



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 February 2015

Season: 2014/2015

Issue No.14

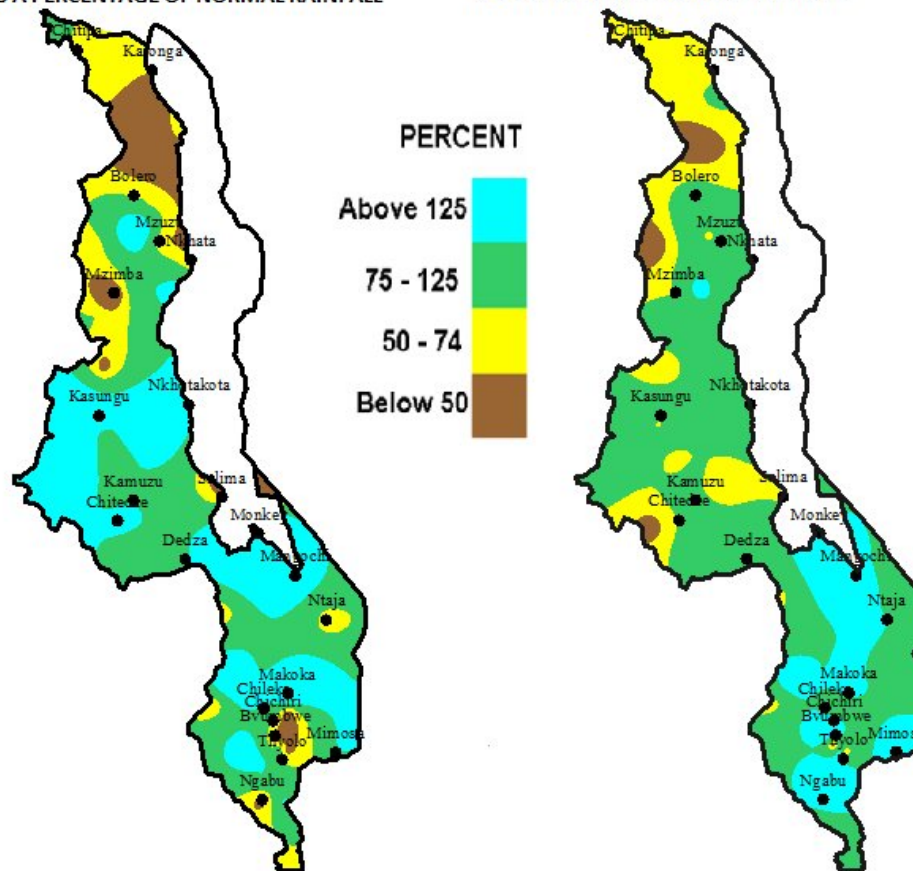
Release date: 24th February 2015

HIGHLIGHTS

- Northern Malawi continued to experience below average rainfall...
- Maize crop ranged from vegetative to maturity stages across Malawi...
- Scattered and locally heavy rains expected during the period 11 - 20 February 2015...

10-DAY TOTAL RAINFALL FOR 11-20 FEBRUARY 2015 AS A PERCENTAGE OF NORMAL RAINFALL

CUMULATIVE RAINFALL FROM 1 OCTOBER TO 20 FEBRUARY 2015 AS A PERCENTAGE OF NORMAL RAINFALL



Rainfall Maps for 11 to 20 February 2015

1.0 WEATHER SUMMARY

During the period 11 to 20 February 2015, weather over Malawi was influenced by a combined effect of the Inter-Tropical Convergence Zone (ITCZ) and moist and unstable airmass from the Congo region. This resulted in most areas receiving moderate to locally heavy rainfall. However, parts of the northern areas of the country experienced below average rainfall amounts.

