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"

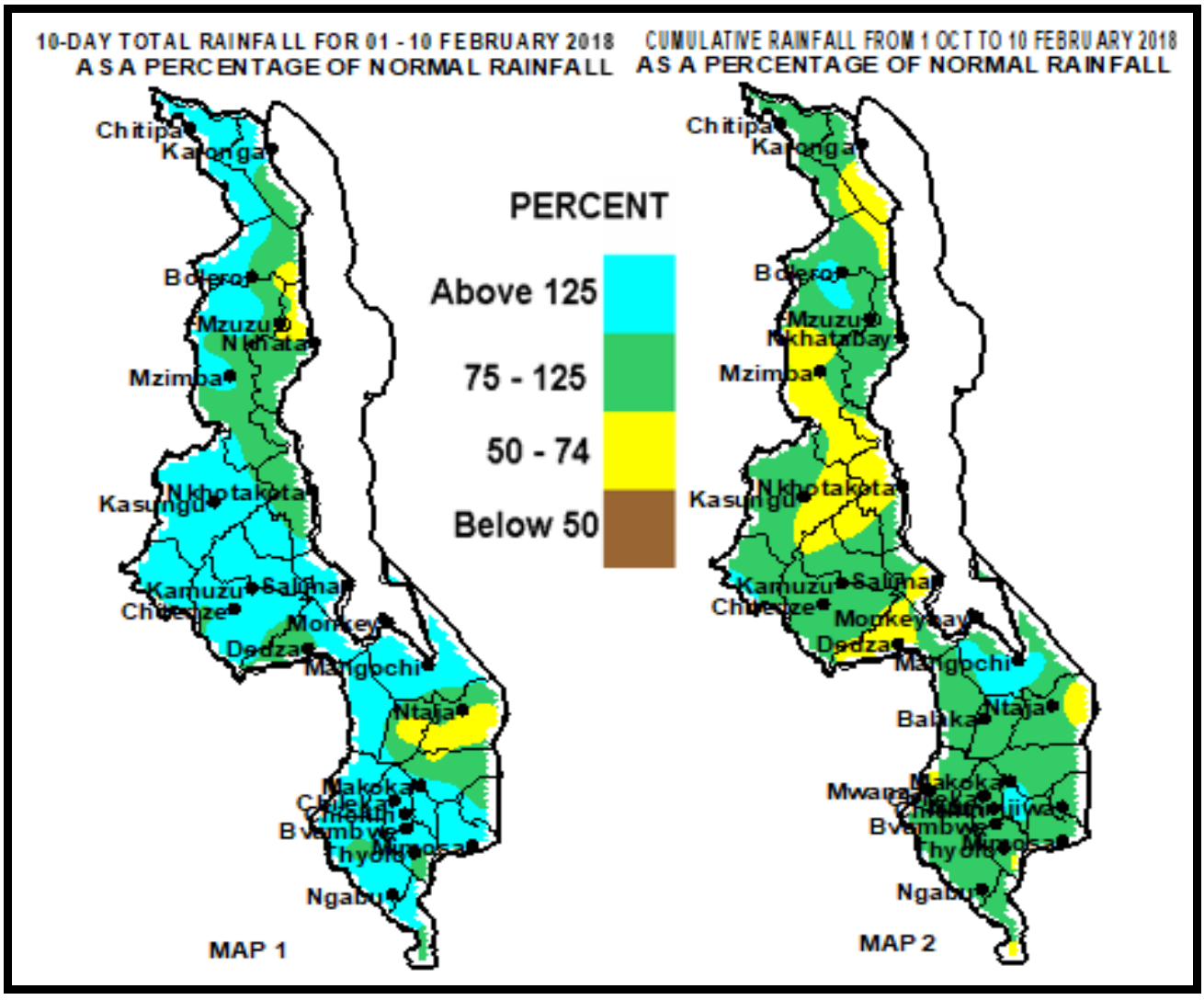
Be wise be weather-wise
Department of Climate Change and Meteorological Services

Period: 01 – 10 February 2018 | Season: 2017/2018 | Issue No.13

Release date: 13 February 2018

HIGHLIGHTS

- **Moderate to heavy rainfall resumed over most parts of Malawi …**
- **Prolonged dry spells and drought reduce chances of good harvest in 2018…**
- **More rains expected in the extreme south during the period 11 to 20 February 2018…**



Rainfall Maps by 10 February 2018

1.0 WEATHER SUMMARY

During the period 01 to 10 February 2018, both rain bearing systems namely Congo Air mass and the Inter Tropical Convergence Zone (ITCZ) were very active over Malawi. Hence several places particularly over central and southern Malawi had recorded average to above average cumulative rainfall amounts (light Blue Colour on Map 1).

