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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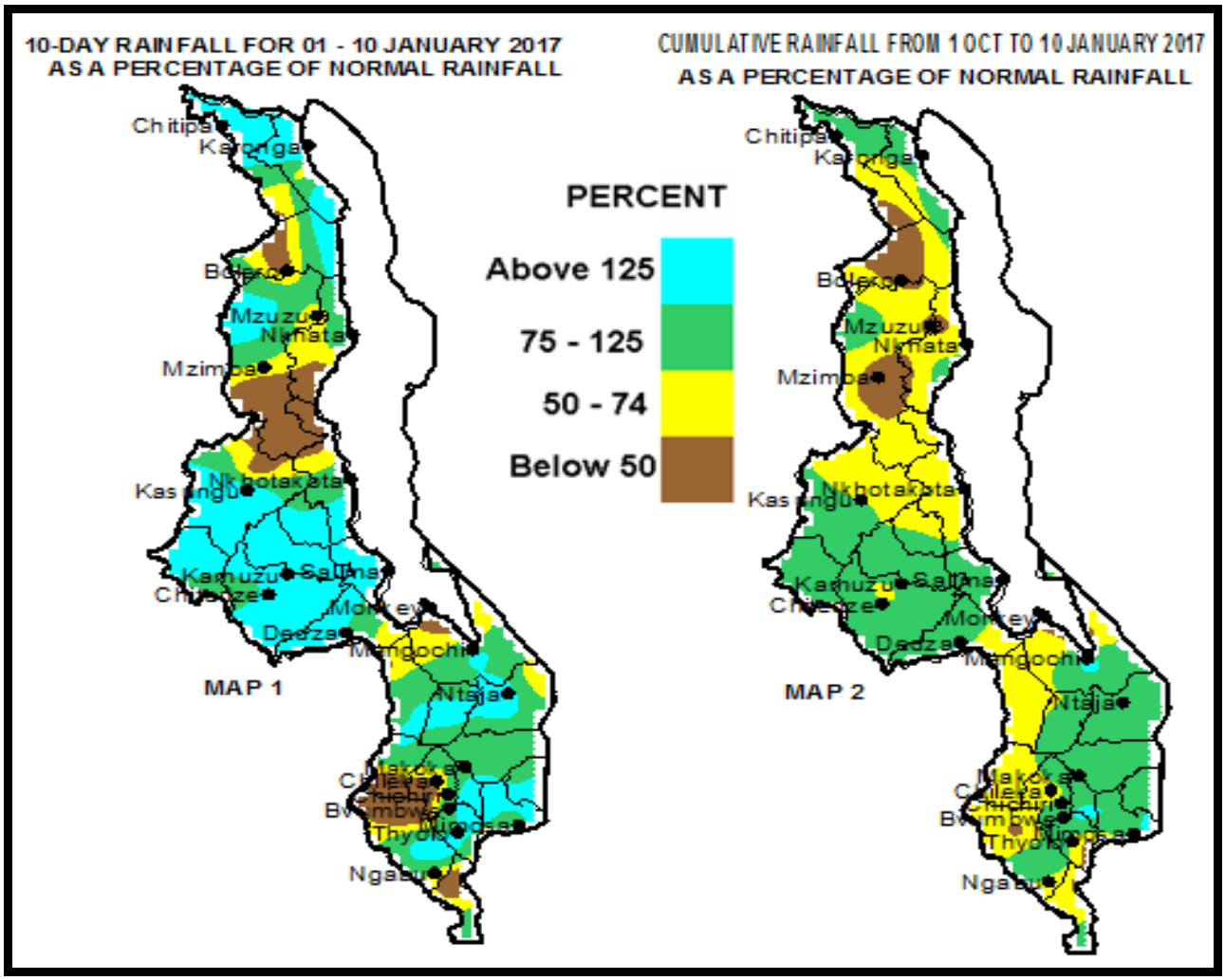
HIGHLIGHTS

- **Average to above average rainfall experienced over most parts of Malawi…**
- **Crops reported doing very well between planting and vegetative stages…**
- **Widespread rainfall expected to persist during 11 to 20 January 2017…**



Rainfall Maps for 01 to 10 January 2017

1.0 WEATHER SUMMARY

Both rain bearing systems namely Congo air mass and the Inter Tropical Convergence Zone were active over Malawi during the first ten days of January 2017. As a result more areas in Malawi recorded moderate to heavy cumulative rainfall amounts. Average to above average cumulative rainfall amounts were reported in most areas (Green and light Blue Colours on Map 1).

