



Government of Malawi
Ministry of Natural Resources, Energy and Mining

Malawi 10-day Weather and Agrometeorological Bulletin

"In support of National Early Warning Systems and Food Security"



Be wise be weather-wise
Department of Climate Change and
Meteorological Services

Period: 01 – 10 April 2017

Season: 2017/2018

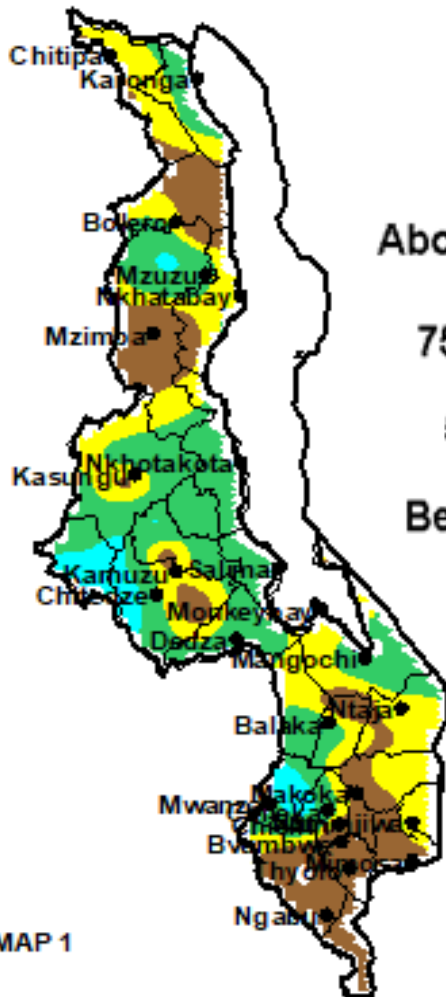
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HIGHLIGHTS

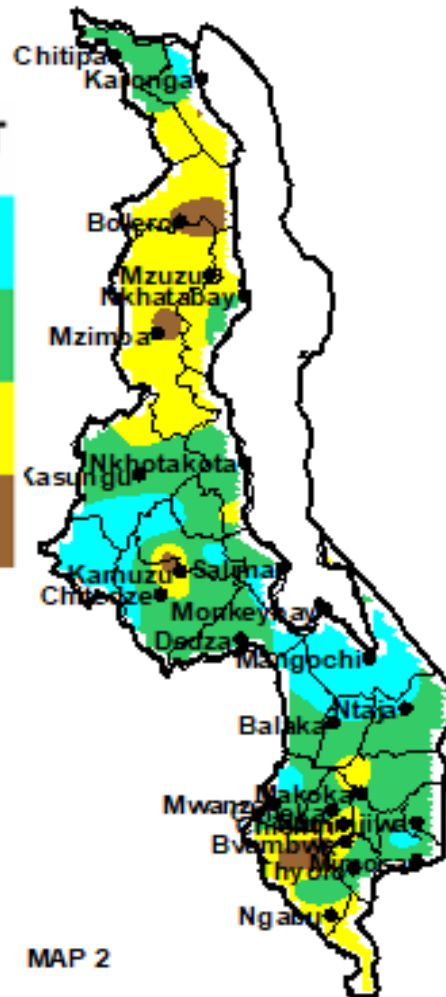
- Moderate to locally heavy rainfall covered most parts of Malawi...
- Crops reported encouraging between planting and vegetative stages ...
- Wet weather expected during the period 11 to 20 December 2017...

10-DAY RAINFALL FOR 1 - 10 DECEMBER 2017
AS A PERCENTAGE OF NORMAL RAINFALL



MAP 1

CUMULATIVE RAINFALL FROM 1 OCT TO 10 DECEMBER 2017
AS A PERCENTAGE OF NORMAL RAINFALL



MAP 2

Rainfall Maps for 01 to 10 December 2017

1.0 WEATHER SUMMARY

During the first ten days of December 2017, the Inter Tropical Convergence Zone (ITCZ) had remained active over most parts of Malawi. Hence most areas had experienced moderate to locally heavy rainfall amounts during the period.