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1.1 RAINFALL SITUATION

During the first ten days of February 2018 several places in Malawi had experienced average to above average and heavy rainfall amounts. High cumulative rainfall amounts of at least 130mm during the ten-day period were reported in many areas particularly over central and southern Malawi including Lifuwu Research station in Salima which had recorded 287mm, Mchinji Agric 248mm, Monkey Bay Met 236mm, Toleza Farm in Balaka had 229mm, Salima met 228mm, Neno Agric 192mm, Madisi Agric 182mm, Namwera Agric 178mm, Namiasi Agric 177mm, Chileka Airport 159mm, Lujeri Tea Estate 159mm, Mimosa Met 151mm, Nkhotakota Met and Chintheche Agric recorded 148mm each, Chichiri Met 145mm, Mulanje Boma 139mmMponela Agric 135mm, Mpilipili Agric 134mm, Mwimba Research Station 133mm and Thuchila Agric recorded up to 130mm. More details are in Table 1 and Map 1.
The spatial distribution of cumulative rainfall since the 2017/18 rainfall season started in October 2017 up to 10 February 2018 is shown in Map 2. From the map it is evident that the country has so far received normal to above normal (Green and light Blue colours) cumulative rainfall amounts. However, pockets of below normal rainfall amounts still existed over northern and central Malawi (Yellow colour).

1.3 AIR TEMPERATURE

Warm to hot temperatures continued to prevail over Malawi during the period 01 to 10 February 2018. Mean daily maximum temperatures ranged from 23°C at Dedza to 33°C at Ngabu while the average daily minimum temperatures had ranged from 16°C to 24°C. During the same period the highest temperature was 34°C reported at Monkey Bay in Mangochi. On the otherhand the lowest temperature was 14°C recorded at Dedza. Details are in Table 2.

1.4 WIND SPEEDS

During the period 01 to 10 February 2018 most parts of Malawi continued to experience light to moderate wind speeds. The daily average wind speeds measured at a height of two metres above the ground level across the Malawi had ranged from 1.4km per hour at Makoka to 8.6km per hour at Monkey Bay. More details are in Table 2.

1.5 RELATIVE HUMIDITY

During the first ten days of February 2018, air over Malawi was still fairly moist. Daily average relative humidity values recorded from various weather stations in Malawi had ranged from 66% at Monkey Bay to 83% at Makoka. Details are on the Table 2.

1.6 SUNSHINE HOURS

Malawi continued to experience increased cloudiness during the first ten-days of February 2018. The daily average values of sunshine hours had ranged between 4 and 6 hours. Consequently, the amount of solar radiation received over most areas had also reduced with most areas recording less than eight calories per square centimeter per day. More details are in Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

During the first ten days February 2018 moderate to heavy rainfall resumed over several places including the areas that were negatively affected by prolonged dry spells and drought during the month of January 2018. Most areas had recorded cumulative rainfall amounts of above 100mm which was sufficient to satisfy daily crop water requirements. These rains also supported planting of roots and tubers, improved water availability, soil moisture reserves and pasture availability for grazing livestock. The resumption of rainfall in southern and some parts of central Malawi should encourage farmers to plant early maturing crops like sweet potatoes and cassava particularly in areas where crops have wilted permanently due to prolonged dry spells and drought.
Otherwise the crop situation in most fields particularly in the south was reported to be in poor to average state and poor harvest are expected in 2017/18 season. Maize, the staple food crop was reported to be ranging from vegetative to cob formation stages. The early planted crop particularly early maturing hybrid varieties were at maturity stage.

3. PROSPECTS FOR 2017/2018 RAINFALL SEASON

The Sea Surface Temperatures which drive the rainfall patterns of the world including Malawi indicate that weak La Niña conditions have been established and are predicted to persist up to April 2018. Based on weak La Niña conditions, the updated rainfall forecast for 2017/18 season in Malawi is that during the period February to April 2018 most parts of Malawi are likely to experience normal to above normal cumulative rainfall amounts.

