



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 2017

Season: 2016/2017

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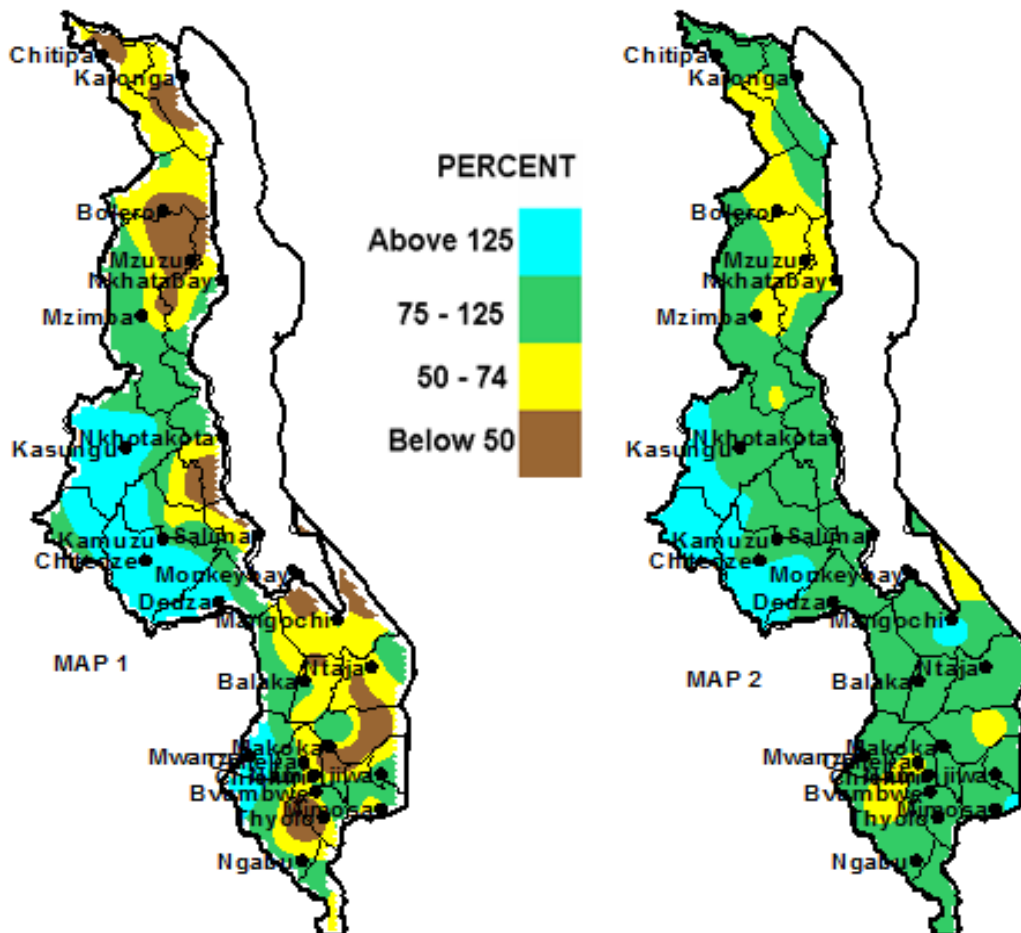
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HIGHLIGHTS

- More areas experience low rainfall and dry spells...
- Soil moisture stress to compromise 2016/17 crop production...
- Good rainfall performance expected over central and northern Malawi ...

10-DAY TOTAL RAINFALL FOR 11 - 20 FEBRUARY 2017
AS A PERCENTAGE OF NORMAL RAINFALL

CUMULATIVE RAINFALL FROM 1 OCT TO 20 FEBRUARY 2017
AS A PERCENTAGE OF NORMAL RAINFALL



Rainfall Maps for 11 to 20 February 2017

1.0 WEATHER SUMMARY

During the period 11 to 20 February 2017, Congo air mass remained active over Kasungu, Mchinji, Lilongwe and Dowa districts in central Malawi and Mwanza and Neno districts in southern Malawi. As a result high cumulative rainfall amounts in excess of 120mm were reported from these districts and generally less amount were received elsewhere. .

