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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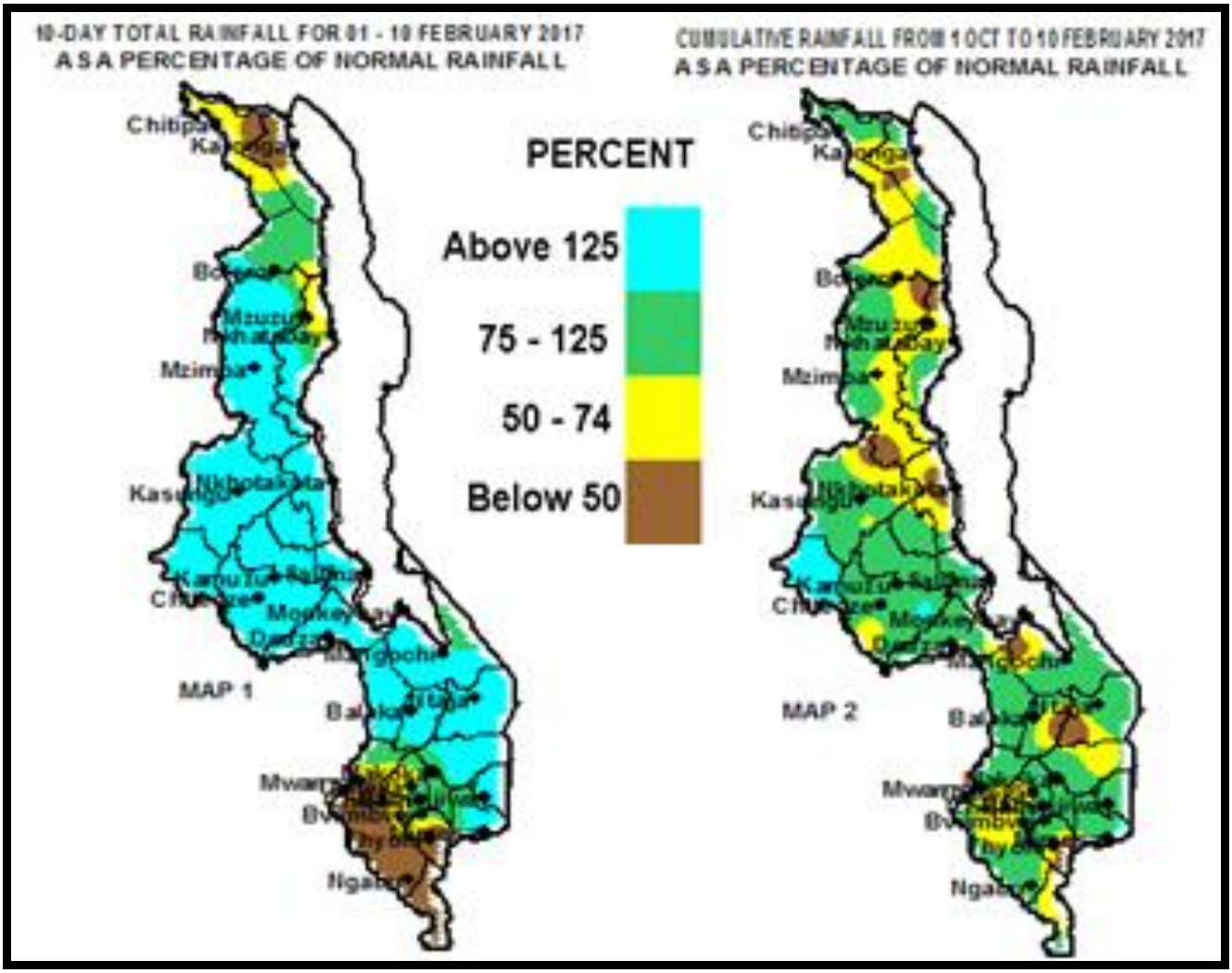
HIGHLIGHTS

- **Heavy rains cause devastating floods in Lilongwe city…**
- **Crops doing well between vegetative and maturity stages…**
- **Widespread rainfall expected to persist during 11 to 20 February 2017…**



Rainfall Maps for 01 to 10 February 2017

1.0 WEATHER SUMMARY

During the period 01 to 10 February 2017, Congo air mass had caused widespread moderate to locally heavy rainfall amounts particularly over central and northern Malawi. As a result most areas had recorded average to above average cumulative rainfall amounts (Green and light Blue colours on Map 1).