4. OUTLOOK FOR 11 TO 20 FEBRUARY 2018

Models for short and medium range forecasts show that the Inter Tropical Convergence Zone is likely to more active over the extreme southern parts of Malawi while most of northern and central Malawi are likely to experience less rainfall during the better part of the period 11 to 20 February 2018.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR 01 TO 10 FEBRUARY 2018

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.	32.0	51.0	63	599.4	497.5	120	4
	Chitipa Met	74.1	87.6	85	537.0	561.1	96	8
	Karonga Met.	51.9	48.7	107	497.4	436.4	114	6
	Lupembe	50.0	49.8	100	410.4	382.2	107	2
	Vinthukutu Agric	47.6	53.6	89	715.0	494.8	145	5
MZUZU	Bolero Met	58.0	51.2	113	377.4	394.7	96	5
	Bwengu Agric.	39.5	58.8	67	280.5	465.7	60	3
	Chikangawa forest	125.9	69.4	181	500.5	594.8	84	7
	Chelinda (Nyika)	70.0	83.5	84	761.2	659.9	115	7
	Chintheche Agric	147.7	76.0	194	1066.4	731.7	146	3
	Ekwendeni Agric.	70.1	43.2	162	356.0	488.1	73	4
	Mbawa Res. Stn	123.3	66.5	185	633.6	507.3	125	7
	Mzimba Met	108.6	67.2	162	571.8	543.5	105	5
	Mzuzu Met.	82.2	51.9	158	724.6	527.9	137	7
	NkhataBay Met.	95.7	65.3	147	927.4	604.3	153	6
	Rumphi Boma	80.8	56.1	144	563.5	429.6	131	4
	Zombwe Agric	82.8	48.8	170	424.1	422.2	100	6
KASUNGU	Dowa Agric	81.8	66.2	124	532.1	552.6	96	6
	Kaluluma Agric	116.3	57.6	202	248.0	517.3	48	7
	Kasungu Met	118.3	72.0	164	538.9	486.2	111	6
	Lisasadzi Agric	65.0	77.8	84	330.7	547.5	60	5
	Malomo Agric	103.5	81.0	128	405.5	515.8	79	6
	Madisi Agric	181.5	72.9	249	655.7	519.0	126	5
	Mchinji Boma	247.6	62.1	399	899.3	648.8	139	7
SALIMA	Dwangwa	110.6	76.7	144	683.4	661.9	103	6
	Lifuwu	286.5	129.0	222	597.9	702.3	85	6
	Nkhotakota Met	148.0	84.2	176	825.3	710.9	116	6
	Salima Met	227.9	102.3	223	546.1	683.0	80	6
LILONGWE	Chitedze Met.	128.8	65.2	198	568.8	544.9	104	7
	Dzonzi Forest	124.0	84.4	147	541.3	636.5	85	7
	K.I.A Met	64.6	72.1	90	349.2	524.2	67	5
	Kasiya Agric	40.4	64.5	63	329.9	605.2	55	2
	Mlangeni Njolomole	86.8	81.5	107	411.9	593.6	69	7
	Nathenje Agric	73.0	56.4	129	598.5	516.1	116	4
	Ntcheu - Nkhande	121.9	84.6	144	546.9	672.3	81	6
	Dedza Met	79.1	103.2	77	430.2	653.6	66	7
MACHINGA	Mpilipili	134.0	96.8	138	325.9	588.3	55	4
	Makoka Met	92.7	91.7	101	392.7	640.1	61	5
	Mangochi Met.	68.0	72.4	94	619.7	418.4	148	7
	Monkey Bay Met.	236.0	71.7	329	416.7	399.1	104	5
	Namiasi Agric	177.5	92.2	193	439.0	515.2	85	5
	Namwera Agric	177.7	83.2	214	629.8	655.3	96	7
	Ntaja Met.	122.7	65.8	186	352.5	561.8	63	7
	Phalula Agric	83.9	67.3	125	477.7	548.4	87	5
	Toleza Farm	229.0	69.5	329	641.0	568.9	113	6
	Zomba Agric	116.0	100.2	116	572.1	767.2	75	5
BLANTYRE	Bvumbwe Met.	98.2	90.3	109	627.8	697.5	90	4
	Chichiri Met.	145.3	72.9	199	588.1	867.7	68	7
	Chileka Airport	159.0	88.5	180	547.2	586.5	93	5
	Chiradzulu Agric	76.2	98.9	77	370.7	644.3	58	6
	Chizunga Factory	81.2	74.2	109	523.8	811.1	65	6
	Lujeri Tea Estate	156.3	126.3	124	1706.1	1202.4	142	7
	Masambanjati Agric	80.5	87.8	92	686.9	777.8	88	5
	Mimosa Met.	150.7	95.2	158	886.8	867.8	102	6
	Mpemba Vet	126.6	84.8	149	563.2	725.9	78	6
	Mulanje Boma	139.4	109.5	127	1242.3	1067.0	116	6
	Naminjiwa Agric	112.3	83.6	134	402.3	638.2	63	4
	Neno Agric	191.8	107.8	178	1063.6	721.7	147	7
	Thuchila Agric	129.9	80.2	162	614.7	563.2	109	5
	Thyolo Met	86.4	90.3	96	399.6	711.9	56	5
SHIRE VALLEY	Chikwawa Boma	57.8	66.7	87	228.4	529.1	43	6
	Kasinthula Res. Stn.	51.4	54.2	95	208.5	441.5	47	4
	Makhanga Agric	97.8	58.5	167	401.5	478.7	84	5
	Nchalo	35.3	70.2	50	432.9	434.9	100	4
	Ngabu Met.	58.2	69.1	84	299.7	498.4	60	4
	Nsanje Boma	47.4	81.8	58	608.5	695.3	88	5

