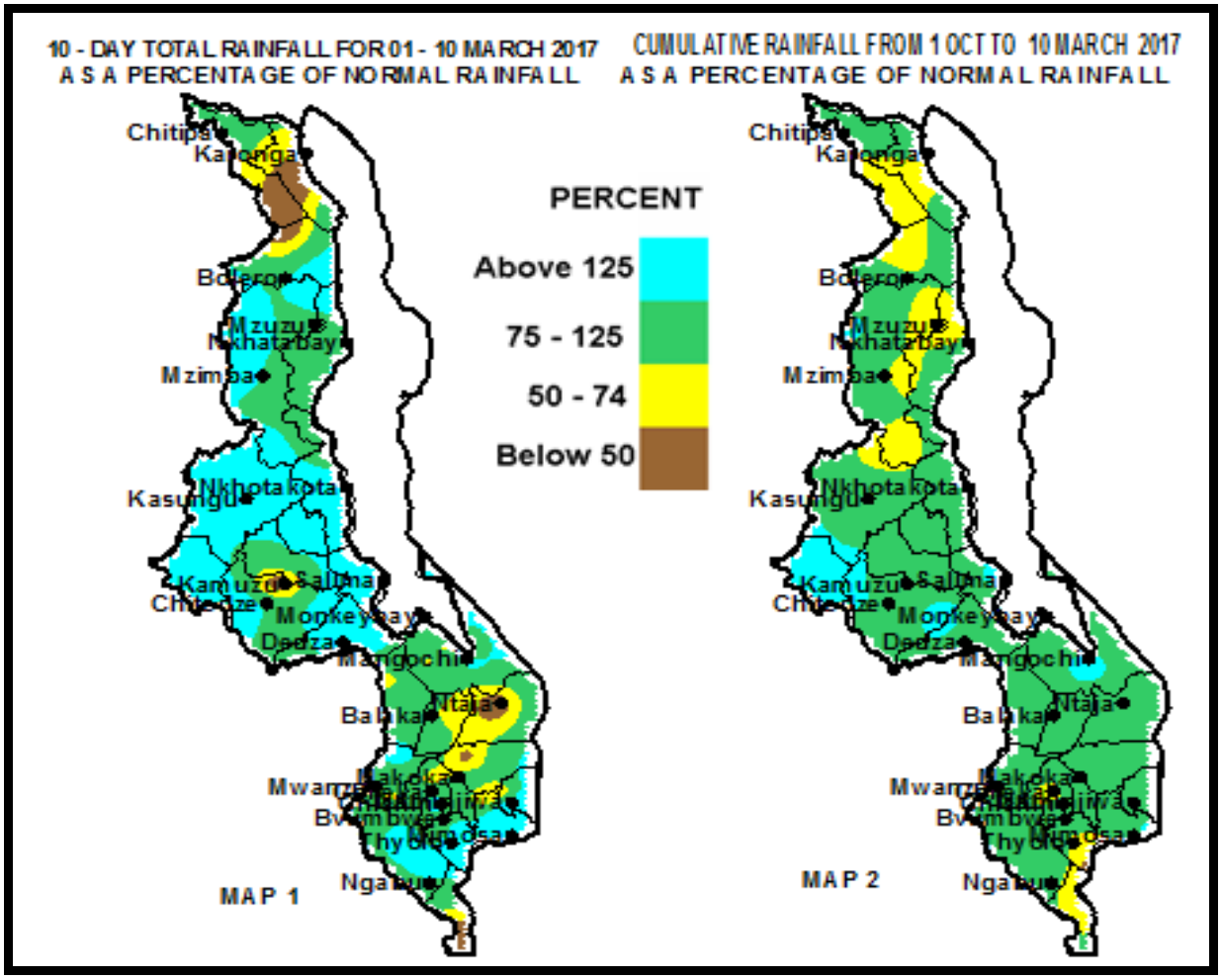
HIGHLIGHTS

- **Average to above average rainfall experienced over most parts of Malawi…**
- **Maize crop was between maturity and drying stages…**
- **More rainfall expected over Northern Malawi during 11 to 20 March 2017…**



Rainfall Maps for 01 to 10 March 2017

1.0 WEATHER SUMMARY

During the period 01 to 10 March 2017, the combined effect of Congo air mass and Inter Tropical Convergence Zone maintained moderate to locally heavy rainfall amounts over most areas in Malawi. This had caused average to above average cumulative rainfall amounts (Green and light Blue colours on Map 1) over most parts of the country.

