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: 21 – 31 March 2017 | Season: 2016/2017 | Issue No.18

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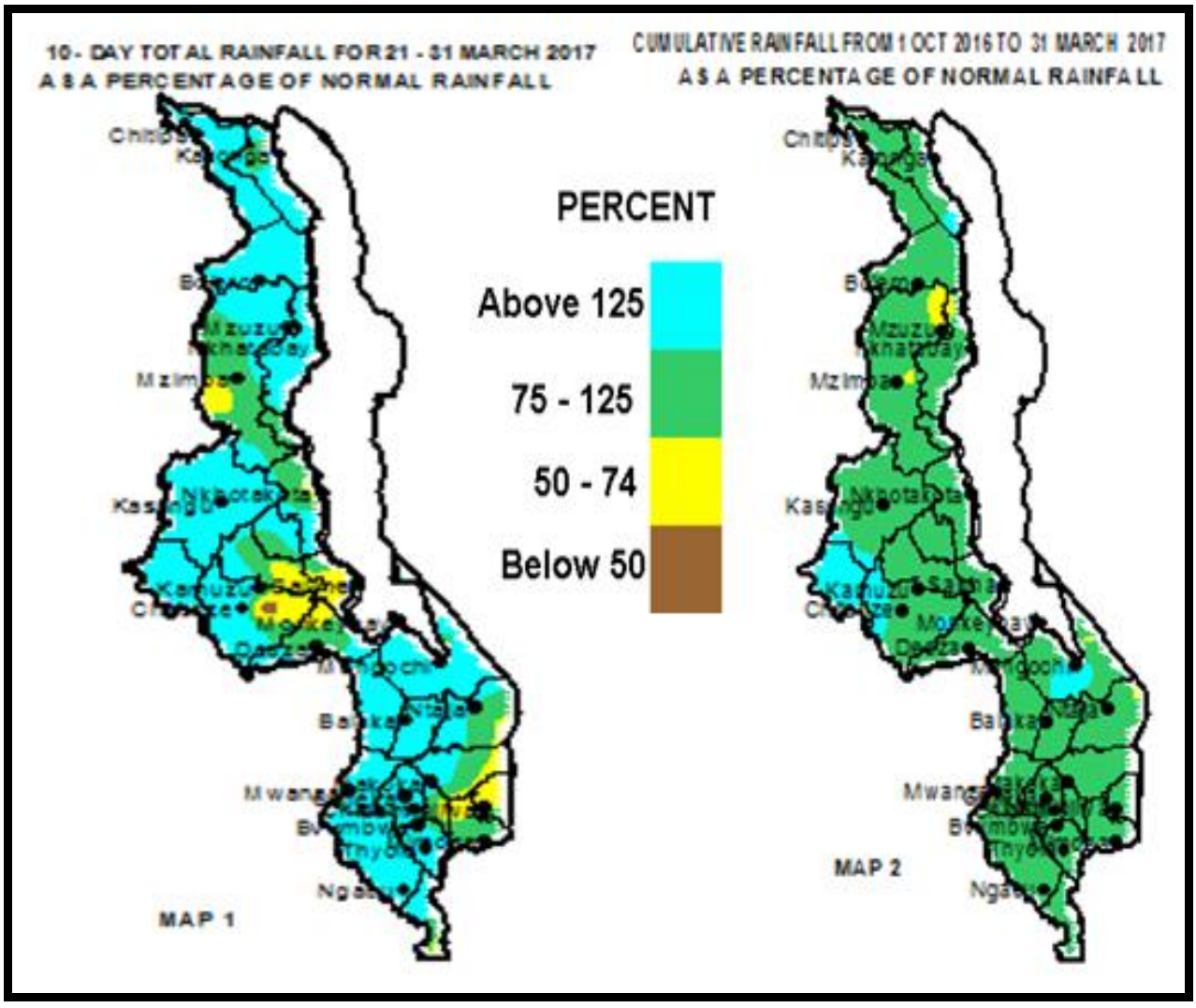
HIGHLIGHTS

- **Moderate to heavy rainfall recorded over most parts of Malawi…**
- **Maize crop was mostly between maturity and harvesting stages…**
- **More rains expected over Malawi during the period 01 to 10 April 2017…**



Rainfall Maps for 21 to 31 March 2017

1.0 WEATHER SUMMARY

During the period 21 to 31 March 2017, Easterly waves had covered most parts of Southern and Central Malawi while the North was within the Equatorial Trough. As a result high rainfall amounts were reported in most parts of Malawi (Green and light Blue colours on Map 1).

