



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: 21 – 28 February 2017

Season: 2016/2017

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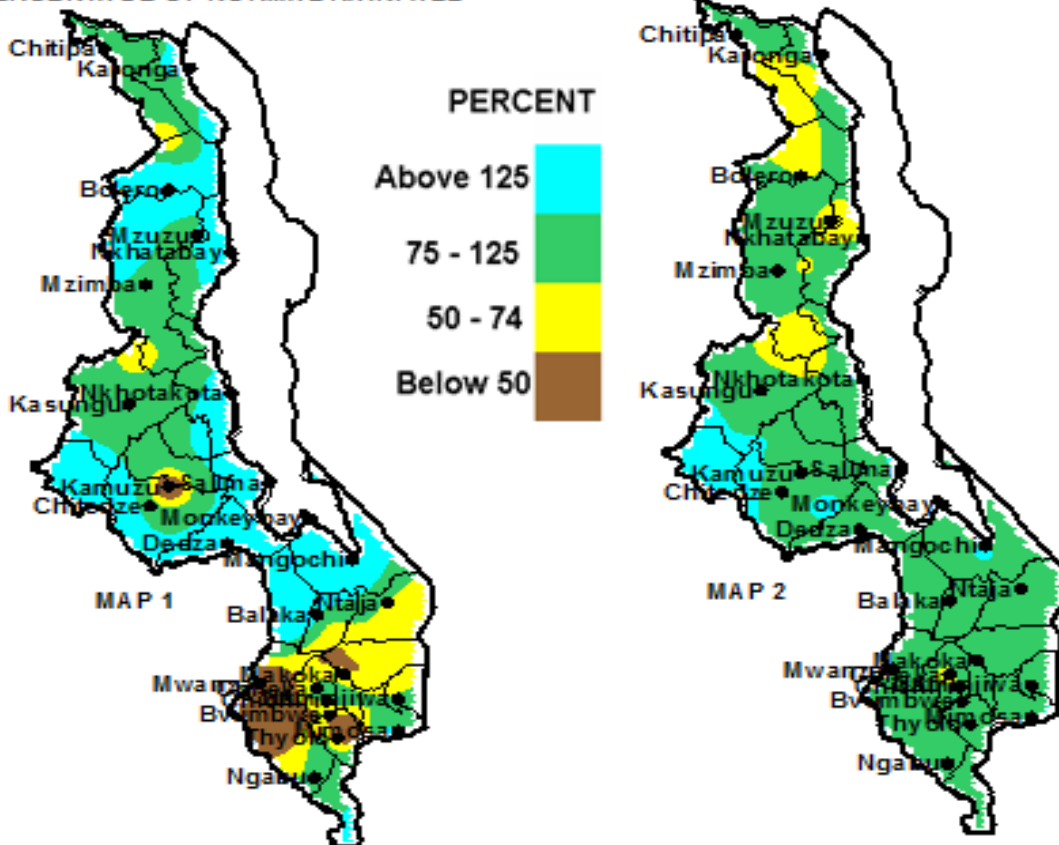
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HIGHLIGHTS

- Average rainfall was experienced over most parts of Malawi...
- Maize crop was mostly at maturity and drying stages...
- Widespread rainfall expected during 01 to 10 March 2017...

10-DAY TOTAL RAINFALL FOR 21 - 28 FEBRUARY 2017
AS A PERCENTAGE OF NORMAL RAINFALL

CUMULATIVE RAINFALL FROM 1 OCT 2016 TO 28 FEBRUARY 2017
AS A PERCENTAGE OF NORMAL RAINFALL



Rainfall Maps for 21 to 28 February 2017

1.0 WEATHER SUMMARY

During the period 21 to 28 February 2017, Congo air mass had maintained moderate to locally heavy rainfall amounts over most areas in Malawi. This had caused average to above average cumulative rainfall amounts (Green and light Blue colours on Map 1) over most parts of the country.