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1.1 RAINFALL SITUATION

During the period 01 to 10 March 2017, moderate to locally heavy rainfall amounts were reported over most areas in Malawi. Low rainfall was confined to a few pockets (Yellow and Brown colours in Map 1). High cumulative rainfall amounts of at least 100mm during the ten day period were reported at several places including Salima Met 252mm, Mulanje Agric 229mm, Mpilipili Agric 209mm, Thyolo Met 204mm, Chintheche Agric 199mm, Nkhotakota Met 168mm, Lifuwu Agric 154mm, Malomo Agric 152mm, Masambanjati Agric 147mm, Dedza Met 134mm, Lujeri Tea Estate 129mm, Euthini Agric 124mm, Neno Agric 119mm, Emfeni Agric 108mm, Zomba Agric 105mm, Mchinji Agric 102mm, Namwera Agric, NkhataBay Met and Vinthukutu Agric had 100mm each. Many more areas had registered rainfall amounts of between 50 and 99mm. However a few areas 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 performance for the period 1st October 2016 up to 10 March 2017. The map shows good seasonal rainfall performance (Green and light Blue colours) over the greater part of Malawi with just pocket of below average rainfall particularly over northern half of Malawi.

1.3 AIR TEMPERATURE

Warm to hot temperatures were experienced in most parts of Malawi during the first ten of March 2017. Mean daily maximum temperatures had ranged from 25°C at Dedza to 33°C at Ngabu while the mean daily minimum temperatures had ranged from 15°C at Dedza to 24°C at Ngabu. During the same period the hottest temperature was 37°C still recorded at Ngabu in Chikwawa. The lowest minimum temperature was 13°C recorded at Kamuzu International Airport Met. Details are in Table 2.

1.4 WIND SPEEDS

During the period 01 to 10 March 2017 light to moderate wind speeds were maintained over most parts of Malawi. The daily average wind speeds measured at a height of two metres above the ground level across the country had ranged from 1.4km per hour at Ngabu and Chitedze to 10.4km per hour at Mimosa in Mulanje district. More details are in Table 2.

1.5 RELATIVE HUMIDITY

During the first ten of March 2017, daily average relative humidity values recorded from various weather stations in Malawi were in the range of 70% at Chileka International Airport to 81% at Chitedze, Dedza and Nkhotakota in Central Malawi. Details are on the Table 2.

1.6 SUNSHINE HOURS

Generally less sunshine hours were observed over Malawi during the first ten days of March 2017. The highest amount was 8.3 hours reported at Ntaja in Machinga and the lowest was 4.1 hours that was recorded at Mzuzu Airport. For details see Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

During the first 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 enough to satisfy daily water requirements of most crops. These rains apart from support growth and development of late planted crops also continued to support water resources, improved soil moisture reserves and pasture availability for communal grazing of livestock.

Cereal crops including Maize across the country were between maturity and drying stages. Harvesting of early planted maize was in progress in some parts of Southern Malawi. This has most likely improved household food security.

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 during between March and May (MAM) 2017 most areas in Malawi are likely to receive normal rainfall.

