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

- **Good rainfall resumed over Malawi during 21 to 31 January 2016…**
- **Crops ranged from vegetative to flowering stages across Malawi…**
- **More rainfall expected but reduced in the south during 01 to 10 February 2016…**

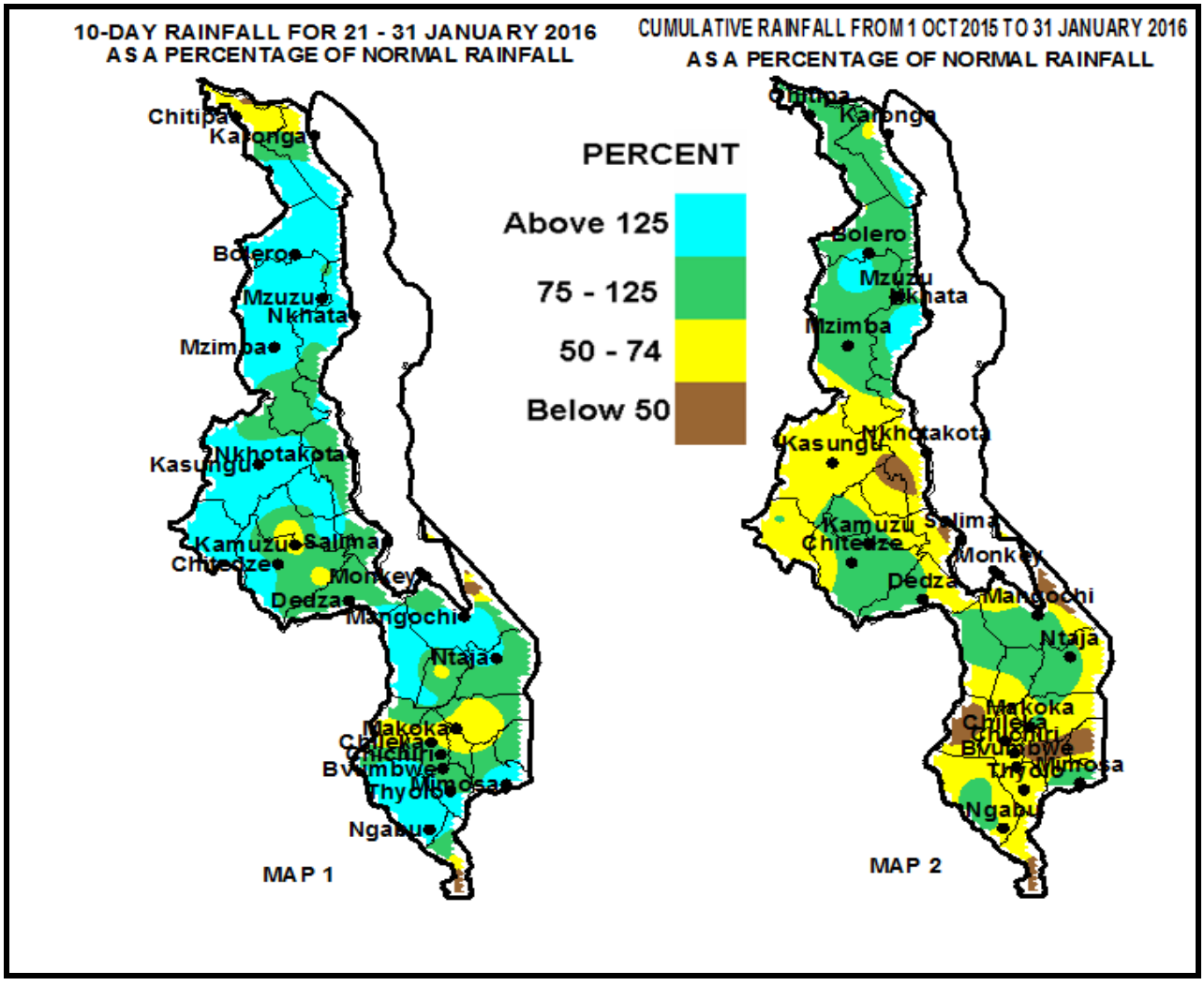

Figure 1: Rainfall Maps for 21 to 31 January 2016

1.0 WEATHER SUMMRY

During the period 21 to 31 January 2016, the main rain bearing systems for Malawi namely Congo Air mass and the Inter Tropical Convergence Zone were very active in most areas of the country. As a result there was a great improvement in rainfall distribution and amounts over Malawi throughout the period.