1.1 RAINFALL SITUATION

During the last ten days of February 2017, widespread moderate to locally heavy rainfall amounts were reported over Malawi except over a few areas in southern Malawi where mostly below average rainfall was recorded. High cumulative rainfall amounts of up to 100mm during the ten day period were reported at several places including Lifuwu in Salima 173mm, Ntchisi Agric 143mm, Namiasi Agric in Mangochi and Nkhotakota Met 140mm, Nankumba Agric 137mm, Dzonzi Forest 136mm, Salima Me 124mm, Lujeri Tea Estate in Mulanje and Mchinji Agric 114mm, Mimosa Met 112mm, Ntcheu-Nkhande 110mm, Euthini and Chintheche Agric stations 108mm, Chileka-Namitete 103mm, Nkhata Bay Met 101mm and Kasiya Agric 100mm. The high cumulative rainfall amounts in some places had exceeded the expected rainfall amounts and this represented above normal rainfall situation (light blue colour on Map 1). An average of four rainy days was reported over the country. 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 28 February 2017. The map shows good seasonal rainfall performance (Green and light Blue colours) over the greater part of Malawi with just pocket of below average rainfall over northern half of Malawi.

1.3 AIR TEMPERATURE

Warm to hot temperatures were reported in most parts of Malawi during the last 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 15°C at Dedza to 25°C at Ngabu. During the period the hottest temperatures were still recorded in Chikwawa where Ngabu had reached 38°C. The lowest temperature was 15°C reported at Dedza. Details are in Table 2.

1.4 WIND SPEEDS

During the last days of February 2017 light to moderate wind speeds were observed over Malawi. Daily average wind speeds measured at a height of two metres above the ground level across the country had ranged from 1.4km per hour at Chitedze to 7.9km per hour at Chileka International Airport. More details are in Table 2.

1.5 RELATIVE HUMIDITY

During the last days of February 2017, daily average relative humidity values recorded from various meteorological stations in Malawi were in the range of

63% at Mimosa in Mulanje to 85% at Mkondezi in Nkhata Bay. Details are on the Table 2.

1.6 SUNSHINE HOURS

Generally less sunshine hours were observed over most areas in northern Malawi and more hours in the southern half of Malawi. This is evident from the daily average sunshine hours that were reported during the last days of February 2017. The highest amount was 8.9 hours reported at Ntaja in Machinga and the lowest was 3.3 hours that was registered at Mkondezi in Nkhata Bay. For details see Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

During the last days of February 2017, good rains for agriculture production had resumed in most parts of Malawi. Most areas had recorded rainfall amounts of above 80mm which was enough to satisfy daily water requirements of most crops. Sub-optimal rains were only confined to a few portions in southern Malawi. The rains also continued to support various agriculture activities including improvement of water resources and soil moisture reserves and pasture availability for communal grazing and growth and development of various crops.

Maize across the country had ranged from maturity to drying stages. In some low lying areas in southern Malawi, reports indicated that Maize crop had reached permanent wilting point and some households are likely not to harvest anything from this crop.

