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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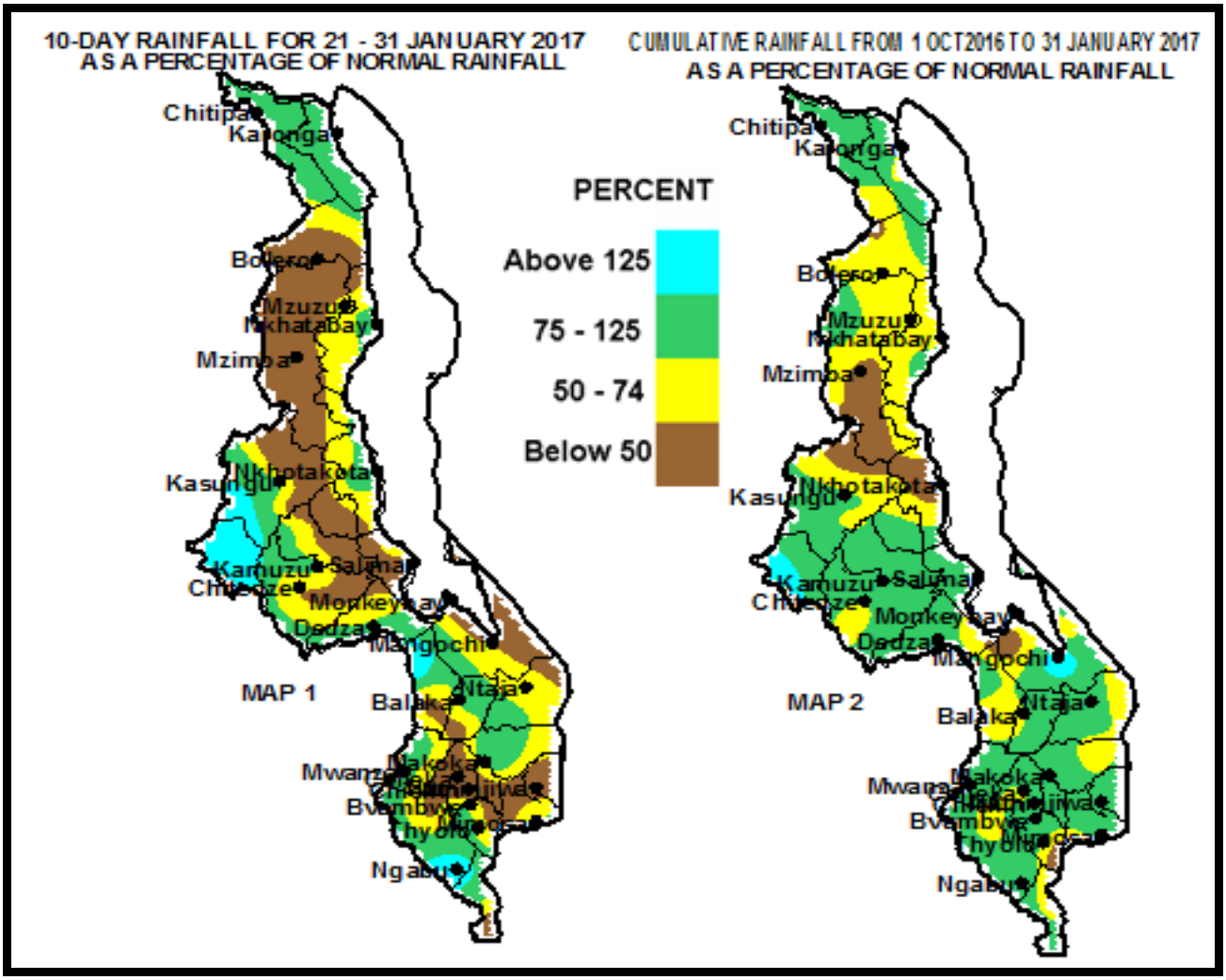
HIGHLIGHTS

- **More areas experience below average ten day rainfall…**
- **Crops doing well between vegetative and flowering stages…**
- **Widespread favourable rainfall likely to persist during 01 to 10 February 2017…**



Rainfall Maps for 21 to 31 January 2017

1.0 WEATHER SUMMARY

During the last ten days of January 2017, Congo air mass had maintained widespread light to moderate rainfall amounts over Malawi. However most areas had recorded below average cumulative rainfall amounts (yellow and brown colours on Map 1) save for a few areas where optimal rainfall was received.