1.1 RAINFALL SITUATION

During the second ten days of February 2017, locally heavy rainfall was confined to Kasungu, Mchinji, Lilongwe and Dowa districts in central Malawi and Mwanza district in southern Malawi. Areas that recorded very high cumulative rainfall amounts exceeding 120mm during the ten day period included Kasiya Agric which recorded 170mm, Mwanza Agric 145mm, Kasungu and Chitedze Meteorological Stations had 143mm each, Nthenje Agric 137mm, Lujeri Tea Estate 133mm and Madisi Agric 128mm. Otherwise many areas in Malawi had experienced light to moderate rainfall. Mostly below average rainfall situation was experienced in northern Malawi and areas around Lake Malawi, Shire River and Lake Chilwa in southern Malawi (Yellow and Brown colours in 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 through to 20 February 2017. The map shows general improvement in seasonal rainfall performance over Malawi (Green and light Blue colours) with pockets of seasonal rainfall deficits confined mainly to northern Malawi..

1.3 AIR TEMPERATURE

Warm to hot temperatures were prevailed in most parts of Malawi during the second 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 temperature was still recorded in Chikwawa district where Ngabu had reported 36°C while the lowest temperature was 14°C reported at Dedza. Details are in Table 2.

1.4 WIND SPEEDS

Malawi continued to experience light to moderate wind speeds during the period 11 to 20 February 2017. Average wind speeds measured at a height of two metres above the ground level in many areas varied from 1.4km per hour at Makoka and Mangochi to .6km per hour at Chitipa and Karonga. More details are in Table 2.

1.5 RELATIVE HUMIDITY

During the second ten days of February 2017, daily average relative humidity values recorded from various meteorological stations in Malawi had ranged from 66% at Mimosa in Mulanje district to 80% at Makoka in

Zomba, Bvumbwe in Thyolo and Dedza. Details are on the Table 2.

1.6 SUNSHINE HOURS

The mean durations of bright sunshine hours in Malawi were on average between 4 and 8 hours. The highest mean sunshine hours was recorded along Lake Malawi where Nkhata Bay Met had registered up to 8.0 hours of bright sunshine. Details are on the Table 2..

2. AGROMETEOROLOGICAL ASSESSMENT

During the period 11 to 20 February 2017 good rainfall for agricultural production was mostly confined to central Malawi while low rainfall and prolonged dry spells coupled with high temperatures negatively affected agricultural production in northern Malawi and along Lake Malawi, Shire River and Lake Chilwa in southern Malawi. Good rains that fell in central Malawi had supported growth and development of various crops, improved water resources, soil moisture reserves and pasture availability for Livestock production. In contrast, low rainfall and prolonged dry spells that were experienced had caused soil moisture stress, wilting and premature drying of crops. This situation is likely to compromise the 2016/17 crop production estimates.