All inquiries should be addressed to: The Director of Climate Change and Meteorological Services, P.O. Box 1808, Blantyre, MALAWI
Tel: (265) 1 822 014/106 Fax: (265) 1 822 215 E-mail: metdept@metmalawi.com Homepage: www.metmalawi.com

1.1 RAINFALL SITUATION

During the first ten days of February 2017, widespread moderate to locally heavy rainfall amounts were reported over Malawi except over the extreme north and south of Malawi where mostly below average rainfall was recorded. Very high cumulative rainfall amounts exceeding 200mm during the ten day period were reported in several places including Lujeri Tea Estate in Mulanje 346mm, Mbawa Research station in Mzimba 337mm, Lifuwu Research Station in Salima 303mm, Ntcheu-Nkhande 286mm, Salima Met 282mm, Chikweo Agric in Machinga 265mm, Mimosa Met in Mulanje 247mm, Mchinji Agric 237mm, Toleza Farm 235mm, Madisi Agric 231mm, Chitedze Met 223mm, Kamuzu International Met 215mm, Chileka – Namitete 214mm and Zomba Agric 210mm. The high cumulative rainfall amounts had exceeded by far the rainfall amounts expected in most parts of the country (see Table 1) and this represented above normal rainfall situation (represented by green and light blue colours on Map 1). An average of six rainy days was reported over the country. In the City of Lilongwe, high rainfall amounts resulted in flooding of Lingadzi River and destruction of property. 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 February 2017. The map shows poor seasonal rainfall performance (Yellow and Brown colours) over most areas in the northern half of Malawi and better seasonal rainfall performance over the southern half of Malawi (Green and light Blue colours).

1.3 AIR TEMPERATURE

Warm to hot temperatures were experienced in most parts of Malawi during the first ten days of February 2017. Mean daily maximum temperatures had ranged from 25°C at Dedza to 35°C at Ngabu while the mean minimum temperatures had ranged from around 16°C at Dedza to 25°C at Ngabu. During the period the hottest place was still registered in Chikwawa where Ngabu had recorded 37°C while the lowest temperature was 15°C reported at Dedza. Details are in Table 2.

1.4 WIND SPEEDS

Malawi had experienced light to moderate wind speeds during the first ten days of February 2017. Average wind speeds measured at a height of two metres above the ground level across the country had varied from 1.1km per hour at Chitedze to 6.5km per hour at Chileka International Airport. More details are in Table 2.

1.5 RELATIVE HUMIDITY

During the first ten days of February 2017, daily average relative humidity values recorded from various meteorological stations in Malawi had ranged from 70% at Ngabu in Chikwawa to 84% at Bolero in Rumphi. Details are on the Table 2.

1.6 SUNSHINE HOURS

Generally cloudy conditions were observed over most parts of Malawi except over the extreme south. This is evident from the daily average sunshine hours reported during the first ten days of February 2017. The highest amount was 7.7 hours reported at Ngabu while the lowest was 3.1hours registered at Mzuzu. For details see Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

During the first ten days of February 2017, most parts of Malawi had received good rainfall for agriculture production. Sub-optimal rains were confined to some parts of Karonga and Chitipa in the north and Chikwawa and Nsanje in the south. These rains continued to support various agriculture activities including crop growth and development and pasture availability for animal production.

Crops were reported doing well at growth stages. Maize had ranged from vegetative to maturity. Despite late start of effective planting rains in some parts of the country, good harvests are anticipated this season provided good rains persist up to mid-March 2017.