1.1 RAINFALL SITUATION

Moderate to locally heavy rains were experienced over most parts of Malawi during the period 11 to 20 February 2015. Rainfall amounts in excess of 100mm were recorded at some stations including Neno Agric (142mm), Lujeri Tea Estate (193mm), Zomba Agriculture (140mm), Monkey Bay (135mm), Mangochi (117mm), Makoka (131mm), Chancellor College (134mm), Dedza RTC (134mm), Nkhotakota Met (101mm), Mwimba Research (182mm), Mkanda (206mm), Kasungu (116mm), Malomo Agric (145mm), Zombwe (125mm), Ekwendeni Agric () and Chintheche which registered a total of 107mm. These heavy rainfall amounts had maintained above normal rainfall situation, mainly over Southern areas (light blue colour on Map 1). On the other hand, most areas over northern parts of Malawi had recorded below average rainfall for the ten day period with some areas recording less than the expected amounts as well as very low number of rainy days for the period under review. Table 1 and Map 1

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

1.2 AIR TEMPERATURE

Warm temperatures were experienced over Malawi during the period 11 to 20 February 2015. Mean maximum temperatures were in the range of 23 to 32 °C. The lowest maximum temperature was observed at Dedza while the highest was recorded at Ngabu. Mean minimum temperatures had ranged from 15°C at Dedza to 23°C at Ngabu. The highest absolute maximum temperature for the period was 35°C recorded at Karonga. For more details refer to Table 2.

1.3 WIND SPEEDS

Mean wind speeds at a height of two metres above the ground level had ranged from 0.6 m/s (2.2 Km/h) at Nkhata Bay to 2.4 m/s (8.6 Km/h) at Chileka. For more details refer to Table 2.

1.4 RELATIVE HUMIDITY

The country continued to experience relatively humid conditions 11 to 20 February 2015. Daily average relative humidity values had ranged from 70% at Kasungu and Ngabu to 84% at Makoka. Details are in Table 2.

1.5 SUNSHINE HOURS

Due to continued cloudiness mean durations of bright sunshine hours were low across Malawi. Most areas had experienced daily average sunshine hours of below six hours. Details are on the Table 2.

1.6 VEGETATION CONDITION

eMODIS 250m Temporally Smoothed NDVI for Malawi
Period: Feb 11 – 20, 2015

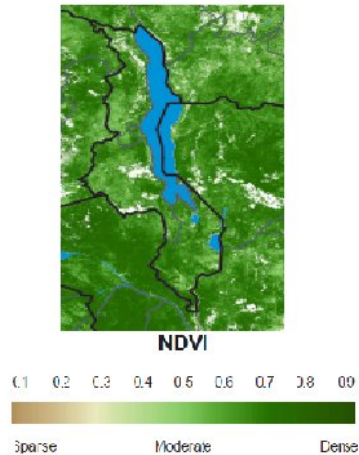


Figure 2: Vegetation Condition over Malawi

The vegetation condition map for Malawi up to 20 February 2015 showed that the country has achieved average greenness conditions 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

During 11 to 20 February 2015 most areas in Malawi had experienced moderate to locally heavy rainfall except for some areas in northern Malawi.

These rains apart from supporting growth and development of crops had also facilitated some farm operations like application of top dressing fertilizer. However, in some cases the persistent rains also hampered some farm activities. The heavy rains had resulted in waterlogging and leaching of soil nutrients as evidenced by yellowing of crops in most fields particularly in southern Malawi. Hailstorm was reported in some parts hence negatively impacting the maize crop. Maize crop had ranged from vegetative to tasseling to cob formation and maturity stages. The main agricultural activities in the fields included banking and application of top dressing fertilizer. The rainfall season started late in most parts of Malawi. The late start could negatively impact harvests if the rainfall season does not extend longer than usual, until at least April 2015. The floods that occurred in early January will also negatively impact on the final production since some hectareage of cropped fields was washed away.

3. OUTLOOK FOR 11 TO 20 FEBRUARY 2015

The ITCZ and Congo air mass will remain active over Malawi. As a result scattered moderate to locally heavy rains are expected to persist over Malawi during the period 21 to 28 February 2015.