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 21 TO 28 FEBRUARY 2017

Medium range weather forecast suggests that pulses of Congo Air are likely to persist particularly over northern and central Malawi. Therefore most areas in southern Malawi are likely to receive light to moderate and mostly below average rainfall while there is an increased chance for ten day rainfall totals to exceed 50mm over more areas in northern and central Malawi during the period 21 to 28 February 2017.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR 11 TO 20 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	Chitipa Met	36.5	77.5	47	504.3	638.6	79	3	
	Karonga Met.	30.7	49.1	63	490.0	485.5	101	3	
	Lupembe	9.5	58.4	16	193.0	440.6	44	1	
	Vinthukutu Agric	33.6	58.6	57	771.3	553.4	139	5	
MZUZU	Bolero Met	16.6	60.7	27	284.1	455.4	62	3	
	Bwengu Agric.	24.4	66.2	37	183.0	531.9	34	2	
	Chikangawa forest	20.5	75.6	27	440.9	670.4	66	1	
	Chelinda (Nyika)	68.0	81.0	84	389.5	740.9	53	10	
	Chintheche Agric	86.0	77.4	111	801.4	809.1	99	3	
	Emfeni Agric	49.5	49.2	101	250.6	562.9	45	3	
	Ekwendeni Agric.	29.9	78.6	38	294.3	566.7	52	2	
	Euthini Agric.	74.8	63.4	118	627.4	534.2	117	3	
	Mbawa Res. Stn	69.4	66.0	105	658.7	573.3	115	5	
	Mzimba Met	79.7	79.3	101	378.2	622.8	61	5	
	Mzuzu Met.	27.0	65.3	41	323.5	593.2	55	3	
	NkhataBay Met.	56.2	62.1	90	423.8	666.4	64	5	
	Rumphi Boma	20.4	65.2	31	310.5	494.8	63	2	
	Zombwe Agric	17.6	62.6	28	335.4	484.8	69	3	
KASUNGU	Dowa Agric	50.6	56.4	90	691.2	609.0	113	5	
	Kaluluma DTC	49.5	59.0	84	370.3	576.3	64	1	
	Kasungu Met	143.1	63.3	226	628.0	549.5	114	5	
	Lisasadzi	79.1	63.9	124	470.5	611.4	77	6	
	Malomo Agric	41.1	65.7	63	490.1	581.5	84	3	
	Madisi Agric	128.0	75.9	169	776.8	594.9	131	6	
	Mchinji Boma	73.1	74.7	98	1176.5	723.5	163	6	
	Mponela Agric	41.1	71.5	57	621.4	581.9	107	5	
	Mwimba Research	60.6	72.3	84	653.8	624.9	105	4	
	Ntchisi Boma	21.1	90.3	23	636.7	830.1	77	3	
	SALIMA	Dwangwa Sugar	75.5	60.1	126	594.4	722.0	82	3
		Lifuwu	33.5	91.1	37	1048.7	793.4	132	3
Nkhotakota Met		50.7	73.6	69	664.7	784.5	85	5	
Salima Met		46.7	91.7	51	843.8	774.7	109	6	
LILONGWE	Chileka Namitete	81.8	68.3	120	843.2	677.3	124	3	
	Chitedze Met.	142.7	57.7	247	715.2	602.6	119	7	
	Dzonzi Forest	76.6	70.9	108	547.2	707.4	77	5	
	K.I.A Met	61.9	61.9	100	687.1	586.1	117	6	
	Kasiya Agric	169.7	63.6	267	819.1	668.8	122	5	
	Nathenje Agric	137.2	73.4	187	812.4	589.5	138	7	
	Ntcheu - Nkhande	62.7	75.7	83	793.7	748.0	106	6	
	Dedza RTC	98.1	68.8	143	692.2	722.4	96	8	
MACHINGA	Balaka Township	42.4	46.6	91	670.9	631.8	106	6	
	Chikweo Agric.	70.6	65.1	108	696.7	738.9	94	4	
	Chingale Agric	80.9	68.2	119	672.0	669.5	100	6	
	Makoka Met	44.5	63.1	71	721.8	703.2	103	4	
	Mangochi Met.	49.0	65.0	75	682.1	483.4	141	4	
	Monkey Bay Met.	4.9	46.7	10	379.5	445.8	85	1	
	Namiasi Agric	22.2	50.6	44	444.6	565.8	79	3	
	Namwera Agric	19.0	61.7	31	560.4	717.0	78	3	
	Ntaja Met.	30.1	56.7	53	712.3	618.5	115	3	
	Phalula Agric	27.8	57.4	48	492.5	605.8	81	4	
	Toleza Farm	21.0	48.6	43	655.0	617.5	106	4	
Zomba RTC	9.2	70.4	13	774.7	837.6	92	5		
BLANTYRE	Bvumbwe Met.	98.3	73.8	133	874.4	771.3	113	5	
	Chichiri Met.	54.5	52.3	104	761.2	920.0	83	6	
	Chileka Airport	24.6	50.4	49	416.2	636.9	65	4	
	Chiradzulu Agric	6.8	66.2	10	680.8	710.5	96	4	
	Chizunga Factory	6.4	86.4	7	743.7	897.5	83	2	
	Lujeri Tea Estate	133.1	138.8	96	1957.1	1341.2	146	6	
	Mimosa Met.	63.6	71.9	88	1061.6	939.7	113	6	
	Mpemba Agric	23.2	68.0	34	712.0	793.9	90	2	
	Mulanje Boma	45.5	86.9	52	1107.5	1153.9	96	4	
	Mwanza Boma	145.3	66.0	220	653.1	723.1	90	7	
	Naminjiwa Agric	72.6	71.3	102	654.9	709.5	92	2	
	Neno Agric	90.0	68.8	131	793.0	790.5	100	3	
	Satemwa Tea Est	28.3	76.1	37	810.3	732.6	111	4	
	Thuchila Agric	66.7	57.8	115	800.6	621.0	129	3	
	Thyolo Boma	77.6	78.7	99	883.8	781.3	113	5	
SHIRE VALLEY	Chikwawa Boma	28.6	41.5	69	323.8	570.6	57	3	
	Nchalo Sucoma	8.3	46.4	18	537.7	481.3	112	1	
	Ngabu Met.	45.1	51.3	88	559.1	549.7	102	5	
	Nsanje Boma	49.5	72.5	68	582.0	767.8	76	3	