3. PROSPECTS FOR 2016/2017 RAINFALL SEASON

Updated climate models indicate that weak La Nina conditions are over. ENSO-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. However, for Malawi during the next few months some residual La Nina influence is likely to continue.

Therefore during February to April (FMA) 2017 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 FEBRUARY 2017

Medium range weather forecast suggests that Congo Air mass is likely to persist over Malawi. Therefore widespread rainfall is likely to persist over Malawi during the period 11 to 20 February 2017.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR 01 TO 10 FEBRUARY 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.	8.1	51.0	16	261	498	52	1
	Chitipa Met	52.0	87.6	59	468	561	83	7
	Karonga Met.	28.3	48.7	58	459	436	105	5
	Vinthukutu Agric	75.6	53.6	141	738	495	149	3
MZUZU	Bolero Met	51.2	51.2	100	268	395	68	8
	Bwengu Agric.	35.5	58.8	60	145	466	31	4
	Chikangawa forest	148.7	69.4	214	420	595	71	9
	Chelinda (Nyika)	78.5	83.5	94	322	660	49	10
	Chintheche Agric	58.1	76.0	76	715	732	98	3
	Emfeni Agric	95.5	65.3	146	145	514	28	5
	Ekwendeni Agric.	65.0	43.2	150	261	488	54	7
	Euthini Agric.	101.9	62.7	163	503	471	107	4
	Mbawa Res. Stn	337.4	66.5	507	589	507	116	10
	Mzimba Met	119.0	67.2	177	299	544	55	9
	Mzuzu Met.	39.3	51.9	76	297	528	56	6
	NkhataBay Met.	30.2	65.3	46	368	604	61	6
	Rumphi Boma	70.1	56.1	125	290	430	68	8
	Zombwe Agric	117.2	48.8	240	318	422	75	7
KASUNGU	Dowa Agric	150.9	66.2	228	641	553	116	9
	Kaluluma DTC	99.5	57.6	173	200	517	39	5
	Kasungu Met	152.6	72.0	212	485	486	100	9
	Malomo Agric	112.8	81.0	139	449	516	87	8
	Madisi Agric	231.2	72.9	317	649	519	125	10
	Mchinji Boma	236.9	62.1	381	1103	649	170	9
	Mponela Agric	177.3	83.0	214	580	510	114	9
	Mwimba Research	146.4	75.8	193	593	553	107	6
	Ntchisi Boma	176.2	103.8	170	507	740	69	9
SALIMA	Dwangwa	123.9	76.7	162	519	662	78	7
	Lifuwu	302.6	129.0	235	1015	702	145	7
	Salima Met	282.4	102.3	276	797	683	117	7
LILONGWE	Chileka Namitete	213.8	76.2	281	761	609	125	9
	Chitedze Met.	223.7	65.2	343	565	545	104	8
	Dzonzi Forest	182.3	84.4	216	471	637	74	8
	K.I.A Met	214.5	72.1	298	625	524	119	9
	Kasiya Agric	181.5	64.5	281	591	605	98	6
	Mlangeni Njolomole	181.9	81.5	223	889	594	150	4
	Nathenje Agric	189.1	56.4	335	675	516	131	9
	Ntcheu - Nkhande	285.6	84.6	338	731	672	109	10
	Dedza Met	172.7	103.2	167	594	654	91	9
MACHINGA	Balaka Township	107.1	79.3	135	498	585	85	7
	Chikweo Agric.	264.9	78.5	337	626	674	93	7
	Chingale Agric	112.2	83.6	134	591	601	98	6
	Mpilipili (Makanjila)	50.7	96.8	52	503	588	85	4
	Makoka Met	82.4	91.7	90	677	640	106	5
	Monkey Bay Met.	124.4	71.7	174	375	399	94	9
	Namiasi Agric	117.5	92.2	127	422	515	82	6
	Namwera Agric	67.9	83.2	82	541	655	83	7
	Ntaja Met.	138.4	65.8	210	613	562	109	7
	Phalula Agric	84.6	67.3	126	465	548	85	3
	Toleza Farm	235.0	69.5	338	634	569	111	8
	Zomba RTC	209.8	100.2	209	766	767	100	6
BLANTYRE	Bvumbwe Met.	65.6	90.3	73	776	698	111	6
	Chichiri Met.	90.5	72.9	124	707	868	81	7
	Chileka Airport	43.3	88.5	49	392	587	67	6
	Chizunga Factory	66.4	74.2	89	737	811	91	2
	Lujeri Tea Estate	346.4	126.3	274	1824	1202	152	8
	Masambanjati Agric	53.0	87.8	60	372	778	48	2
	Mimosa Met.	247.4	95.2	260	998	868	115	7
	Mpemba Vet	63.4	84.8	75	689	726	95	6
	Mulanje Boma	199.4	109.5	182	1062	1067	100	5
	Mwanza Boma	41.0	91.2	45	508	657	77	1
	Naminjiwa Agric	82.3	83.6	98	582	638	91	5
	Thuchila Agric	81.8	80.2	102	551	563	98	8
	Thyolo Boma	34.4	96.3	36	787	703	112	4
	Thyolo Met	46.0	90.3	51	356	712	50	3
SHIRE VALLEY	Kasinthula Res. Stn.	3.7	54.2	7	129	442	29	1
	Nchalo Sucoma	16.9	70.2	24	446	435	102	2
	Ngabu Met.	7.7	69.1	11	514	498	103	3
	Nsanje Boma	12.1	81.8	15	533	695	77	2

