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

- **Dry weather prevailed over Malawi during the last ten days of April 2016…**
- **Average and below seasonal rainfall amounts received in during 2015/16 season…**
- **Occasional and generally light rainfall is expected in May and June 2016…**

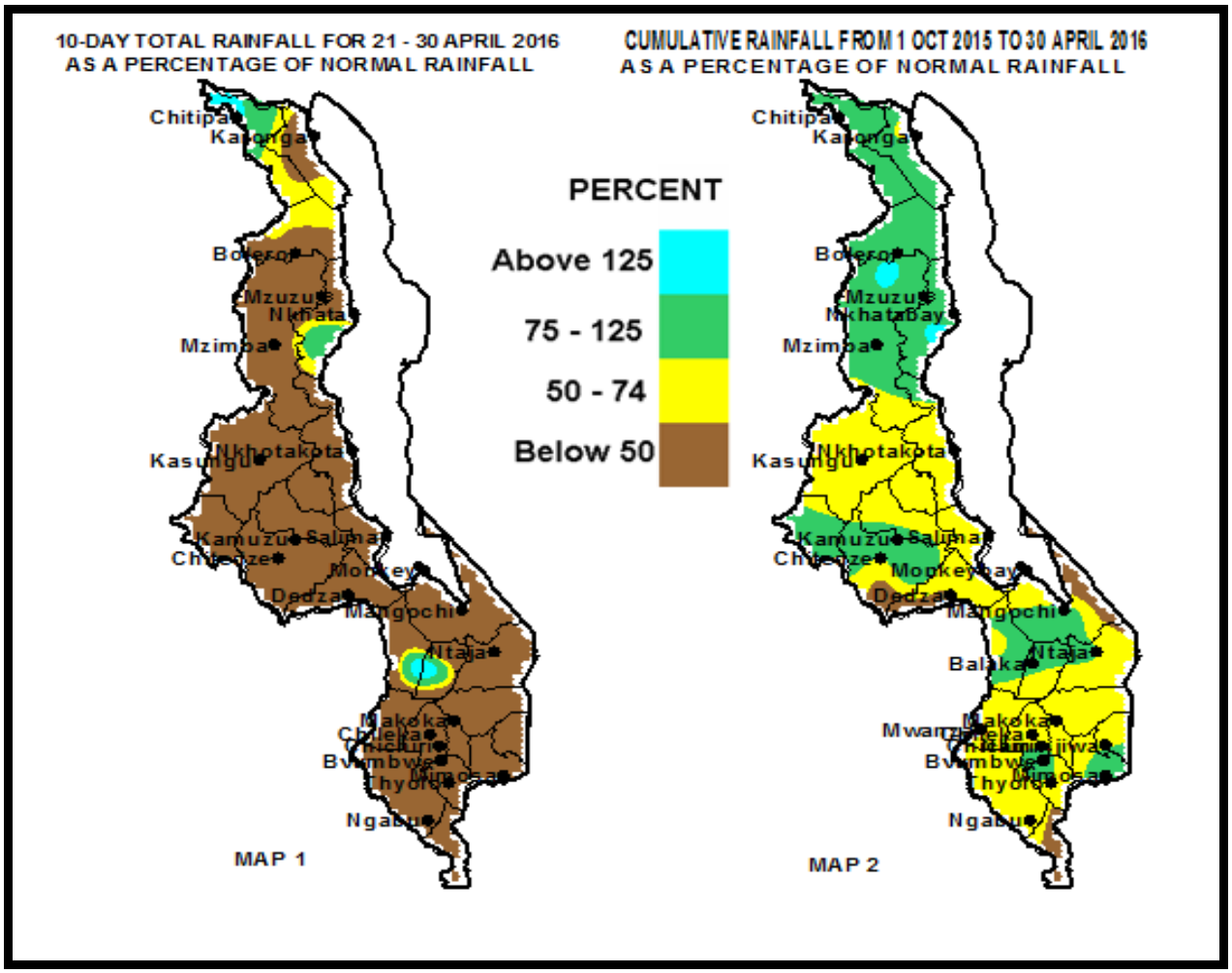

Figure 1: Rainfall Maps for 21 to 30 April 2016

1.0 WEATHER SUMMRY

During the last ten days of April 2016, the main rain belt was over East Africa. As a result below average cumulative rainfall and dry weather prevailed over most parts of Malawi except for a few portions in northern Malawi as well as in the south.