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1.1 RAINFALL SITUATION

During the period 01 to 10 January 2017, most areas in Malawi had reported average to above average rainfall amounts with an average of six rainy days. Many places had accumulated at least 125mm of rainfall and such areas included Lifuwu Research Station in Salima which had recorded 284mm, Mwimba Research station in Kasungu had 237mm. Vinthukutu Agric in Karonga had 223mm. Lujeri Tea Estate in Mulanje district had received 194mm, Karonga Airport Met had 186mm, Mtakataka Air wing in Dedza recorded 164mm, Lisasadzi in Kasungu reported 156mm, Bvumbwe Met in Thyolo received 152mm, Chitipa Met 144mm, Ntchisi Boma recorded 138mm, Nathenje Agric in Lilongwe recorded 137mm, Euthin Agric in Mzimba 135mm, Balaka Township reported 132mm, Neno Agric received 131mm, Thyolo Boma and Mimosa Met in Mulanje had accumulated 129mm each, Baka Research Station in Karonga registered 127mm and Kasiya Agric and Nkhata bay Met reported 126mm each. More details are in Table 1 and Map 1.

Map 2 shows spatial cumulative rainfall performance for the period 1st October to 10 January 2017. Generally the map shows poor seasonal rainfall performance over most areas in northern Malawi and slightly better seasonal rainfall performance over most of the south and some parts of central Malawi (Green colour on Map 2).

1.3 AIR TEMPERATURE

Warm to hot temperatures were experienced over Malawi during during the first ten days of January 2017. Mean daily maximum temperatures had ranged from 25°C at Dedza Met to 36°C at Ngabu Met. while the average minimum temperatures had ranged from 16°C at Dedza to 25°C at Ngabu Met. During the period the highest maximum temperature was registered at Ngabu (37.5°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

During the first ten days of January 2017, generally light to moderate wind speeds were recorded over Malawi. Average wind speeds measured at a height of two metres above the ground level across the country had varied from 1.4km per hour at Mangochi Met to 6.8km per hour at Monkey Bay and Chileka Meteorological stations. More details are in Table 2.

1.5 RELATIVE HUMIDITY

During the period 01 to 10 January 2017, daily average relative humidity values recorded from various meteorological stations in Malawi were had ranged from 60% at Mimosa Met to 82% at Dedza Met station. Details are on the Table 2.

1.6 SUNSHINE HOURS

Low sunshine hours were reported during the first ten days of January 2017. The daily average sunshine hours across Malawi had ranged from 3.7hours at Chitedze Met to 8.1hours at Ngabu Met. As a result most areas in Malawi had experienced a drop in solar radiation. Only Ngabu had registered an estimated solar radiation of 10 calories cm^{-2} per day. Details are on Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

During the first ten days of January 2017 moderate to heavy rainfall amounts were received over most parts of Malawi. The rains apart from supporting crop growth and development have significantly improved pasture availability for animal production, water resources and soil moisture reserves. The major on farm agricultural activities during the period had included planting, weeding and application of basal and top dressing fertilizers.

Reports from the field show that due to good rainfall performance during the first half of the season, the general crop stand in the field had been good. Maize crop, the staple food crop in Malawi, had ranged from planting to advanced vegetative stages and was reported doing well. Good crop yields are anticipated this season provided good rains continue in January and February 2017 which are critical months for crop production in Malawi.

