



REPUBLIC OF MALAWI

Ministry of Natural Resources Energy and Mining
Department of Climate Change and Meteorological Services

10-day Weather and Agrometeorological Bulletin

In support of national early warning systems and food security



Be wise be weather-wise

Period: 11 – 20 March 2015

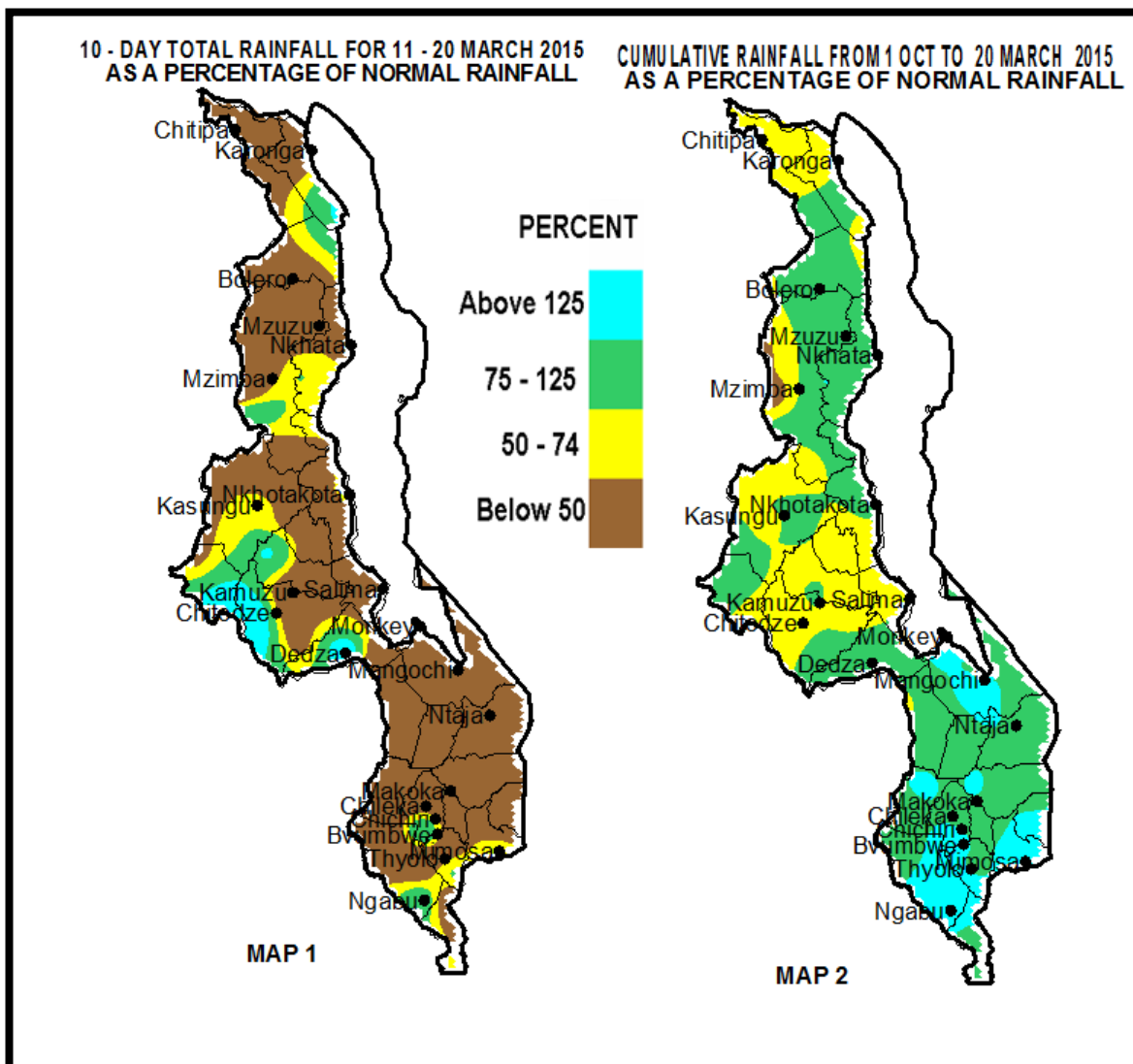
Season: 2014/2015

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HIGHLIGHTS

- Hot and dry weather persisted over most areas of Malawi...
- Crops reported wilting and drying prematurely as dry spell hit many areas...
- Mostly dry weather expected to persist during the period 21 to 31 March 2015...



Rainfall Maps for 11 to 20 March 2015

1.0 WEATHER SUMMARY

During the period 11 to 20 March 2015, the main rain-belt remained north of Malawi and most areas in Malawi had experienced dry weather and below average rainfall performance.