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1.1 RAINFALL SITUATION

During the period 21 to 31 January 2017, most areas in Malawi had recorded light to moderate rainfall amounts with an average of five rainy days. However, most areas had recorded below average rainfall amounts. During the entire period only few places had accumulated total rainfall amounts of at least 100mm and such areas included most areas in Chitipa and Karonga districts where below average rainfall was recorded during the second ten days of January 2017. Other places that had recorded total rainfall amounts of at least 100mm included Mchinji with 293mm, Mlangeni-Njolomole 242mm, Ngabu 161mm, Lupembe Agric recorded122mm, Mwimba Research station had 121mm, Chizunga Factory received 120mm, Chingale Agric 116mm, Vinthukutu Agric reported 113mm, Zomba and Neno Agric stations reported 108mm each, Chitipa Met 106mm, Lujeri Tea Estate and Karonga Met had recorded 101mm each. More details are in Table 1 and Map 1.

Map 2 shows spatial cumulative rainfall performance for the period 1st October 2016 up to 31 January 2017. The map shows poor seasonal rainfall performance has been recorded over most areas in northern Malawi and better seasonal rainfall performance has been experienced over the south and some parts of central Malawi (Green colour on Map 2).

1.3 AIR TEMPERATURE

Warm to hot temperatures had persisted over Malawi during the last ten days of January 2017. Mean daily maximum temperatures had ranged from 25°C at Dedza Met to 34°C at Ngabu Met. while the mean minimum temperatures had ranged from around 16°C at Dedza to 24°C at Ngabu Met. During the period the highest maximum temperature was still registered at Ngabu (36°C) in Chikwawa while the lowest temperature was 14.6°C reported at Dedza Met. For more details see Table 2.

1.4 WIND SPEEDS

Generally light to moderate wind speeds were reported over most areas in Malawi during the last ten days of January 2017. Average wind speeds measured at a height of two metres above the ground level across the country had varied from 0.7km per hour at Mangochi Met to 7.2km per hour at Chitipa Meteorological station. More details are in Table 2.

1.5 RELATIVE HUMIDITY

During the last ten days of January 2017, daily average relative humidity values recorded from various meteorological stations in Malawi were still very high ranging from 61% at Mimosa to 81% at Makoka Met station. Details are on the Table 2.

1.6 SUNSHINE HOURS

Generally cloudy conditions were experienced over Malawi. As a result most areas had reported low amounts sunshine hours during the last ten days of January 2017. The daily average sunshine hours across Malawi had ranged from around four hours at Mzuzu and Mzimba Met stations to around seven hours at Karonga Met. Details are on Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

The light to moderate rainfall that was recorded over most parts of Malawi during the last ten days of January 2017 had helped to maintain the soil moisture reserves. The rains have also supported crop growth and development and have improved pasture availability for animal production.

Crops were reported doing well at various developmental stages. Maize the staple food for most Malawians had ranged from early vegetative in most areas in the north to flowering and cob formation stages in most of the south and some parts of central Malawi. In areas where planting rains commenced late farmers continued weeding and application of basal and top dressing fertilizers. Despite late start of the wet season in some parts of the country, good crop yields are anticipated this season provided good rains continue up to end of February 2017 for most of the south and mid-March 2017 for other areas.

3. PROSPECTS FOR 2016/2017 RAINFALL SEASON

Updated seasonal rainfall forecast for the period January to March 2017 suggest that the weak La Niña phenomenon which developed over the Eastern Central Equatorial Pacific Ocean is likely to persist up to March 2017 before turning neutral levels. As a result most areas in southern and central Malawi are likely to receive above normal to normal rainfall amounts while normal to below normal seasonal rainfall amounts are expected in northern Malawi.