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. 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 11 TO 20 JANUARY 2017

Products from models for medium range weather forecast suggest that both rain bearing systems namely the Inter Tropical Convergence Zone and Congo Air mass are likely to remain over most parts of Malawi during the second ten days of January 2017. As a result widespread good rainfall amounts are expected over Malawi during the period 11 to 20 January 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 01 TO 10 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	Baka Res. Stn.	127.0	66.1	192	245.7	322.3	76	5
	Chitipa Met	144.4	71.2	203	275.8	332.3	83	7
	Karonga Met.	186.0	63.0	295	326.4	276.4	118	4
	Vinthukutu Agric	222.7	72.5	307	396.8	313.4	127	6
MZUZU	Bolero Met	19.1	62.6	31	107.5	238.2	45	5
	Chikangawa forest	49.5	82.4	60	134.1	368.8	36	6
	Chelinda (Nyika)	36.5	77.0	47	N/A	419.4	N/A	6
	Chintheche Agric	54.8	107.7	51	520.2	481.0	108	5
	Ekwendeni Agric.	43.5	86.3	50	N/A	350.1	N/A	1
	Euthini Agric.	134.5	72.9	184	292.7	296.6	99	5
	Mbawa Res. Stn	22.6	76.3	30	178.9	318.2	56	3
	Mzimba Met	56.6	92.7	61	107.3	336.6	32	6
	Mzuzu Met.	40.9	66.6	61	156.7	337.8	46	7
	NkhataBay Met.	125.7	89.9	140	227.9	409.2	56	8
	Rumphi Boma	54.5	64.5	84	115.0	245.6	47	5
	Zombwe Agric	81.5	68.6	119	164.1	265.2	62	3
KASUNGU	Dowa Agric	106.4	70.6	151	361.5	312.0	116	8
	Kasungu Met	53.5	70.1	76	169.3	281.9	60	6
	Lisasadzi	156.1	77.2	202	247.8	321.1	77	6
	Malomo Agric	80.9	66.0	123	162.9	254.0	64	8
	Madisi Agric	112.1	69.0	162	246.7	290.3	85	6
	Mchinji Boma	102.4	83.0	123	489.5	427.8	114	7
	Mponela Agric	94.2	68.0	139	276.2	282.1	98	8
	Mwimba Research	237.2	68.4	347	325.8	323.3	101	7
	Ntchisi Boma	138.0	93.3	148	251.2	434.5	58	7
SALIMA	Dwangwa Sugar	26.0	85.8	30	250.9	418.9	60	7
	Lifuwu	283.9	85.3	333	478.6	344.6	139	7
	Salima Met	122.1	94.8	129	337.0	364.3	93	6
LILONGWE	Chileka Namitete	72.9	86.1	85	476.2	384.6	124	6
	Chitedze Met.	86.5	68.9	126	182.1	321.0	57	8
	Dzonzi Forest	80.7	70.9	114	165.5	389.4	43	7
	K.I.A Met	123.8	72.7	170	248.3	295.4	84	7
	Kasiya Agric	126.0	87.3	144	309.3	419.5	74	5
	Mlangeni Njolomole	29.0	70.8	41	259.1	356.1	73	1
	Mtakataka Airwing	164.3	50.7	324	342.1	284.4	120	6
	Nathenje Agric	136.8	72.1	190	351.6	311.2	113	4
	Ntcheu - Nkhande	88.2	86.3	102	235.6	405.5	58	5
	Dedza Met	71.0	75.4	94	243.4	346.9	70	9
MACHINGA	Balaka Township	131.6	84.1	156	303.8	333.5	91	8
	Chancellor College	71.2	100.5	71	412.8	512.1	81	6
	Chikweo Agric.	37.5	86.1	44	311.7	389.3	80	6
	Chingale Agric	71.9	70.4	102	283.0	362.6	78	6
	Mpilipili (Makanjila)	64.0	91.9	70	240.9	346.7	69	4
	Makoka Met	84.9	76.4	111	363.7	379.4	96	8
	Mangochi Met.	65.9	54.2	122	274.4	210.7	130	4
	Monkey Bay Met.	21.0	49.1	43	84.8	199.4	43	3
	Namiasi Agric	29.3	59.0	50	144.1	269.6	53	3
	Namwera Agric	98.1	89.6	109	316.8	385.2	82	4
	Ntaja Met.	111.6	70.1	159	355.0	329.4	108	5
	Phalula Agric	76.4	72.7	105	302.2	345.1	88	7
	Toleza Farm	69.5	64.8	107	218.5	338.3	65	8
	Zomba RTC.	33.1	81.7	41	277.1	469.0	59	7
BLANTYRE	Bvumbwe Met.	151.8	80.2	189	516.1	416.5	124	10
	Chichiri Met.	79.3	88.2	90	455.9	666.2	68	7
	Chileka Airport	27.5	68.1	40	251.8	352.8	71	6
	Chiradzulu Agric	105.7	66.4	159	423.2	385.5	110	6
	Chizunga Factory	66.5	96.6	69	421.9	573.8	74	7
	Lujeri Tea Estate	193.5	135.4	143	1189.9	813.6	146	9
	Masambanjati Agric	98.1	96.9	101	297.3	513.9	58	6
	Mimosa Met.	128.8	97.7	132	617.4	561.7	110	9
	Mpemba Agric	17.3	87.5	20	483.9	456.5	106	5
	Mulanje Boma	90.9	107.1	85	645.7	702.4	92	8
	Mwanza Boma	25.5	73.5	35	265.9	401.6	66	5
	Naminjiwa Agric	106.2	76.2	139	394.7	373.3	106	6
	Neno Agric	131.0	96.0	136	260.0	415.2	63	4
	Satemwa Tea Est.	75.3	75.6	100	474.3	417.4	114	9
	Thuchila Agric	106.1	67.7	157	438.5	331.5	132	7
	Thyolo Boma	129.3	82.5	157	581.1	458.5	127	7
SHIRE VALLEY	Chikwawa Boma	23.9	66.8	36	134.6	326.7	41	6
	Makhanga Met	5.1	62.2	8	114.9	320.6	36	1
	Nchalo	122.4	53.1	231	332.6	255.9	130	5
	Ngabu Met.	36.3	61.3	59	216.0	312.3	69	3
	Nsanje Boma	80.3	75.7	106	367.0	430.9	85	5