4. UPDATED FORECAST FOR 2014/15 RAINFALL SEASON

The recent February-March-April (FMA) rainfall forecast for Malawi shows increased chances of normal to above normal rainfall amounts in the southern half while the northern half is expected to receive normal total rainfall amounts.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR 11 TO 20 FEBRUARY 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.	29.6	63.4	47	318.8	560.9	57	2
	Chitipa Met	56.2	77.5	73	473.5	638.6	74	5
	Karonga Met.	27.8	49.1	57	319.2	485.5	66	3
	Lupembe	29	58.4	50	426	440.6	97	2
	Vinthukutu Agric	32	58.6	55	330.3	553.4	60	5
MZUZU	Bolero Met	42.3	60.7	70	471.4	455.4	104	6
	Bwengu Agric.	44.3	66.2	67	484.4	531.9	91	4
	Chikangawa forest	86.7	75.6	115	967.8	670.4	144	8
	Chelinda (Nyika)	20.5	81	25	184.4	740.9	25	3
	Chinthche Agric	107.4	77.4	139	651.3	809.1	80	4
	Ekwendeni Agric.	111.9	78.6	142	345.6	566.7	61	6
	Euthini Agric.	36.9	63.4	58	148.8	534.2	28	4
	Mbawa Res. Stn	50.7	66	77	525.6	573.3	92	6
	Mzimba Met	12.9	79.3	16	475.9	622.8	76	5
	Mzuzu Met.	34.4	65.3	53	581.2	593.2	98	4
	NkhataBay Met.	30.4	62.1	49	536.1	666.4	80	6
	Rumphi Boma	47.2	65.2	72	451.9	494.8	91	5
	Zombwe Agric	124.7	62.6	199	605.5	484.8	125	7
KASUNGU	Dowa Agric	62.2	56.4	110	374.3	609	61	9
	Kaluluma DTC	22.6	59	38	351.6	576.3	61	3
	Kasungu Met	115.9	63.3	183	559.8	549.5	102	10
	Lisasadzi	52.9	63.9	83	584.7	611.4	96	7
	Malomo Agric	146.8	65.7	223	476	581.5	82	5
	Madisi Agric	57	75.9	75	382.6	594.9	64	4
	Mkanda Agric	206.3	55.1	374	658	623.2	106	6
	Mponela Agric	86	71.5	120	497.9	581.9	86	8
	Mwimba Research	181.8	72.3	251	430.3	624.9	69	5
SALIMA	Dwangwa Illovo Sugar	75.4	60.1	125	712.2	722.0	99	5
	Lifuwu	25.7	91.1	28	617.8	793.4	78	4
	Nkhotakota Met	100.8	73.6	137	810.3	784.5	103	5
	Salima Met	50.5	91.7	55	543.4	774.7	70	6
LILONGWE	Chileka Namitete	94.1	68.3	138	231.8	677.3	34	4
	Chitedze Met.	94.1	57.7	163	481.7	602.6	80	7
	Dedza Met	86.3	74.7	116	634.3	657.2	97	8
	Dzonzi Forest	67.7	70.9	95	668.6	707.4	95	2
	K.I.A Met	75.7	61.9	122	535.3	586.1	91	8
	Kasiya Agric	61.8	63.6	97	532.6	668.8	80	3
	Mlangeni Njolomole	46.5	62.2	75	554.9	552.1	101	7
	Mtakataka Airwing	68.0	87.2	78	376.0	680.8	55	4
	Nathenje Agric	86.5	73.4	118	510.6	589.5	87	4
	Ntcheu - Nkhanda	40.7	75.7	54	629.4	748.0	84	4
	Dedza RTC	103.5	68.8	150	584.4	722.4	81	7
	MACHINGA	Balaka Township	56.4	46.6	121	737.1	631.8	117
Chancellor College		134.4	74.7	180	957.5	885.8	108	4
Chikweo Agric.		49.9	65.1	77	616.6	738.9	83	4
Chingale Agric		98.5	68.2	144	1011.3	669.5	151	5
Mpilipili (Makanjila)		11.1	62.7	18	659.6	651.0	101	2
Makoka Met		130.6	63.1	207	906.1	703.2	129	5
Mangochi Met.		116.4	65.0	179	932.8	483.4	193	4
Monkey Bay Met.		134.8	46.7	289	819.4	445.8	184	3
Namwera Agric		81.4	61.7	132	611.1	717.0	85	4
Ntaja Met.		31.4	56.7	55	779.9	618.5	126	4
Phalula Agric		64.3	57.4	112	742.3	605.8	123	4
Zomba Agric		139.6	70.4	198	1165.7	837.6	139	5
Bvumbwe Met.		32.0	73.8	43	1114.8	771.3	145	6
Chichiri Met.		36.6	52.3	70	1262.0	920.0	137	6
Chileka Airport	59.9	50.4	119	681.8	636.9	107	4	
Chiradzulu Agric	21.4	66.2	32	764.8	710.5	108	5	
Chizunga Factory	55.6	86.4	64	280.6	897.5	31	4	
Lujeri Tea Estate	192.9	138.8	139	1985.2	1341.2	148	6	
Masambanjati Agric	92.7	95.3	97	1297.5	873.1	149	3	
Mimosa Met.	38.7	71.9	54	1420.7	939.7	151	10	
Mpemba Vet	64.9	68.0	95	1534.2	793.9	193	4	
Mulanje Boma	80.8	86.9	93	1752.5	1153.9	152	3	
Mwanza Boma	35.7	66.0	54	501.9	723.1	69	4	
Neno Agric	142.0	68.8	206	1307.7	790.5	165	4	
Satemwa Tea Estate	96.9	76.1	127	1077.9	732.6	147	5	
Thyolo Boma	41.4	78.7	53	445.9	781.3	57	4	
Thyolo Met	53.0	73.8	72	879.1	785.7	112	5	
SHIRE VALLEY	Chikwawa Boma	68.0	41.5	164	679.0	570.6	119	5
	Makhanga Agric	69.8	52.0	134	719.6	530.7	136	3
	Nchalo Illovo	59.4	46.4	128	801.2	481.3	166	3
	Ngabu Met.	19.0	51.3	37	730.6	549.7	133	3
	Nsanje Boma	52.5	72.5	72	642.0	767.8	84	4