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 period 21 to 30 April 2016, most areas in Malawi had experienced dry conditions and below average rainfall amounts except for very few places where good rainfall amounts were recorded. Significant rainfall amount in excess of 40mm was only recorded over northern Malawi where places like Chintheche Agric in Nkhata Bay district had recorded 100mm and Vinthukutu Agric in Karonga district registered 45mm. Otherwise most areas in Malawi had recorded nil rainfall throughout the period. More details are in Table 1 and Map 1.

Cumulative rainfall performance from October 2015 up to 30 April, 2016 have shown that during the 2015/16 rainfall season most parts of northern Malawi have received between 75 and 125% (green colour) of the long term average rainfall amounts and seasonal rainfall deficits (yellow and brown colours) were experienced in many areas in southern and central Malawi. For more details refer to Map 2 and Table 1.

1.3 AIR TEMPERATURE

During the last ten days of April 2016, Malawi had experienced warm to hot temperatures during the day and cool to mild temperatures during the night and early morning. Reported mean daily maximum temperatures had ranged from 25°C over highlands such as Dedza and Mzuzu to 34°C over low altitude areas such as Ngabu in Chikwawa district. The highest absolute maximum temperaure was registered at Ngabu (37°C) while the lowest absolute minimum temperature was around 10°C, reported at Dedza. More details are in Table 2.

1.4 WIND SPEEDS

Mean daily wind speed at a height of two meters above the ground, were generally light during the last ten days of April 2016. The highest wind speed was reported at Chitipa (11.5Km/hr) while the lowest wind speed was recorded at Chitedze (1.8Km/hr). More details are in Table 2.

1.5 RELATIVE HUMIDITY

Mean Relative Humidity values continued to decline over most areas as dry weather crept in. Mean daily relative humidity values had ranged from 54% to 81%. The lowest mean relative humidity value was reported at Chitedze in Lilongwe district while the highest relative humidity was registered at Mzuzu Airport. See more details in Table 2. High relative humidity values promote incidences fungal diseases.

1.6 SUNSHINE HOURS

During the last ten days of April 2016, Malawi had experienced a pick-up in hours of bright sunshine. Most areas had recorded average sunshine hours of more than eight hours. The mean values had ranged from 7.2 hours at Mzuzu to 9.8 hours at Salima, Chileka and Ngabu. More sunshine hours are required for harvesting and drying of matured crops. Details are in Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

Dry conditions that prevailed over most parts of the country during the last ten days of April 2016 continued to facilitate harvesting and drying of matured crops. Harvesting of maize which is the staple food for Malawians was in progress in most parts of the country. This has improved food security at household level as most households had food from their own production. However, most households particularly in southern Malawi will not harvest enough food this season due to the negative impacts of the strong El Nino that has resulted in lower yields and production.

Maize crop was reported to be mostly at drying and harvesting stages where a lot of sunshine is required to facilitate the drying process. The second round results from the agrometeorological model suggested that the national maize production estimates for 2015/16 season is projected at **2,627,560MTs** which is 8% lower than third round 2014/15 agrometeorological model estimates of **2,846,840MTs**. Please take note that this is not the official maize production estimate figure. For official agricultural production estimates contact Ministry of Agriculture, Irrigation and Water Development.

Maize production during 2015/16 season has been compromised by delayed onset of planting rains and erratic rainfall patterns with prolonged dry spells particularly in southern Malawi and some portions in the centre between January and March 2016.

3. PROSPECTS FOR 2015-2016 RAINFALL SEASON

Most climate models predict that strong El Nino conditions are weakening and expected to reach neutral levels between May to July 2016 and La Nina conditions during 2016/17 agriculture season. However, Malawi is likely to experience mostly below average Chiperoni type of rainfall during most of the period between May to July 2016. This type of rainfall mostly favours areas along the lakeshore and over highlands