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 01 TO 10 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	27.3	17.8	30.0	16.8	6.1	80	5.8	5.8	4.6	8.3
Karonga	31.0	22.5	32.5	20.1	5.4	70	6.7	7.0	5.6	8.9
MZUZU ADD										
Bolero	30.8	19.7	34.2	18.2	2.5	73	5.0	5.9	4.7	7.8
Mzimba	28.0	17.4	29.9	16.9	3.2	71	4.6	5.5	4.4	7.6
Mzuzu	27.1	17.2	28.7	15.6	4.7	75	4.9	5.5	4.4	7.8
Nkhata Bay	31.2	21.6	33.5	20.7	2.2	81	5.5	6.1	4.9	8.1
KASUNGU ADD										
Kasungu	28.5	19.3	31.6	18.4	5.4	62	4.6	6.0	4.9	7.6
LILONGWE ADD										
Chitedze	27.3	19.6	29.8	18.4	1.8	78	3.7	5.1	4.1	7.0
Dedza	24.6	16.2	26.6	14.6	6.5	82	5.0	5.3	4.2	7.9
KIA	26.3	18.7	29.2	17.1	4.3	78	3.9	5.2	4.1	7.1
SALIMA ADD										
Nkhotakota	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Salima	29.6	22.5	33.5	20.0	6.1	81	5.5	4.2	3.2	8.2
MACHINGA ADD										
Makoka	28.4	19.7	31.0	17.6	2.2	78	5.6	5.9	4.7	8.3
Mangochi	28.6	22.8	35.5	21.0	1.4	63	5.5	6.2	5.0	8.2
Monkey Bay	30.7	24.3	35.2	21.7	6.8	77	5.2	6.5	5.3	8.0
Ntaja	28.9	21.6	33.6	19.9	5.8	75	6.4	6.6	5.3	8.8
BLANTYRE ADD										
Bvumbwe	26.1	17.6	27.2	16.8	4.3	72	4.9	5.6	4.4	7.8
Chichiri	27.9	19.4	29.1	18.5	2.5	79	4.5	5.5	4.3	7.6
Chileka	29.3	21.4	32.6	20.4	6.8	75	5.8	6.5	5.2	8.4
Mimosa	30.4	20.8	32.4	19.5	3.2	60	5.0	6.3	5.1	7.9
SHIRE VALLEY ADD										
Ngabu	35.7	25.2	37.5	24.0	2.9	63	8.1	8.2	6.7	10.0

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