1.1 RAINFALL SITUATION

During the first ten days of December 2017, generally moderate to locally heavy rainfall amounts were reported over Malawi except for areas in lower Shire Valley districts of Nsanje and Chikwawa where relatively dry conditions were experienced. Some stations had reported high cumulative rainfall amounts in excess of 50mm. Such stations included Chileka-Namitete in Lilongwe which had recorded 101mm, Neno Agric had 96mm, Chileka International Airport and Salima Met recorded 81mm, Ntchisi Agric 80mm, Balaka Agric reported 74mm, Madic Agric in Dowa received 72mm, Namwera Agric in Mangochi registered 67mm, Chintheche Agric in Nkhata Bay reported 66mm, Dwangwa in Nkhotakota had 64mm, Dedza RTC Met 60mm, Nkhotakota Met 59mm, Zomba Agric 58mm, Karonga Met 57mm and Zombwe Agric in Mzimba 52mm. Most of the places had recorded average to above average rainfall amounts. More details are in Table 1 and Map 1.

Map 2 indicates the spatial cumulative rainfall distribution since the start of the 2017/18 rainfall season in October 2017 up to 10 December 2017. The map shows that most of southern and central Malawi have received average to above average rainfall amounts (Green to light Blue colours) while the north has largely received below average rainfall (Yellow and brown colours).

1.3 AIR TEMPERATURE

Warm to hot temperatures had persisted over most parts of Malawi during the first ten days of December 2017. Mean daily maximum temperatures had ranged from 25°C at Dedza to 36°C at Ngabu while the mean daily minimum temperatures had ranged from 16°C at Bvumbwe to 25°C at Monkey Bay in Mangochi. During the same period the hottest temperature was 39°C recorded at Ngabu in Chikwawa. The lowest temperature was 15°C recorded at Bvumbwe Met. Details are in Table 2.

1.4 WIND SPEEDS

During the period 01 to 10 December 2017 most parts of Malawi had experienced light to moderate wind speeds. For instance, daily average wind speeds measured at a height of two metres above the ground level across the country had ranged from 2.2km per hour at Nkhotakota to 13.0km per hour at Chitipa Met. More details are in Table 2.

1.5 RELATIVE HUMIDITY

In the period 01 to 10 December 2017, air over Malawi was relatively moist. Daily average relative humidity

values recorded from various weather stations in Malawi had ranged from 44% at Mimosa in Mulanje district to 73% at Dedza. Details are on the Table 2.

1.6 SUNSHINE HOURS

Generally cloudy conditions were observed over Malawi during the first ten days of December 2017. The daily values of sunshine hours had ranged between 5 and 9 hours. Consequently the amount of solar radiation received over most areas was less than ten (10) calories per square centimeter per day. For details see Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

During the period 01 to 10 December 2017, good rainfall amounts were received over most parts of Malawi. These rains had supported planting, seed germination, growth and development of crops and application of basal fertilizer. The rains have also improved pasture availability for animal production, water resources and soil moisture reserves. The general crop stand in the fields was reported in good condition. Maize crop ranged from planting to vegetative stages. For proper utilization of the rains, farmers are encouraged to adhere to principles of good crop husbandry including use of appropriate seeds, timely planting, implementation of proper plant population and spacing, control of weeds, pests and diseases and including timely fertilizer application.

3. PROSPECTS FOR 2017/2018 RAINFALL SEASON

By July 2017 the Sea Surface Temperatures which drive the rainfall patterns of the world including Malawi were in the Neutral El Niño Southern Oscillation (ENSO) phase and climate models were predicting that neutral conditions to persist during the 2017/2018 rainfall season. Based on neutral conditions, the rainfall forecast for 2017/18 season in Malawi was that during the period October 2017 to March 2018 a greater part of the country would experience normal total rainfall amounts. This meant that priority planning for the 2017/18 season in Malawi should be based on expectations of average rainfall depending on the climate of the area.