4. OUTLOOK FOR MAY AND JUNE 2016

A series of high pressure systems are expected to periodically induce cool and moist air from the Indian Ocean into Malawi. Therefore, occasional and generally light rainfall is expected particularly over highlands and along the Lakeshore during May and June 2016.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR 21 TO 30 APRIL 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.	0.0	41.0	0	815.0	1317.8	62	0
	Chitipa Met	5.9	4.2	140	1024.6	940.0	109	2
	Karonga Met.	0.0	25.9	0	715.2	980.8	73	0
	Lupembe	2.0	12.7	16	1108.5	822.6	135	1
	Vinthukutu Agric	45.0	53.3	84	1350.9	1120.5	121	3
MZUZU	Bolero Met	2.0	4.2	48	791.5	629.1	126	1
	Bwengu Agric.	4.0	7.4	54	901.3	758.8	119	2
	Chikangawa forest	18.9	22.0	86	1173.7	1090.5	108	4
	Chelinda (Nyika)	0.0	28.7	0	1207.4	1194.3	101	0
	Chintheche Agric	100.0	82.6	121	2242.1	1683.4	133	1
	Ekwendeni Agric.	0.0	9.4	0	738.0	807.2	91	0
	Euthini Agric.	0.0	14.0	0	794.0	775.4	102	0
	Mbawa Res. Stn	0.0	7.3	0	628.3	801.2	78	0
	Mzimba Met	0.0	9.1	0	910.9	885.3	103	0
	Mzuzu Met.	12.6	43.6	29	1365.3	1074.6	127	5
	NkhataBay Met.	14.1	81.9	17	1528.9	1393.8	110	2
	Rumphi Boma	0.0	8.3	0	894.3	728.3	123	0
	Zombwe Agric	0.0	8.5	0	1040.8	744.4	140	0
KASUNGU	Dowa Agric	0.0	2.8	0	582.8	872.3	67	0
	Kaluluma Agric	0.0	3.7	0	501.8	809.8	62	0
	Kasungu Met	0.0	4.0	0	607.0	770.4	79	0
	Lisasadzi	0.0	6.4	0	482.1	811.9	59	0
	Malomo Agric	0.0	14.9	0	419.6	825.8	51	0
	Madisi Agric	0.0	3.6	0	503.8	827.9	61	0
	Mchinji Boma	0.0	10.2	0	870.8	1003.4	87	0
	Mkanda Met	0.0	7.1	0	656.8	863.8	76	0
	Mponela Agric	0.0	2.6	0	528.3	786.9	67	0
	Mwimba Research	0.0	2.2	0	487.0	865.2	56	0
	Ntchisi Boma	0.0	12.1	0	729.7	1225.9	60	0
SALIMA	Dwangwa	0.0	33.3	0	955.5	1320.4	72	0
	Lifuwu	0.0	11.7	0	570.3	1228.3	46	0
	Nkhotakota Met	2.9	34.5	8	871.6	1432.3	61	2
	Salima Met	0.0	9.2	0	572.8	1205.0	48	0
LILONGWE	Chileka Namitete	0.0	13.9	0	795.7	921.2	86	0
	Chitedze Met.	0.0	6.5	0	647.4	874.5	74	0
	Dzonzi Forest	0.0	5.4	0	880.4	978.8	90	0
	K.I.A Met	0.0	6.1	0	797.9	838.1	95	0
	Kasiya Agric	0.0	12.6	0	764.0	948.1	81	0
	Mlangeni Njolomole	0.0	4.7	0	736.8	958.2	77	0
	Mtakataka Airwing	0.0	2.4	0	271.0	806.3	34	0
	Nathenje Agric	0.0	13.2	0	954.5	865.0	110	0
	Ntcheu - Nkhande	0.0	7.2	0	614.0	1035.0	59	0
	Dedza Met	0.2	5.1	4	663.0	979.0	68	0
MACHINGA	Balaka Township	22.8	6.8	335	724.8	849.5	85	1
	Chancellor College	0.0	11.0	0	587.9	1268.8	46	0
	Chikweo Agric.	0.0	9.6	0	574.7	1045.7	55	0
	Chingale Agric	0.0	5.7	0	598.5	910.3	66	0
	Mpilipili (Makanjila)	0.0	4.8	0	434.1	877.1	49	0
	Makoka Met	0.0	10.4	0	568.9	959.5	59	0
	Mangochi Met.	0.0	5.0	0	690.6	697.9	99	0
	Monkey Bay Met.	0.0	1.5	0	347.1	562.9	62	0
	Namiasi Agric	0.0	1.7	0	413.9	742.5	56	0
	Namwera Agric	0.0	8.4	0	323.2	1035.5	31	0
	Ntaja Met.	0.0	15.1	0	693.5	887.5	78	0
	Phalula Agric	0.0	3.5	0	437.5	815.3	54	0
	Toleza Farm	0.0	9.8	0	673.0	860.2	78	0
	Zomba Agric	0.0	13.6	0	862.4	1187.1	73	0
BLANTYRE	Bvumbwe Met.	0.9	16.5	5	928.7	1082.9	86	1
	Chichiri Met.	1.2	16.7	7	790.5	1095.3	72	2
	Chileka Airport	0.0	8.8	0	597.8	872.4	69	0
	Chiradzulu Agric	0.0	11.8	0	593.1	965.6	61	0
	Lujeri Tea Estate	0.0	63.0	0	2255.1	1983.7	114	0
	Masambanjati Agric	0.0	28.4	0	700.8	1305.1	54	0
	Mimosa Met.	0.0	36.9	0	1288.9	1412.3	91	0
	Mpemba Vet	0.0	11.3	0	835.7	1102.4	76	0
	Mulanje Boma	0.0	29.6	0	1723.0	1688.7	102	0
	Mwanza Boma	0.0	10.6	0	623.5	999.1	62	0
	Naminjiwa Agric	0.0	5.4	0	636.2	943.7	67	0
	Neno Agric	0.0	14.5	0	716.8	1083.1	66	0
	Satemwa Tea Estate	0.0	17.9	0	891.8	1067.2	84	0
	Thuchila Agric	0.0	7.7	0	444.7	863.9	51	0
	Thyolo Boma	0.0	24.7	0	560.4	1148.4	49	0
	Thyolo Met	0.0	16.5	0	772.4	1173.9	66	0
SHIRE VALLEY	Chikwawa Boma	0.0	6.9	0	567.9	750.2	76	0
	Makhanga Agric	1.6	5.9	27	N/A	708.8	N/A	1
	Nchalo	0.0	8.6	0	389.5	643.1	61	0
	Ngabu Met.	0.0	11.6	0	544.5	747.9	73	0
	Nsanje Boma	0.0	18.3	0	434.5	1066.7	41	0