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 01 TO 10 FEBRUARY 2018

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	27.3	18.2	29.9	16.4	6.1	78	4.6	5.5	4.4	7.6
Karonga	27.2	22.0	32.5	20.5	3.6	75	5.4	6.0	4.7	8.1
MZUZU ADD										
Bolero	28.3	18.8	31.6	17.9	1.8	77	4.6	5.4	4.3	7.5
Mzimba	26.5	18.2	29.5	17.1	2.5	78	4.6	5.3	4.2	7.5
Mzuzu	25.8	17.9	28.0	16.6	4.0	80	4.6	5.2	4.1	7.5
Nkhata Bay	30.4	20.2	32.2	20.2	1.8	80	5.1	5.8	4.6	7.9
KASUNGU ADD										
Kasungu	28.6	19.4	28.6	18.2	4.0	73	4.2	3.9	3.1	7.3
LILONGWE ADD										
Chitedze	26.7	18.5	29.9	17.7	1.4	74	3.9	5.1	4.0	7.1
Dedza	23.4	16.3	26.4	14.4	7.2	81	3.9	4.9	3.8	7.0
KIA	25.9	18.4	28.0	17.4	4.7	79	5.3	5.6	4.4	8.0
SALIMA ADD										
Nkhotakota	28.9	22.5	32.2	21.2	2.5	78	5.3	6.1	4.9	8.0
Salima	29.5	22.8	32.5	21.1	5.8	78	6.3	6.5	5.2	8.6
MACHINGA ADD										
Makoka	26.8	18.7	30.3	16.9	1.4	83	4.1	5.0	3.9	7.2
Mangochi	31.7	22.9	32.5	22.0	1.8	79	6.1	6.5	5.2	8.5
Monkey Bay	30.6	23.6	33.9	21.6	8.6	66	6.0	7.1	5.8	8.4
Ntaja	30.1	20.8	32.4	19.3	4.7	77	5.9	6.3	5.0	8.4
BLANTYRE ADD										
Bvumbwe	25.0	16.2	29.4	14.4	5.8	82	3.7	4.8	3.8	6.9
Chichiri	26.6	19.0	30.8	17.1	4.3	81	3.7	5.0	4.0	6.9
Chileka	29.7	21.0	33.5	19.0	8.3	73	4.8	6.1	5.0	7.6
Mimosa	29.9	20.2	33.0	18.8	2.9	72	4.0	5.5	4.4	7.1
SHIRE VALLEY ADD										
Ngabu	28.2	24.9	33.1	22.6	1.8	72	4.3	6.0	4.9	7.3

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 Kilometres per hour (Km/hr) = mpsx3.6
- kWh = 3.6 MJ