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 01 TO 10 FEBRUARY 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	26.9	17.5	28.3	16.8	4.3	82	0.4	3.8	3.1	4.8
Karonga	30.6	21.7	31.5	21.0	4.0	77	3.8	5.5	4.5	7.0
MZUZU ADD										
Bolero	27.5	18.8	30.0	17.9	3.6	84	3.3	4.8	3.8	6.7
Mzimba	26.4	16.9	27.8	15.8	2.5	81	3.4	4.7	3.7	6.8
Mzuzu	26.0	17.5	27.4	16.0	4.0	80	3.1	4.7	3.7	6.6
Nkhata Bay	30.2	21.1	31.5	20.2	1.8	83	4.4	5.5	4.4	7.4
KASUNGU ADD										
Kasungu	27.7	18.5	29.0	17.2	4.3	74	4.9	5.6	4.5	7.7
LILONGWE ADD										
Chitedze	27.5	18.7	28.7	18.0	1.1	77	6.8	6.1	4.8	8.9
Dedza	25.1	16.3	26.9	15.4	5.8	82	5.5	5.4	4.3	8.1
KIA	26.8	18.3	27.7	17.9	4.3	79	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	30.3	21.6	31.5	20.3	4.7	80	7.0	4.3	3.3	9.1
MACHINGA ADD										
Makoka	27.2	19.3	29.1	18.4	2.5	81	6.5	6.0	4.7	8.7
Mangochi	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Monkey Bay	29.7	22.8	31.0	20.2	5.8	80	7.1	6.9	5.5	9.1
Ntaja	30.2	20.9	31.3	19.6	4.0	75	7.3	6.8	5.4	9.3
BLANTYRE ADD										
Bvumbwe	26.2	17.7	27.3	16.1	5.8	80	6.1	5.8	4.6	8.5
Chichiri	27.3	19.4	28.5	17.9	3.6	76	6.0	6.0	4.7	8.4
Chileka	29.7	20.9	30.7	19.9	6.5	72	6.4	6.6	5.3	8.7
Mimosa	30.4	20.8	31.1	19.5	3.6	75	6.0	6.3	5.0	8.4
SHIRE VALLEY ADD										
Ngabu	35.2	25.5	36.5	24.5	2.2	70	7.7	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