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1.1 RAINFALL SITUATION

During the last ten days of January 2016, there was further improvement in spatial rainfall distribution and amounts over Malawi. Many stations in Malawi had reported moderate to heavy cumulative rainfall amounts. High rainfall amounts of at least 130mm were reported in some stations. For instance in the north Vinthukutu Agric had received 140mm in nine days, Bolero Met had recorded 137mm in nine days and Rumphi Agric registered 136mm in six days. In central region such high rainfall figures were recorded at Dzonzi Forest in Ntcheu district 154mm, Mulanjeni-Njolomole also in Ntcheu 143mm, Dowa Agric 140mm, Lisasadzi in Kasungu 133mm, Mchinji Agric 132mm, and Dedza Agric had recorded 130mm. In Southern Region the highest rainfall was reported at Lujeri Tea Estate in Mulanje 263mm, followed by Masambanjati Agric in Thyolo with 236mm, Mulanje Agric 233mm, Chikwawa Agric 190mm, Mangochi Met 182mm, Mimosa Met 150mm, and Bvumbwe Met had 146mm. As result of high rainfall intensity rainfall during the period 21 to 31 January 2016 most areas Malawi had registered above average rainfall situation (light blue colour on Map 1). More details are in Table 1.

Map 2 in Figure 1 shows cumulative rainfall performance during the period October 2015 up to 31 January 2016. The map indicates that lower than average rainfall (yellow and brown colours) has been received in some parts of central and southern Malawi and more rainfall has been received in most of northern Malawi. Refer to Map 2 and Table 1 for more details.

1.3 AIR TEMPERATURE

During the period 21 to 31January 2016 warm to hot weather was experienced over Malawi. The average daily maximum temperatures had ranged from 26.0°C at Mzuzu in Mzimba to 34.3°C at Ngabu in Chikwawa while average minimum temperatures had ranged from 16.7°C at Dedza to 24.0°C at Monkey Bay. The highest maximum temperature was still reported at Ngabu (40.0°C) in Chikwawa while the lowest temperature was 13.6°C recorded at Kasungu Met. For more details see Table 2.

1.4 WIND SPEEDS

During the period 21 to 31 January 2016 daily average wind speeds measured at a height of two metres above the ground level across Malawi varied from 2.2Km per hour at Nkhata Bay to 9.4.4km per hour at Monkey Bay. More details are in Table 2.

1.5 RELATIVE HUMIDITY

During the last ten days of January 2016, daily average relative humidity values sampled from selected stations within Malawi had indicated that air over Malawi was fairly moist. The daily average values had ranged from 65% at Mangochi to 82% at Mkondezi in Nkhata Bay. Details are on the Table 2.

1.6 SUNSHINE HOURS

The mean durations of bright sunshine hours in Malawi were relatively low due to cloudiness. Most areas had experienced daily average sunshine hours of not more than six hours. The highest mean sunshine hours was 8.7 hours observed at Monkey Bay in Mangochi district. Details are on the Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

During the period 21 to 31 January 2016 good rains for agricultural production had resumed in most parts of Malawi breaking a prolonged dry spell that hit most parts of southern and central Malawi. The resumption of the rains apart from reducing the rainfall deficits in central and southern Malawi had facilitated planting of roots and tubers, growth and development of most crops, improved water availability, soil moisture reserves and pasture availability.

Most crops were planted in December 2015 and a few in October and November 2015, so generally crops were reported to be ranging from vegetative to flowering and cob formation stages for the early planted hybrid maize varieties and required more water to do well. Pastures were reported in good condition and water for livestock was sufficient.

Major on-farm agricultural activities during the period 21 to 31 January 2016 included weeding, application of herbicides and insecticides, application of basal fertilizer and planting of tuber crops like sweet potatoes, potatoes and cassava.

3. PROSPECTS FOR 2015/16 RAINFALL SEASON

Updated rainfall outlook for the 2015/16 season suggest higher than usual chances that northern half of Malawi is likely to receive average to above average rainfall amounts while the southern half of Malawi is expected to receive below average rainfall amounts during January to March (JFM) 2016.