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 11 TO 20 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	28.1	17.6	30.2	16.2	7.6	74	7.0	6.5	5.1	9.1
Karonga	28.6	22.0	33.3	20.1	7.6	68	7.0	7.0	5.6	9.1
MZUZU ADD										
Bolero	30.1	18.4	32.1	16.2	4.3	69	7.3	6.7	5.3	9.3
Mzimba	28.5	17.8	30.3	15.9	2.2	71	6.4	6.1	4.8	8.7
Mzuzu	27.3	17.6	29.0	16.6	5.0	71	6.5	6.2	4.9	8.8
Nkhata Bay	31.7	21.4	33.6	20.5	2.5	75	8.0	7.2	5.7	9.7
KASUNGU ADD										
Kasungu	28.5	18.9	30.0	18.3	4.7	70	6.6	6.4	5.1	8.8
LILONGWE ADD										
Chitedze	27.5	15.9	28.7	16.5	1.4	77	6.1	5.6	4.4	8.4
Dedza	25.2	15.8	26.1	14.3	5.8	80	6.5	5.8	4.5	8.7
KIA	26.9	18.2	28.4	17.2	5.4	76	6.8	6.2	4.9	8.9
SALIMA ADD										
Nkhotakota	30.1	22.3	31.1	20.4	2.5	74	7.5	7.1	5.6	9.4
Salima	31.1	22.6	32.0	20.5	4.0	72	7.5	7.0	5.6	9.4
MACHINGA ADD										
Makoka	27.8	19.1	28.5	17.9	1.4	80	5.8	5.7	4.5	8.2
Mangochi	32.9	23.1	34.2	21.5	1.4	69	7.5	7.2	5.7	9.4
Monkey Bay	31.4	23.7	32.4	21.7	5.0	72	7.5	7.3	5.9	9.4
Ntaja	30.3	21.4	31.3	20.7	3.6	76	6.9	6.6	5.3	9.0
BLANTYRE ADD										
Bvumbwe	25.9	17.7	28.2	16.6	4.0	80	6.2	5.7	4.5	8.5
Chichiri	28.0	19.3	29.6	18.4	2.9	76	6.5	6.1	4.8	8.7
Chileka	30.7	21.0	31.7	20.1	7.6	69	6.8	7.0	5.6	8.9
Mimosa	30.5	20.5	31.8	19.0	2.9	66	6.5	6.5	5.2	8.7
SHIRE VALLEY ADD										
Ngabu	35.1	24.5	36.0	22.9	1.8	71	3.9	6.0	4.9	7.0

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