4. OUTLOOK FOR 01 TO 10 FEBRUARY 2017

Products from models for medium range weather forecast suggest that Congo Air mass is likely to maintain widespread rainfall, favourable for Agriculture production during the first ten days of February 2017. These rains are likely to support crop growth and development, improve pasture availability for animal production, water resources and soil moisture reserves.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR 21 TO 31 JANUARY 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	106.1	75.3	141	415.8	473.5	88	7
	Karonga Met.	100.7	56.0	180	431.0	387.7	111	8
	Lupembe Agric	121.5	56.7	214	183.5	332.4	55	3
	Vinthukutu Agric	112.7	58.8	192	662.1	441.2	150	5
MZUZU	Bolero Met	26.0	53.3	49	216.3	343.5	63	3
	Chikangawa forest	58.9	73.1	81	271.7	525.4	52	6
	Chelinda (Nyika)	67.0	77.4	87	243.0	576.4	42	7
	Chintheche Agric	76.6	91.6	84	657.3	655.7	100	3
	Ekwendeni Agric.	26.8	41.2	65	196.4	444.9	44	5
	Mbawa Res. Stn	35.7	63.2	56	251.9	440.8	57	3
	Mzimba Met	13.0	68.6	19	179.5	476.3	38	5
	Mzuzu Met.	69.3	68.9	101	257.2	476.0	54	6
	NkhataBay Met.	83.3	64.2	130	337.4	539.0	63	7
	Rumphi Boma	4.3	70.0	6	220.0	373.5	59	4
	Zombwe Agric	36.5	54.2	67	200.6	373.4	54	4
KASUNGU	Dowa Agric	23.1	92.4	25	489.7	486.4	101	4
	Kaluluma DTC	4.9	75.7	6	100.8	459.7	22	2
	Kasungu Met	49.3	70.0	70	332.3	414.2	80	7
	Lisasadzi	31.3	80.9	39	279.1	469.7	59	5
	Malomo Agric	30.7	55.1	56	336.2	434.8	77	3
	Madisi Agric	71.2	74.3	96	417.6	446.1	94	6
	Mchinji Boma	292.7	79.2	370	866.5	586.7	148	5
	Mponela Agric	49.6	77.2	64	403.0	427.4	94	5
	Mwimba Research	121.0	71.1	170	446.8	476.8	94	5
	Ntchisi Boma	80.0	103.3	77	331.2	636.0	52	6
SALIMA	Dwangwa Sugar	83.9	84.7	99	395.0	585.2	67	6
	Lifuwu Agric	70.6	100.7	70	712.6	573.3	124	5
	Salima Met	29.5	99.2	30	514.7	580.7	89	5
LILONGWE	Chileka Namitete	71.4	86.9	82	547.6	532.8	103	4
	Chitedze Met.	43.3	79.2	55	341.7	479.7	71	5
	Dzonzi Forest	33.6	80.8	42	288.3	552.1	52	5
	K.I.A Met	84.8	69.5	122	410.7	452.1	91	8
	Mlangeni Njolomole	241.8	73.6	329	707.0	512.1	138	6
	Nathenje Agric	43.0	90.8	47	486.1	459.7	106	3
	Ntcheu - Nkhande	94.5	84.6	112	445.4	587.7	76	9
	Dedza Met	98.8	116.3	85	421.4	550.4	77	7
MACHINGA	Balaka Agric	87.1	102.2	85	390.9	505.9	77	3
	Chikweo Agric.	49.5	98.7	50	361.2	595.3	61	7
	Chingale Agric	115.6	90.7	127	478.9	517.7	93	6
	Mpilipili (Makanjila)	36.9	78.9	47	452.0	491.5	92	5
	Makoka Met	95.9	89.6	107	594.9	548.4	108	8
	Mangochi Met.	47.4	70.7	67	534.6	346.0	155	6
	Monkey Bay Met.	27.5	74.0	37	250.2	327.4	76	4
	Namiasi Agric	21.5	75.1	29	304.9	423.0	72	1
	Namwera Agric	25.1	100.3	25	473.5	572.1	83	3
	Phalula Agric	26.3	74.1	35	380.1	481.1	79	4
	Toleza Farm	85.5	90.3	95	399.0	499.4	80	6
	Zomba RTC	108.1	107.3	101	555.7	667.0	83	10
BLANTYRE	Bvumbwe Met.	79.5	106.7	75	710.5	607.2	117	7
	Chichiri Met.	30.9	53.8	57	616.2	794.8	78	8
	Chileka Airport	1.0	81.3	1	348.3	498.0	70	3
	Chiradzulu Agric	44.7	99.6	45	591.9	545.4	109	5
	Chizunga Factory	119.5	92.2	130	670.9	736.9	91	7
	Lujeri Tea Estate	101.1	134.8	75	1477.6	1076.1	137	6
	Mimosa Met.	23.7	117.1	20	750.6	772.6	97	4
	Mpemba Vet	46.0	95.8	48	625.4	641.1	98	5
	Mulanje Boma	69.3	145.4	48	862.6	957.5	90	6
	Naminjiwa Agric	13.7	96.5	14	500.0	554.6	90	2
	Neno Agric	108.0	103.0	105	582.0	613.9	95	5
	Satemwa Tea Est	48.8	90.3	54	761.2	569.2	134	4
	Thuchila Agric	30.3	83.9	36	468.8	483.0	97	4
	Thyolo Met	48.0	103.9	46	N/A	621.6	N/A	4
SHIRE VALLEY	Chikwawa Boma	42.5	74.5	57	283.5	462.4	61	4
	Kasinthula Res. Stn.	36.4	62.5	58	125.7	387.3	32	4
	Ngabu Met.	161.0	61.2	263	506.3	429.3	118	6
	Nsanje Boma	28.9	84.8	34	520.4	613.5	85	4