4. OUTLOOK FOR 01 –10 FEBRUARY 2016

Models for short and medium range rainfall forecasts indicate that the main rain bearing systems namely Congo Air mass and the Inter Tropical Convergence Zone are likely remain active over Malawi during the first few days of February 2016. Thereafter the axis of the rain belt will be over central and northern Malawi particularly along the lakeshore. Hence expect more rainfall in central and northern Malawi with a possibility of slight reduction in rainfall in most areas of southern Malawi as the rain belt shifts northwards during the first ten days of February 2016.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR 21 TO 31 JANUARY 2016

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.	36.5	63.6	57	249.9	446.5	56	6
	Chitipa Met	42.3	75.3	56	592.3	473.5	125	9
	Karonga Met.	48.9	56.0	87	246.1	387.7	63	10
	Lupembe	62.5	56.7	110	438.5	332.4	132	4
	Vinthukutu Agric	139.7	58.8	238	694.7	441.2	157	9
MZUZU	Bolero Met	137.2	53.3	257	456.3	343.5	133	9
	Bwengu Agric.	90.5	74.0	122	390.9	406.9	96	7
	Chikangawa forest	93.2	73.1	127	547.4	525.4	104	7
	Chintheche Agric	119.5	91.6	130	1143.1	655.7	174	5
	Embangweni Agric	125.1	58.9	212	311.2	449.4	69	5
	Euthini Agric.	145.3	58.9	247	456.0	408.1	112	5
	Mbawa Res. Stn	87.8	63.2	139	304.3	440.8	69	9
	Mzimba Met	110.0	68.6	160	542.3	476.3	114	8
	Mzuzu Met.	84.4	68.9	122	586.2	476.0	123	9
	NkhataBay Met.	122.0	64.2	190	687.3	539.0	128	9
	Rumphi Boma	135.5	70.0	194	476.3	373.5	128	6
	Zombwe Agric	86.5	54.2	160	524.9	373.4	141	8
KASUNGU	Dowa Agric	139.9	92.4	151	295.9	486.4	61	5
	Kaluluma DTC	71.5	75.7	94	271.6	459.7	59	3
	Kasungu Met	105.3	70.0	150	286.4	414.2	69	5
	Lisasadzi	132.5	80.9	164	335.7	469.7	71	4
	Malomo Agric	116.5	55.1	211	199.8	434.8	46	4
	Madisi Agric	109.5	74.3	147	352.8	446.1	79	3
	Mchinji Boma	131.8	79.2	166	397.3	586.7	68	3
	Mkanda Met	118.1	71.0	166	389.8	503.5	77	4
	Mponela Agric	37.2	77.2	48	335.7	427.4	79	6
	Mwimba Research	77.8	71.1	109	168.8	476.8	35	4
	Ntchisi Boma	101.0	103.3	98	291.5	636.0	46	5
SALIMA	Dwangwa.	113.2	84.7	134	384.9	585.2	66	9
	Lifuwu	89.4	100.7	89	237.0	573.3	41	4
	Salima Met	106.0	99.2	107	254.4	580.7	44	6
LILONGWE	Chileka Namitete	128.0	86.9	147	364.3	532.8	68	2
	Chitedze Met.	109.5	79.2	138	390.7	479.7	81	5
	Dzonzi Forest	154.0	80.8	191	405.4	552.1	73	6
	K.I.A Met	33.4	69.5	48	473.8	452.1	105	5
	Kasiya Agric	65.1	67.3	97	431.6	540.7	80	3
	Mlangeni Njolomole	142.7	73.6	194	446.4	512.1	87	4
	Nathenje Agric	53.3	90.8	59	503.7	459.7	110	4
	Dedza Agric	129.8	116.3	112	384.8	550.4	70	7
MACHINGA	Balaka Township	65.9	102.2	64	374.5	505.9	74	5
	Chancellor College	59.8	103.4	58	N/A	704.9	N/A	4
	Chikweo Agric.	101.0	98.7	102	388.8	595.3	65	6
	Chingale Agric	53.2	90.7	59	382.6	517.7	74	4
	Mpilipili (Makanjila)	32.3	78.9	41	267.7	491.5	54	3
	Mangochi Met.	182.2	70.7	258	362.4	346.0	105	6
	Monkey Bay Met.	49.4	74.0	67	172.4	327.4	53	5
	Namiasi Agric	58.7	75.1	78	238.1	423.0	56	5
	Namwera Agric	79.8	100.3	80	N/A	572.1	N/A	5
	Ntaja Met.	120.3	91.4	132	415.2	496.0	84	6
	Phalula Agric	113.4	74.1	153	272.0	481.1	57	3
	Toleza Farm	51.0	90.3	56	480.0	499.4	96	5
	Zomba Agric	43.7	107.3	41	518.5	667.0	78	4
BLANTYRE	Bvumbwe Met.	146.0	106.7	137	459.8	607.2	76	6
	Chichiri Met.	69.4	53.8	129	454.6	794.8	57	6
	Chileka Airport	37.3	81.3	46	294.2	498.0	59	5
	Chiradzulu Agric	57.9	99.6	58	174.3	545.4	32	6
	Chizunga Factory	90.6	92.2	98	364.1	736.9	49	4
	Lujeri Tea Estate	262.5	134.8	195	1215.2	1076.1	113	7
	Masambanjati Agric	235.7	93.9	251	367.2	690.0	53	5
	Mimosa Met.	150.4	117.1	128	585.7	772.6	76	5
	Mpemba Vet	73.6	95.8	77	390.3	641.1	61	3
	Mulanje Boma	232.5	145.4	160	992.5	957.5	104	5
	Mwanza Boma	41.3	94.4	44	247.7	565.9	44	4
	Naminjiwa Agric	89.0	96.5	92	N/A	554.6	N/A	7
	Neno Agric	79.8	103.0	77	265.8	613.9	43	6
	Satemwa Tea Est	118.3	90.3	131	423.2	569.2	74	5
	Thuchila Agric	83.3	83.9	99	280.8	483.0	58	5
	Thyolo Boma	59.0	91.2	65	201.8	606.3	33	3
	Thyolo Met	125.3	103.9	121	479.3	621.6	77	3
SHIRE VALLEY	Chikwawa Boma	189.8	74.5	255	364.5	462.4	79	7
	Makhanga Agric	48.0	51.9	92	222.8	420.2	53	3
	Nchalo	68.4	50.7	135	273.0	364.7	75	5
	Ngabu Met.	98.2	61.2	160	335.0	429.3	78	6
	Nsanje Boma	26.6	84.8	31	245.9	613.5	40	5