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 01 TO 10 MARCH 2017

Medium range weather forecast suggests that Congo Air mass and inter Tropical Convergence Zone are likely to be active over Malawi. Therefore widespread locally heavy rains are expected over Malawi during the first ten days of March 2017.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR 21 TO 28 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.	86.2	54.6	158	473.4	615.5	77	3	
	Chitipa Met	55.4	58.7	94	559.7	697.3	80	7	
	Karonga Met.	74.6	55.9	133	564.6	541.4	104	6	
	Lupembe	54.5	52.4	104	447.5	493.0	91	3	
MZUZU	Bolero Met	84.8	35.1	242	368.9	490.5	75	6	
	Bwengu Agric.	69.7	45.4	154	452.7	577.3	78	6	
	Chikangawa forest	49.3	63.9	77	490.2	734.3	67	7	
	Chelinda (Nyika)	30.5	73.6	41	620.0	814.5	76	7	
	Chinthche Agric	107.8	66.2	163	909.2	875.3	104	4	
	Ekwendeni Agric.	28.4	47.4	60	322.7	614.1	53	6	
	Euthini Agric.	107.8	53.5	201	735.2	587.7	125	4	
	Mbawa Res. Stn	47.1	46.8	101	705.8	620.1	114	6	
	Mzimba Met	55.6	54.4	102	433.8	677.2	64	6	
	Mzuzu Met.	60.7	42.9	141	384.2	636.1	60	7	
	NkhataBay Met.	101.4	55.3	183	525.2	721.7	73	8	
	Rumpho Boma	68.1	44.5	153	378.6	539.3	70	7	
	Zombwe Agric	50.0	47.4	105	385.4	532.2	72	5	
KASUNGU	Dowa Agric	56.7	64.9	87	747.9	673.9	111	7	
	Kaluluma DTC	25.8	40.8	63	396.1	617.1	64	3	
	Kasungu Met	59.6	59.6	100	687.6	609.1	113	6	
	Lisasadzi	53.1	54.8	97	523.6	666.2	79	5	
	Malomo Agric	47.1	48.8	97	537.2	630.3	85	5	
	Madisi Agric	83.1	73.7	113	859.9	668.6	129	6	
	Mchinji Boma	113.9	70.0	163	1290.4	793.5	163	6	
	Mwimba Research	69.0	69.8	99	722.8	694.7	104	3	
	Nchisi Boma	142.6	75.3	189	779.3	905.4	86	6	
	Dwangwa	74.3	70.1	106	668.7	792.1	84	6	
SALIMA	Lifuwu	172.6	86.4	200	1221.3	879.8	139	3	
	Nkhotakota Met	140.1	85.7	163	804.8	870.2	92	6	
	Salima Met	124.3	92.8	134	968.1	867.5	112	5	
	Chileka Namitete	103.4	60.4	171	946.6	737.7	128	3	
LILONGWE	Chitedze Met.	60.0	66.9	90	775.2	669.5	116	7	
	Dzonzi Forest	135.5	46.0	295	682.7	753.4	91	5	
	K.I.A Met	9.6	66.5	14	696.7	652.6	107	4	
	Kasiya Agric	100.0	81.8	122	919.1	750.6	122	2	
	Nathenje Agric	73.7	66.5	111	886.1	656.0	135	4	
	Ncheu - Nkhande	109.9	69.3	159	903.6	817.3	111	7	
	Dedza Met	89.5	42.3	212	781.7	764.7	102	3	
	Balaka Township	53.0	47.2	112	723.9	679.0	107	2	
	Chikweo Agric.	43.2	67.5	64	739.9	806.4	92	2	
	Chingale Agric	27.4	54.0	51	699.4	723.5	97	5	
MACHINGA	Mpilipili (Makanjila)	67.8	58.4	116	570.5	709.4	80	7	
	Makoka Met	25.8	56.8	45	747.6	760.0	98	3	
	Monkey Bay Met.	63.4	33.7	188	442.9	479.5	92	5	
	Namiasi Agric	140.2	50.0	280	584.8	615.8	95	5	
	Namwera Agric	84.5	63.1	134	644.9	780.1	83	4	
	Nankumba Agric	136.5	44.7	305	N/A	668.5	N/A	3	
	Ntaja Met.	40.1	57.5	70	752.4	676.0	111	2	
	Phalula Agric	27.9	57.6	48	520.4	663.4	78	2	
	Toleza Farm	62.0	49.9	124	717.0	667.4	107	3	
	BLANTYRE	Bvumbwe Met.	20.5	62.4	33	894.9	833.7	107	3
		Chichiri Met.	45.1	52.5	86	806.3	972.5	83	3
		Chileka Airport	43.5	47.9	91	459.7	684.8	67	4
		Chiradzulu Agric	50.4	53.3	95	731.2	763.8	96	3
		Chizunga Factory	50.3	60.7	83	794.0	958.2	83	1
Lujeri Tea Estate		114.1	110.3	103	2071.2	1451.5	143	5	
Masambanjati Agric		67.9	75.6	90	885.0	948.7	93	5	
Mimosa Met.		112.0	62.9	178	1173.6	1002.6	117	3	
Mpemba Vet		27.2	54.7	50	739.2	848.6	87	2	
Mulanje Boma		82.9	55.9	148	1190.4	1209.8	98	3	
Mwanza Boma		5.0	57.4	9	658.1	780.5	84	2	
Naminjiwa Agric		43.4	53.5	81	698.3	763.0	92	5	
Neno Agric		30.0	51.2	59	823.0	841.7	98	2	
Satemwa Tea Est		27.8	48.5	57	838.1	781.1	107	4	
Thuchila Agric		21.1	47.4	45	821.7	668.4	123	2	
Thyolo Boma		41.0	52.6	78	883.8	833.9	106	2	
SHIRE VALLEY		Chikwawa Boma	7.5	32.8	23	591.3	603.4	98	1
		Kasinthula Res. Stn.	4.5	41.4	11	500.4	529.2	95	1
		Nchalo Sucoma	29.5	37.2	79	567.2	518.5	109	2
		Ngabu Met.	33.5	40.9	82	592.6	590.6	100	2
	Nsanje Boma	61.4	43.6	141	643.4	811.4	79	3	