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 21 TO 30 APRIL 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	26.9	17.7	28.1	16.2	11.5	73	9.4	7.5	5.9	10.9
Karonga	31.0	21.6	31.5	20.6	5.8	70	8.6	7.8	6.2	10.4
MZUZU ADD										
Bolero	28.3	16.8	30.0	13.5	5.4	68	7.5	5.8	4.6	8.4
Mzimba	27.5	15.4	30.1	12.5	5.4	65	9.3	6.2	4.8	9.6
Mzuzu	24.6	14.3	26.1	11.8	3.6	81	7.2	5.0	3.8	8.3
Nkhata Bay	29.8	18.8	31.8	17.0	2.5	79	7.5	5.8	4.6	8.5
KASUNGU ADD										
Kasungu	29.7	15.0	31.4	12.9	4.0	62	8.1	6.0	4.7	9.0
LILONGWE ADD										
Chitedze	28.6	15.2	30.7	12.7	1.8	54	7.6	5.8	4.5	8.7
Dedza	25.2	12.7	27.4	10.2	6.5	68	7.5	5.5	4.3	8.7
K I A	27.4	14.0	28.8	11.7	5.0	57	8.2	6.0	4.6	9.1
SALIMA ADD										
Nkhotakota	29.9	20.6	30.9	18.2	2.9	64	9.5	6.9	5.4	9.9
Salima	31.0	20.4	32.1	16.2	3.6	61	9.8	7.0	5.5	10.1
MACHINGA ADD										
Makoka	28.4	15.0	31.4	13.0	2.2	64	9.0	6.2	4.8	9.8
Monkey Bay	31.3	21.8	32.1	20.8	7.2	59	9.7	7.6	6.1	10.1
Ntaja	30.6	18.9	33.2	17.7	6.1	64	9.7	7.4	5.8	10.5
BLANTYRE ADD										
Bvumbwe	25.2	16.0	26.9	14.5	6.1	64	9.1	6.3	4.9	9.9
Chichiri	27.4	16.3	29.6	14.7	5.8	58	9.0	6.5	5.1	9.8
Chileka	29.5	17.5	31.7	16.0	10.1	60	9.8	7.4	5.9	10.3
Mimosa	27.2	16.2	32.3	12.0	5.8	65	9.0	6.4	5.0	9.8
SHIRE VALLEY ADD										
Ngabu	33.8	20.2	36.8	19.5	8.3	65	9.8	8.0	6.4	10.4

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 Kilometers per hour (Km/hr) to meters per second (mps) = (Km/Hr)/3.6