1.1 RAINFALL SITUATION

During the second ten days of March 2015 the main rain-belt remained north of Malawi causing mostly dry conditions and below average rainfall performance to persist over the country. Many stations had reported light rainfall amounts with some stations registering nil rainfall throughout the period. Significant rainfall amounts of at least 50mm were accumulated at very few stations including Lujeri Tea Estate in Mulanje (89mm), Mpemba Agric (83mm) in Blantyre, Mimosa Met (57mm) in Mulanje, Mulanje Agric (51mm), Thyolo Met (63mm), Chileka-Namitete (140mm) in Lilongwe, Dedza Met (74mm), Mchinji Agric (56mm), Nkhotakota Met (73mm), Chintheche Agric (64mm) Mbawa Research station (52mm) in Mzimba and Vintukutu Agric (120mm) in Karonga. Otherwise most stations had recorded rainfall amounts of less than 30mm with an average of two rainy days. More details are on Table 1.

Cumulative rainfall performance over the country since 1 October 2014 up to 20th March 2015 shows that most areas in Malawi have achieved their normal seasonal rainfall amounts with a few pockets (mainly over the centre and north) registering below normal cumulative rainfall amounts. For more details refer to Table 1 and Map 2.

1.2 AIR TEMPERATURE

The period 11 to 20th March 2015 was characterised by warm to hot temperatures. Mean daily maximum temperatures had ranged from 24°C at Dedza to 34°C at Ngabu. Mean daily minimum temperatures for the same period had ranged from 14°C at Dedza to 23°C at Monkey Bay. The highest absolute maximum temperature for the period was 36°C still observed at Ngabu. For more details see Table 2.

1.3 WIND SPEEDS

Mean wind speeds at a height of two metres above the ground level had ranged from 2.5 Kilometres per hour at Chitedze to 13.7 Kilometres per hour at Chitipa. For more details refer to Table 2.

1.4 RELATIVE HUMIDITY

The country continued to experience fairly high values of Relative Humidity during the period 11 to 20th March 2015. Daily average relative humidity values had ranged from 66% at Chichiri to 77% at Mzuzu, Makoka, and Dedza. Details are in Table 2.

1.5 SUNSHINE HOURS

Due to low cloudiness mean durations of bright Sunshine hours were higher than during the previous reporting period. This time around more areas had experienced daily average sunshine hours of above seven hours while during the previous reporting period most areas had reported less than six and half hours. Details are on the Table 2.

1.6 VEGETATION CONDITION

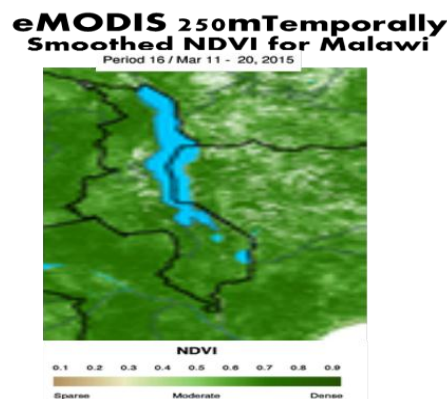


Figure 2: Vegetation Condition over Malawi

The vegetation condition map for Malawi up to 20th March 2015 showed that the country has achieved average greenness despite the late onset of the rains this season (Figure 2). This implies that natural pastures were in good condition.

2.0 AGROMETEOROLOGICAL ASSESSMENT AND IMPACTS

Most parts of Malawi had continued experiencing below average rainfall and prolonged dry spell that ranged from two to three weeks. According to reports from District Agricultural Offices the crop situation in most parts of Malawi was worsening. The dry spell which started during early March had spread to more areas by 20th March and crops like maize were reported wilting and drying prematurely between tasseling and grain filling stages, raising fears of crop failure and food availability problems in the 2015/16 consumption season. The worst affected crops include the late maturing crop varieties that were planted during late December last year. The bulk of this crop required more rains at least up to end of March 2015 for the crop to mature properly.

Due to March dryness as at 20th March 2015 results from the Agro-meteorological maize yield forecasting model suggest a national maize production estimate of **3.6 million MT**, but this figure is expected to be revised down due to negative impacts of the flooding, waterlogging, leaching and the late onset. Earlier estimates from Ministry of Agriculture, Irrigation and Water Development indicated that more than 100,000 tons of maize had been lost due to the flooding.

3. OUTLOOK FOR 21 TO 31 MARCH 2015

During the period 21 to 31 March 2015, the main rain-belt is expected to remain north of Malawi and easterly waves will cover most parts of Malawi. Therefore, mostly dry weather is expected to persist over Malawi save for a few areas over the highlands and along the lakeshore. The current rainfall pattern is suggesting that the 2014/15 main rainfall season is tailing off.