4. OUTLOOK FOR 11 TO 20 MARCH 2017

Models for medium range weather forecast show the main rain belt will be confined to Northern Malawi with South Easterly over Central and Southern Malawi. Therefore expect more rainfall over Northern Malawi and mostly dry weather over Central and Southern Malawi during 11 to 20 March 2017.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR 01 TO 10 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	Chitipa Met	69.1	64.3	107	628.8	761.6	83	7
	Karonga Met.	40.3	73.4	55	604.9	614.8	98	4
	Lupembe	20.0	65.6	30	267.5	558.6	48	2
	Vinthukutu Agric	99.9	76.7	130	967.7	679.0	143	5
MZUZU	Bolero Met	53.4	47.9	111	422.3	538.4	78	6
	Bwengu Agric.	94.6	38.1	248	347.3	615.4	56	5
	Chikangawa forest	55.3	76.1	73	545.5	810.4	67	6
	Chelinda (Nyika)	17.5	83.0	21	437.5	897.5	49	10
	Chintheche Agric	199.3	136.1	146	1108.5	1011.4	110	4
	Emfeni Agric	107.8	66.0	163	358.4	679.7	53	6
	Euthini Agric.	124.2	52.0	239	859.4	639.7	134	3
	Mbawa Res. Stn	79.3	68.8	115	785.1	688.9	114	5
	Mzimba Met	95.7	71.7	133	529.5	748.9	71	5
	Mzuzu Met.	67.7	81.0	84	451.9	717.1	63	8
	NkhataBay Met.	100.4	97.5	103	625.6	819.2	76	8
	Rumphi Boma	60.0	61.4	98	438.6	600.7	73	6
	Zombwe Agric	46.7	56.5	83	432.1	588.7	73	4
KASUNGU	Dowa Agric	76.0	74.8	102	823.9	748.7	110	6
	Kasungu Met	98.2	64.3	153	785.8	673.4	117	8
	Lisasadzi	92.9	52.9	176	616.5	719.1	86	7
	Malomo Agric	151.9	84.3	180	689.1	714.6	96	7
	Madisi Agric	64.5	66.7	97	924.4	735.3	126	5
	Mchinji Boma	102.3	57.8	177	1392.7	851.3	164	6
	Mponela Agric	73.5	61.2	120	694.9	704.4	99	8
SALIMA	Dwangwa .	93.7	108.4	86	762.4	900.5	85	5
	Lifuwu	153.6	98.7	156	1374.9	978.5	141	5
	Nkhotakota Met	167.7	118.2	142	972.5	988.4	98	6
	Salima Met	252.4	98.7	256	1220.5	966.2	126	8
LILONGWE	Chileka Namitete	90.3	44.7	202	1036.9	782.4	133	3
	Chitedze Met.	74.9	67.5	111	850.1	737.0	115	5
	Dzonzi Forest	87.0	82.9	105	769.7	836.3	92	4
	K.I.A Met	20.4	69.1	30	717.1	721.7	99	4
	Kasiya Agric	60.0	83.5	72	979.1	834.1	117	3
	Mlangeni Njolomole	43.3	78.3	55	953.9	816.9	117	1
	Mtakataka Airwing	43.1	63.7	68	755.9	675.1	112	7
	Nathenje Agric	92.2	62.7	147	978.3	718.7	136	4
	Ntcheu - Nkhande	83.0	79.3	105	986.6	896.6	110	5
	Dedza Met	134.3	86.8	155	916.0	851.5	108	6
MACHINGA	Balaka Township	44.9	57.5	78	768.8	736.5	104	2
	Chingale Agric	25.8	57.6	45	725.2	781.1	93	3
	Mpilipili (Makanjila)	209.0	61.5	340	779.5	770.9	101	8
	Makoka Met	64.8	65.1	100	812.4	825.1	98	4
	Mangochi Met.	71.1	55.1	129	837.3	586.0	143	6
	Monkey Bay Met.	58.2	42.4	137	501.1	521.9	96	6
	Namiasi Agric	11.9	44.0	27	596.7	659.8	90	4
	Namwera Agric	100.2	71.1	141	745.1	851.2	88	4
	Ntaja Met.	17.2	58.0	30	769.6	734.0	105	5
	Phalula Agric	65.2	57.2	114	585.6	720.6	81	4
	Toleza Farm	50.0	64.0	78	767.0	731.4	105	4
	Zomba Agric	105.2	76.0	138	912.6	979.7	93	6
BLANTYRE	Bvumbwe Met.	92.8	70.3	132	987.7	904.0	109	4
	Chichiri Met.	62.7	24.6	255	869.0	997.1	87	5
	Chileka Airport	19.7	51.8	38	479.4	736.6	65	3
	Chiradzulu Agric	51.3	73.1	70	782.5	836.9	93	5
	Chizunga Factory	52.7	89.1	59	846.7	1047.3	81	4
	Lujeri Tea Estate	129.4	14.8	874	2200.6	1466.3	150	5
	Masambanjati Agric	147.1	100.3	147	732.2	1049.0	70	7
	Mimosa Met.	21.8	95.1	23	1195.4	1097.7	109	4
	Mpemba Vet	73.1	77.9	94	812.3	926.5	88	6
	Mulanje Boma	229.4	119.1	193	1419.8	1328.9	107	4
	Mwanza Boma	45.2	65.8	69	703.3	846.3	83	4
	Naminjiwa Agric	29.0	66.3	44	727.3	829.3	88	3
	Neno Agric	118.8	79.9	149	941.8	921.6	102	4
	Thuchila Agric	81.6	68.6	119	903.3	737.0	123	6
	Thyolo Boma	94.3	84.4	112	978.1	918.3	107	7
	Thyolo Met	204.1	70.3	290	601.1	992.2	61	8
SHIRE VALLEY	Chikwawa Boma	65.3	43.8	149	396.6	647.2	61	3
	Nchalo Sucoma	57.7	41.0	141	624.9	559.5	112	3
	Ngabu Met.	52.0	41.8	124	644.6	632.4	102	3
	Nsanje Boma	18.4	81.5	23	661.8	892.9	74	5