4. OUTLOOK FOR 11 TO 20 DECEMBER 2017

Models for short and medium range forecasts show that most parts of Malawi are likely to experience scattered to widespread locally heavy rainfall during the second ten days of December 2017. Farmers are therefore advised to among other activities to take advantage of the wet weather by intensify planting of various crops and basal fertilizer application during the period 11 to 20 December 2017.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR 01 TO 10 DECEMBER 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.	32.8	54.4	60	126.7	97.3	130	3
	Chitipa Met	18.7	42.5	44	84.3	118.4	71	5
	Karonga Met.	56.5	37.6	150	146.3	87.1	168	3
	Lupembe	32.0	26.1	123	32.0	65.5	49	2
	Vinthukutu Agric	29.0	44.7	65	59.8	110.4	54	4
MZUZU	Bwengu Agric.	3.1	29.8	10	N/A	87.1	N/A	1
	Chikangawa forest	7.1	54.7	13	44.5	142.6	31	3
	Chelinda (Nyika)	21.0	62.9	33	124.0	187.5	66	6
	Chintheche Agric	65.8	73.1	90	261.6	204.8	128	1
	Mzimba Met	0.8	47.9	2	65.5	111.2	59	1
	Mzuzu Met.	34.0	45.6	75	99.0	153.0	65	4
	NkhataBay Met.	44.8	79.8	56	125.2	175.4	71	3
	Rumpho Boma	14.2	26.5	54	27.8	69.9	40	3
	Zombwe Agric	52.1	30.8	169	62.6	91.0	69	1
KASUNGU	Dowa Agric	48.2	45.7	105	156.4	103.5	151	1
	Kasungu Met	46.4	46.1	101	80.1	99.0	81	3
	Madisi Agric	72.0	42.3	170	187.9	91.6	205	2
	Mponela Agric	7.4	54.2	14	23.9	117.6	20	1
	Mwimba Research	9.6	46.0	21	114.2	113.4	101	1
	Ntchisi Boma	79.9	78.3	102	81.7	140.5	58	3
SALIMA	Dwangwa	63.6	76.6	83	98.0	168.8	58	5
	Lifuwu	40.5	63.1	64	75.4	105.5	71	1
	Nkhotakota Met	59.3	76.2	78	182.5	132.1	138	4
	Salima Met	80.7	62.0	130	163.3	104.7	156	3
LILONGWE	Chileka Namitete	101.0	60.4	167	228.6	160.3	143	3
	Dzonzi Forest	40.0	68.0	59	106.3	161.9	66	1
	K.I.A Met	10.5	32.7	32	20.6	98.4	21	2
	Mlangeni Njolomole	29.5	56.5	52	181.5	146.3	124	1
	Nathenje Agric	9.9	38.9	25	103.1	112.5	92	3
	Ntcheu - Nkhanda	48.3	64.8	75	160.4	156.8	102	4
	Dedza RTC Met	59.8	49.8	120	138.4	132.5	104	5
MACHINGA	Balaka Agric	74.0	38.1	194	266.6	138.8	192	2
	Chikweo Agric.	47.5	60.6	78	170.3	145.3	117	4
	Chingale Agric	12.1	61.4	20	49.4	150.1	33	3
	Mpilipili (Makanjila)	21.2	55.8	38	68.5	119.9	57	3
	Makoka Met	11.7	71.7	16	106.7	164.6	65	2
	Mangochi Met.	37.6	30.7	122	340.4	76.1	447	5
	Monkey Bay Met.	8.5	28.6	30	44.6	50.6	88	1
	Namwera Agric	66.6	67.2	99	151.6	161.4	94	5
	Ntaja Met.	28.6	52.0	55	126.7	125.8	101	1
	Phalula Agric	24.9	50.6	49	121.4	164.7	74	2
	Toleza Farm	2.5	60.4	4	115.0	143.0	80	2
Zomba RTC	57.7	92.9	62	199.2	203.4	98	2	
BLANTYRE	Bvumbwe Met.	0.5	79.2	1	122.3	207.8	59	1
	Chichiri Met.	23.6	82.1	29	159.2	383.7	41	3
	Chileka Airport	81.0	53.4	152	209.7	176.4	119	3
	Lujeri Tea Estate	49.2	109.9	45	546.6	426.1	128	3
	Masambanjati Agric	25.0	77.4	32	159.5	227.8	70	2
	Mimosa Met.	18.9	101.3	19	293.6	305.0	96	3
	Mpemba Vet	48.2	71.7	67	130.9	217.6	60	3
	Mulanje Boma	42.6	110.7	38	530.6	404.6	131	2
	Naminjiwa Agric	44.6	67.7	66	188.7	163.2	116	3
	Neno Agric	96.0	63.7	151	270.0	181.2	149	4
	Satemwa Tea Est.	27.5	65.6	42	160.3	200.0	80	3
	Thuchila Agric	2.3	51.3	4	197.4	146.4	135	1
Thyolo Met	46.0	66.9	69	276.7	210.5	131	3	
SHIRE VALLEY	Chikwawa Boma	0.0	56.3	0	N/A	154.0	N/A	N/A
	Kasinthula Res. Stn.	0.0	48.9	0	109.8	129.3	85	0
	Nchalo Illovo	2.2	38.2	6	166.2	116.3	143	1
	Ngabu Met.	0.0	48.9	0	70.9	137.2	52	0
	Nsanje Boma	1.2	59.3	2	115.8	213.6	54	1