4 UPDATED FORECAST FOR 2014/15 RAINFALL SEASON

During March and April 2015 the rainfall outlook for Malawi shows increased chances of normal to below normal rainfall amounts over most parts of Malawi.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR 11 TO 20 MARCH 2015

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.	22.6	140.0	16	443.6	871.3	51	3	
	Chitipa Met	2.7	66.1	4	596.5	827.7	72	2	
	Karonga Met.	19.1	78.9	24	405.8	693.7	58	3	
	Lupembe Agric	39.0	62.8	62	574.5	621.4	92	2	
	Vinhukutu Agric	119.5	79.5	150	517.4	758.5	68	7	
MZUZU	Bolero Met	4.7	27.9	17	519.1	566.3	92	3	
	Bwengu Agric.	5.3	47.5	11	529.0	662.9	80	5	
	Chikangawa forest	49.7	63.1	79	1153.4	873.5	132	6	
	Chintheche Agric	63.6	124.2	51	793.7	1135.6	70	5	
	Euthini Agric.	2.6	41.2	6	368.8	680.9	54	1	
	Mbawa Res. Stn	52.2	40.4	129	667.8	729.3	92	1	
	Mzimba Met	13.0	41.7	31	541.6	790.6	69	3	
	Mzuzu Met.	22.1	58.2	38	728.0	775.3	94	5	
	NkhataBay Met.	44.0	96.7	46	800.6	915.9	87	4	
	Zombwe Agric	0.0	35.5	0	697.9	624.2	112	0	
KASUNGU	Dowa Agric	1.9	45.4	4	442.7	794.1	56	1	
	Kaluluma DTC	0.0	50.3	0	399.0	736.9	54	0	
	Kasungu Met	29.4	38.7	76	651.0	712.1	91	2	
	Lisasadzi	18.4	33.7	55	645.3	752.8	86	1	
	Malomo Agric	1.2	46.7	3	531.3	761.3	70	1	
	Madisi Agric	47.0	33.6	140	460.8	768.9	60	1	
	Mchinji Boma	55.5	46.7	119	725.8	898.0	81	4	
	Mkanda Met	14.2	41.3	34	737.8	783.7	94	3	
	Mponela Agric	17.5	35.1	50	604.8	739.5	82	2	
	Ntchisi Boma	3.2	82.4	4	588.3	1074.1	55	1	
	SALIMA	Dwangwa Illovo	43.5	91.8	47	782.0	992.3	79	6
Lifuwu		5.6	78.7	7	677.5	1057.2	64	1	
Nkhotakota Met		72.6	113.7	64	935.6	1102.1	85	8	
Salima Met		0.5	85.6	1	594.4	1051.8	57	1	
LILONGWE	Chileka Namitete	139.7	44.6	313	406.1	827.0	49	2	
	Chitedze Met.	21.5	51.1	42	538.2	788.1	68	2	
	Dedza Met	73.7	42.7	173	776.1	842.6	92	3	
	Dzonzi Forest	0.0	57.0	0	758.1	893.3	85	0	
	K.I.A Met	8.7	41.8	21	586.1	763.5	77	2	
	Kasiya Agric	23.0	38.9	59	615.0	873.0	70	2	
	Mlangeni Njolomole	0.0	54.0	0	506.5	870.9	58	0	
	Mtakataka Airwing	12.1	52.4	23	628.0	727.5	86	2	
	Nathenje Agric	14.5	39.1	37	571.3	757.8	75	2	
	Ntcheu - Nkhande	1.7	50.4	3	775.1	947.0	82	1	
	Dedza RTC	0.0	49.2	0	741.0	900.7	82	0	
	MACHINGA	Balaka Township	0.0	40.2	0	779.6	776.7	100	0
		Chancellor College	0.0	82.6	0	1156.1	1124.8	103	0
Chikweo Agric.		3.5	67.3	5	763.9	945.3	81	1	
Chingale Agric		13.3	52.0	26	1212.7	833.1	146	1	
Mpilipili (Makanjila)		13.3	39.6	34	694.6	810.5	86	1	
Makoka Met		0.0	46.7	0	1040.2	871.8	119	0	
Mangochi Met.		1.8	44.1	4	1021.1	630.1	162	1	
Monkey Bay Met.		2.9	16.3	18	901.0	538.2	167	1	
Namiasi Agric		0.0	49.7	0	684.2	709.5	96	0	
Namwera Agric		36.9	69.3	53	669.8	920.5	73	3	
Ntaja Met.		0.0	44.6	0	935.5	778.6	120	0	
Phalula Agric		0.0	37.0	0	791.3	757.6	104	0	
Zomba Agric		0.0	73.9	0	1378.7	1053.6	131	0	
BLANTYRE		Bvumbwe Met.	13.5	54.2	25	1219.6	958.2	127	1
		Chichiri Met.	17.5	16.1	109	1351.5	1013.2	133	1
	Chileka Airport	5.6	45.8	12	862.7	782.4	110	2	
	Chiradzulu Agric	0.0	38.1	0	837.8	875.0	96	0	
	Lujeri Tea Estate	89.0	146.5	61	2490.2	1612.8	154	2	
	Mimosa Met.	56.7	89.0	64	1761.5	1186.7	148	3	
	Mpemba Agric	83.0	61.9	134	1637.9	988.4	166	3	
	Mulanje Boma	51.0	70.2	73	2178.6	1399.1	156	3	
	Mwanza Boma	0.0	55.4	0	662.3	901.7	73	0	
	Naminjiwa Agric	4.5	44.3	10	1202.3	873.6	138	1	
	Neno Agric	0.0	46.9	0	1441.3	968.5	149	0	
	Satemwa Tea Est. No.1	1.5	63.1	2	1167.7	917.2	127	1	
	Thyolo Boma	7.5	78.0	10	525.4	996.3	53	1	
	Thyolo Met	63.2	58.6	108	1069.3	1050.8	102	3	
	SHIRE VALLEY	Chikwawa Boma	0.0	32.9	0	896.0	680.1	132	0
Makhanga Met		0.0	38.0	0	843.2	650.5	130	0	
Nchalo Illovo		3.3	19.3	17	1013.5	578.8	175	1	
Ngabu Met.		45.3	37.3	121	976.8	669.7	146	1	