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 01 TO 10 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	26.8	17.5	29.0	16.8	4.0	80	4.8	5.2	4.1	7.5
Karonga	30.2	21.4	33.0	20.0	3.2	73	5.3	5.9	4.7	7.8
MZUZU ADD										
Bolero	28.2	18.7	30.0	17.3	4.3	79	5.0	5.5	4.4	7.7
Mzimba	26.3	16.7	28.4	15.8	2.9	72	5.3	5.4	4.3	7.9
Mzuzu	26.2	16.9	28.8	15.0	4.7	79	4.1	5.0	3.9	7.1
Nkhata Bay	30.3	20.7	32.1	19.9	2.2	73	6.3	6.2	4.9	8.5
Kasungu	27.8	18.9	30.0	17.8	2.9	72	4.3	5.3	4.2	7.2
LILONGWE ADD										
Chitedze	28.1	18.6	30.2	17.1	1.4	81	5.8	5.7	4.4	8.2
Dedza	25.2	15.3	26.9	14.1	5.0	81	5.5	5.3	4.1	8.0
KIA	27.0	17.4	28.1	13.2	3.6	76	5.6	5.6	4.4	8.1
SALIMA ADD										
Nkhotakota	28.9	22.0	30.5	21.0	2.5	81	5.4	5.9	4.7	7.9
Salima	29.2	21.6	31.0	21.6	4.7	81	6.0	6.1	4.8	8.3
MACHINGA ADD										
Makoka	27.7	18.1	30.2	16.0	3.6	79	6.8	6.0	4.7	8.8
Mangochi	31.2	22.1	32.5	21.2	3.6	80	7.0	6.7	5.3	9.0
Monkey Bay	29.5	22.3	31.1	20.9	5.0	75	6.8	6.6	5.3	8.8
Ntaja	29.8	20.8	32.2	19.3	3.6	79	8.3	7.0	5.5	9.8
BLANTYRE ADD										
Bvumbwe	26.1	16.8	28.8	15.6	5.0	78	7.1	6.0	4.7	9.0
Chichiri	27.1	18.7	30.1	17.0	3.6	76	7.0	6.2	4.8	9.0
Chileka	29.5	20.1	32.5	16.5	9.0	70	8.0	7.2	5.8	9.6
Mimosa	29.6	21.9	31.6	19.0	10.4	71	7.0	7.1	5.7	9.0
SHIRE VALLEY ADD										
Ngabu	33.3	24.2	36.5	23.5	1.4	76	7.0	7.0	5.6	9.0

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