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 01 TO 10 DECEMBER 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	29.4	18.7	30.7	15.9	13.0	63	7.9	7.5	6.1	9.6
Karonga	31.8	22.6	34.0	19.5	6.8	66	8.5	7.8	6.3	10.0
MZUZU ADD										
Bolero	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mzimba	29.1	18.8	30.6	17.3	6.8	60	9.1	7.6	6.0	10.4
Mzuzu	27.1	18.0	29.4	16.8	7.2	71	9.0	7.1	5.6	10.4
Nkhata Bay	33.0	21.5	35.0	20.6	2.9	70	8.9	7.7	6.1	10.3
KASUNGU ADD										
Kasungu	28.6	20.4	30.0	18.6	7.6	65	7.6	7.2	5.7	9.5
LILONGWE ADD										
Chitedze	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dedza	25.1	16.7	27.1	15.8	8.3	73	7.6	6.5	5.1	9.5
KIA	28.7	19.2	30.0	18.5	7.2	64	7.6	7.1	5.6	9.5
SALIMA ADD										
Nkhotakota	30.8	23.1	33.2	20.5	2.2	66	9.0	7.9	6.3	10.4
Salima	32.2	24.9	34.0	23.5	9.7	61	9.4	8.7	7.1	10.7
MACHINGA ADD										
Makoka	28.7	19.0	31.9	16.3	4.7	68	6.5	6.5	5.1	8.8
Mangochi	33.2	22.9	39.0	21.0	2.5	69	7.0	7.2	5.7	9.1
Monkey Bay	32.4	25.0	35.8	23.6	9.0	70	7.2	7.8	6.4	9.3
Ntaja	31.5	21.7	34.2	19.9	7.9	63	5.2	6.8	5.5	8.0
BLANTYRE ADD										
Bvumbwe	27.4	16.4	30.4	14.6	7.2	67	7.7	6.7	5.3	9.6
Chichiri	28.1	19.1	31.9	17.1	5.4	63	7.6	6.9	5.5	9.5
Chileka	31.2	20.9	35.1	19.3	10.8	61	7.5	7.8	6.3	9.4
Mimosa	30.6	19.3	33.5	15.5	4.3	44	7.6	7.3	5.8	9.5
SHIRE VALLEY ADD										
Ngabu	35.8	24.7	39.2	22.3	4.3	59	9.2	8.7	7.1	10.6

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 Kilometres per hour (Km/hr) = mpsx3.6