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR THE PERIOD 11 TO 20 MARCH 2015

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	27.1	18.3	27.8	17.0	13.7	76	7.2	6.6	5.2	9.0
Karonga	31.3	21.6	32.5	20.0	6.8	67	8.8	7.6	6.1	10.0
Bolero										
Bolero	29.0	18.0	29.9	15.0	5.4	67	7.7	6.6	5.2	9.3
Mzimba										
Mzimba	27.7	17.5	29.4	15.4	3.6	69	7.5	6.3	4.9	9.2
Mzuzu										
Mzuzu	25.9	16.5	27.0	14.6	6.1	77	7.3	6.0	4.7	9.1
Nkhata Bay										
Nkhata Bay	30.7	21.0	32.2	19.5	2.9	75	8.1	6.9	5.5	9.6
KASUNGU ADD										
Kasungu	29.0	17.3	29.5	15.6	4.7	73	8.0	6.6	5.1	9.5
LILONGWE ADD										
Dedza	24.1	14.3	25.6	12.9	7.2	77	7.0	5.7	4.4	8.9
Chitedze										
Chitedze	27.8	17.5	28.7	15.7	2.5	76	8.5	6.5	5.1	9.9
KIA										
KIA	26.8	17.5	27.5	16.4	6.5	72	8.7	6.7	5.3	10.0
SALIMA ADD										
Nkhota kota	28.8	22.0	29.7	20.4	5.8	70	8.1	7.3	5.8	9.6
Salima										
Salima	31.0	21.9	32.5	20.5	5.8	67	9.1	7.5	5.9	10.3
MACHINGA ADD										
Ntaja	28.8	20.4	30.8	19.7	4.7	73	7.8	6.7	5.3	9.4
Makoka										
Makoka	27.4	17.4	28.7	15.4	3.2	77	9.0	6.7	5.2	10.2
Mangochi										
Mangochi	31.8	22.5	33.8	21.0	3.6	71	9.0	7.6	6.1	10.2
Monkey Bay										
Monkey Bay	31.2	22.8	32.6	22.0	4.7	67	9.9	8.0	6.4	10.8
BLANTYRE ADD										
Bvumbwe	26.4	17.3	28.1	15.8	6.1	69	7.7	6.4	5.0	9.4
Chichiri										
Chichiri	27.1	18.0	29.0	16.3	5.4	66	7.5	6.5	5.1	9.2
Chileka										
Chileka	29.7	19.3	31.6	17.9	8.3	69	5.6	6.2	5.0	8.0
Mimosa										
Mimosa	30.1	18.1	32.5	15.2	3.2	70	7.5	6.5	5.1	9.2
SHIRE VALLEY ADD										
Ngabu	33.5	22.3	35.9	20.6	6.5	70	9.0	8.0	6.4	10.2

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) = mps x 3.6