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 21 TO 28 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	26.3	17.4	27.7	16.8	5.0	80	6.5	5.9	4.6	8.7
Karonga	30.8	20.8	33.0	19.9	3.6	73	5.0	6.0	4.8	7.8
MZUZU ADD										
Bolero	26.4	18.6	28.6	17.0	5.4	84	3.5	4.8	3.8	6.7
Mzimba	25.1	16.9	26.9	16.3	2.5	84	3.5	4.6	3.6	6.7
Mzuzu	24.5	17.6	27.0	16.4	4.0	84	4.0	4.8	3.8	7.1
Nkhata Bay	28.7	21.2	30.9	20.6	1.8	85	3.3	4.8	3.8	6.6
KASUNGU ADD										
Kasungu	26.9	18.8	28.4	18.0	3.6	83	4.7	5.3	4.1	7.5
LILONGWE ADD										
Chitedze	27.5	17.9	29.0	16.4	1.4	82	5.3	5.4	4.2	7.9
Dedza	25.0	15.4	26.1	14.9	6.8	81	6.3	5.6	4.4	8.5
KIA	25.9	17.8	27.5	17.2	4.0	81	6.0	5.6	4.4	8.4
SALIMA ADD										
Nkhotakota	28.2	21.6	29.9	20.1	2.2	82	5.0	5.6	4.5	7.7
Salima	29.8	22.2	31.0	21.2	4.7	78	7.3	6.2	4.9	9.2
MACHINGA ADD										
Makoka	28.7	18.1	30.5	16.4	2.2	80	7.4	6.3	4.9	9.2
Mangochi	32.4	22.5	34.0	21.2	1.4	71	7.5	7.0	5.6	9.3
Monkey Bay	30.0	23.0	31.6	21.6	5.4	76	7.3	7.0	5.6	9.2
Ntaja	31.8	21.0	34.4	19.4	4.3	72	8.9	7.6	6.0	10.2
BLANTYRE ADD										
Bvumbwe	26.5	17.1	28.2	15.9	5.4	77	7.3	6.2	4.8	9.2
Chichiri	27.9	19.0	29.6	17.8	3.6	74	7.5	6.5	5.1	9.3
Chileka	30.3	20.7	32.4	19.5	7.9	71	7.3	7.0	5.6	9.2
Mimosa	31.0	19.6	32.0	18.1	4.0	63	7.0	6.7	5.4	9.0
SHIRE VALLEY ADD										
Ngabu	35.4	24.7	38.0	23.5	2.2	68	6.0	6.9	5.6	8.3

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