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 21 TO 31 JANUARY 2016

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	26.5	18.6	27.8	17.9	5.0	72	3.5	5.2	4.2	6.8
Karonga	30.0	21.9	33.2	20.5	4.3	77	3.5	5.4	4.4	6.8
MZUZU ADD										
Bolero	27.3	20.0	29.3	19.1	4.3	77	4.0	5.3	4.3	7.2
Mzimba	26.2	17.8	29.5	17.2	2.5	81	3.6	4.9	3.8	6.9
Mzuzu	26.0	18.6	28.0	18.0	6.5	81	3.9	5.1	4.1	7.1
Nkhata Bay	30.4	22.4	32.7	21.3	2.2	82	3.3	5.9	4.9	6.7
KASUNGU ADD										
Kasungu	32.0	20.6	31.9	13.6	6.5	77	6.0	6.6	5.3	8.5
LILONGWE ADD										
Chitedze	29.0	20.0	37.8	18.0	2.9	69	6.1	6.3	5.0	8.5
Dedza	26.1	16.7	28.3	14.9	7.9	77	5.0	5.6	4.4	7.8
K I A	27.7	18.8	29.9	17.5	5.8	70	6.2	6.3	5.0	8.6
SALIMA ADD										
Salima	30.9	23.4	33.5	21.3	9.0	70	7.8	5.1	3.9	9.7
MACHINGA ADD										
Mangochi	32.0	23.0	35.0	21.0	4.0	65	7.7	7.5	6.0	9.6
Monkey Bay	30.8	24.0	33.1	21.1	9.4	70	8.7	8.2	6.6	10.3
Ntaja	30.7	22.2	33.8	21.2	6.5	73	4.5	6.1	5.0	7.5
BLANTYRE ADD										
Bvumbwe	26.3	18.6	30.8	16.6	6.1	77	6.8	6.3	5.0	9.0
Chichiri	27.9	19.0	31.6	17.0	4.3	75	7.0	6.5	5.1	9.2
Chileka	30.3	20.4	34.1	15.0	8.6	69	7.9	7.5	6.0	9.7
Mimosa	33.6	22.3	33.8	17.4	4.3	78	6.0	6.8	5.4	8.5
SHIRE VALLEY ADD										
Ngabu	34.3	23.9	40.0	22.1	6.8	75	7.5	7.8	6.3	9.5

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