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 21 TO 31 JANUARY 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	27.4	17.2	30.0	16.0	7.2	77	6.5	6.2	4.9	8.8
Karonga	30.7	21.3	32.2	18.8	4.7	74	7.0	6.9	5.5	9.1
MZUZU ADD										
Bolero	29.7	18.6	31.9	16.8	1.4	69	5.3	5.8	4.6	8.0
Mzimba	27.6	17.4	30.2	16.1	3.2	73	4.2	5.3	4.2	7.3
Mzuzu	25.7	17.5	29.0	15.4	4.7	78	4.2	5.2	4.1	7.3
Nkhata Bay	30.9	21.3	32.7	20.2	2.2	80	5.7	6.1	4.9	8.3
KASUNGU ADD										
Kasungu	27.7	19.0	30.0	17.9	5.8	79	4.6	5.5	4.4	7.6
LILONGWE ADD										
Chitedze	27.3	18.7	31.3	17.7	1.8	79	5.7	5.7	4.5	8.3
Dedza	24.8	15.7	27.7	14.6	6.5	78	5.5	5.5	4.3	8.2
KIA	26.5	18.0	29.6	17.1	4.3	77	5.4	5.7	4.5	8.1
SALIMA ADD										
Nkhotakota	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Salima	29.8	22.1	31.5	20.6	5.0	77	7.0	4.5	3.4	9.1
MACHINGA ADD										
Makoka	31.0	20.8	31.0	17.9	2.9	81	6.7	6.6	5.2	9.0
Mangochi	31.8	22.4	33.5	20.5	0.7	76	6.5	6.6	5.3	8.8
Monkey Bay	29.8	22.8	31.1	20.6	5.8	80	6.8	6.8	5.4	9.0
Ntaja	30.1	21.3	N/A	N/A	3.6	79	6.1	6.4	5.1	8.6
BLANTYRE ADD										
Bvumbwe	24.1	17.4	28.4	15.2	4.3	78	6.3	5.8	4.5	8.7
Chichiri	28.2	19.4	30.9	18.3	2.9	76	6.0	6.1	4.8	8.5
Chileka	30.2	21.2	32.3	20.0	5.8	70	6.7	6.9	5.5	9.0
Mimosa	30.6	20.6	33.1	19.5	3.6	61	6.5	6.8	5.4	8.8
SHIRE VALLEY ADD										
Ngabu	34.4	23.9	35.6	22.3	1.8	71	7.2	7.4	5.9	9.3

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