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

ADD/ STATION	MAX TEMP (°C)	MIN TEMP (°C)	ABS MAX (°C)	ABS MIN (°C)	WIND SPEED m/s	RH %	SUN SHINE HOURS	Eo mm per day	Et mm per day	RAD- TION calcm ⁻² p/day
KARONGA ADD										
Chitipa	27.8	18.0	29.1	17.4	1.8	76	5.4	5.8	4.6	8.1
Karonga	31.3	21.7	34.5	19.0	1.2	71	3.9	5.8	4.7	7.1
MZUZU ADD										
Bolero	28.9	18.3	30.8	16.8	--	78	6.0	5.8	4.6	8.4
Mzimba	27.4	17.2	29.7	16.0	1.0	74	4.6	5.4	4.3	7.5
Mzuzu	27.4	17.2	29.7	16.0	1.0	74	4.6	5.4	4.3	7.5
Nkhata Bay	31.1	21.6	33.4	20.5	0.6	77	4.2	5.6	4.5	7.2
KASUNGU ADD										
Kasungu	28.3	17.7	30.2	15.9	1.3	70	5.0	5.7	4.6	7.8
LILONGWE ADD										
Dedza	23.3	14.6	25.5	12.8	1.6	80	4.0	4.7	3.7	7.1
Chitedze	27.6	18.3	29.5	17.2	0.7	82	5.4	5.5	4.3	8.0
KIA	26.7	17.7	29.1	16.6	1.5	76	4.5	5.4	4.3	7.4
SALIMA ADD										
Nkhota kota	28.7	22.1	29.6	20.5	1.6	76	6.3	6.7	5.4	8.6
Salima	29.3	21.2	31.1	20.0	1.5	73	6.5	6.5	5.2	8.7
MACHINGA ADD										
Makoka	26.7	18.2	28.7	15.7	1.3	84	4.4	5.1	4.0	7.3
Mangochi	30.9		34.0		1.1	77	4.7	4.4	3.4	7.5
Monkey Bay	29.5	22.7	31.3	21.4	1.9	74	5.6	6.4	5.2	8.1
Ntaja	28.3	20.8	30.6	18.6	1.1	81	4.5	5.4	4.3	7.4
BLANTYRE ADD										
Bvumbwe	24.5	17.3	26.9	15.4	1.4	79	4.6	5.1	4.0	7.4
Chichiri	25.5	17.8	28.0	16.0	0.9	77	5.2	6.6	5.5	7.8
Chileka	27.7	19.5	29.8	17.4	2.4	75	6.5	6.4	5.1	8.7
Mimosa	28.8	19.5	31.7	17.1	1.0	79	4.5	5.4	4.3	7.4
SHIRE VALLEY ADD										
Ngabu	31.4	22.8	34.2	20.7	1.3	70	5.0	6.2	5.1	7.7

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