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1.1 RAINFALL SITUATION

During the last ten days of March 2017, moderate to heavy rainfall amounts were reported over most parts of Malawi (Green and light Blue colours on Map 1). High cumulative rainfall amounts exceeding 100mm during the ten day period were reported at several places including Namitete Agric where 206mm were recorded, Mzuzu Met 173mm, Mangochi Met 159mm, Neno Agric 158mm, Satemwa Tea Estate in Thyolo and Lupembe Agric in Karonga recorded 157mm each, Mchinji Boma 153mm, Mimosa Met 142mm, Ntchisi Agric 140mm, Chikangawa Forest and Karonga Met 136mm, Baka Research in Karonga had 134mm, Mulanje Agric 133mm, Dwangwa 131mm, Mpemba Agric 129mm, Chelinda (Nyika) 127mm, Toleza Farm 122mm, Dzonzi Forest in Ntcheu 110mm, Chitipa Met 104mm and Balaka Agric 102mm. Many more areas had registered rainfall amounts of between 50 and 99mm. However a few stations reported rainfall amounts of less than 30mm and this represented below average rainfall situation. More details are in Table 1 and Map 1.

Map 2 indicates the spatial cumulative rainfall distribution since the start of the 2016/17 rainfall season in October 2016, up to 31 March 2017. The map generally shows that Malawi has received normal to slightly above normal rainfall amounts (Green and light Blue colours) with a few pockets of below normal rainfall (Yellow colour) confined the northern Malawi.

1.3 AIR TEMPERATURE

Warm to hot temperatures were still experienced in most parts of Malawi during the last ten of March 2017. Mean daily maximum temperatures had ranged from 23°C at Mzuzu in Mzimba district to 32°C at Ngabu while the mean daily minimum temperatures had ranged from 15°C at Dedza to 23°C at Ngabu. During the same period the hottest temperature was 34°C still recorded at Ngabu in Chikwawa. The lowest temperature was 12°C recorded at Dedza Met. Details are in Table 2.

1.4 WIND SPEEDS

During the period 21 to 31 March 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 1.4km per hour at Ngabu in Chikwawa district to 9.0km per hour at Chileka Airport in Blantyre district. More details are in Table 2.

1.5 RELATIVE HUMIDITY

In the last ten days of March 2017, air over Malawi was fairly moist Daily average relative humidity values recorded from various weather stations in Malawi had ranged from 59% at Kasungu in Central Malawi to 90% at Mzuzu and Nkhata Bay in Northern Malawi. Details are on the Table 2.

1.6 SUNSHINE HOURS

Generally cloudy conditions were experienced during the last ten days of March 2017. Most stations had recorded at least 6.0hours of bright sunshine The highest amount of sunshine was 7.6 hours reported at Salima while the lowest was 2.8 hours that was recorded at Mzuzu. For details see Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

The heavy rains that continued to fall during the period 21 to 31 March 2017 were supportive to growth and development of roots and tubers as well as the late planted crops. These rains had also assisted in replenishing soil moisture reserves, water bodies and improved pasture availability for communal grazing of livestock.. On the negative note the wet weather had hampered harvesting and drying of matured crops.

Maize crop had ranged from maturity to drying and harvesting stages. Reports have indicated that the household food security situation has improved because some farm families have started harvesting matured crops. Crops that had reached physiological maturity required more sunshine hours for harvesting and drying.

3. PROSPECTS FOR 2016/2017 RAINFALL SEASON

Climate models indicate that weak La Nina conditions are over and neutral conditions have taken hold and are likely to persist through April to June 2017. Neutral conditions mean that neither La Nina nor El Nino will be in effect. Therefore expect normal rainfall between April and June (AMJ) 2017.

4. OUTLOOK FOR 01 TO 10 APRIL 2017

Models for medium range weather forecast suggest that Easterly waves will be active over Malawi during the period 01 to 10 April 2017. Therefore expect fairly scattered moderate to locally heavy rainfall during the period. These rains are likely to facilitate planting, growth and development of tuber crops and will also improve water resources and soil moisture reserves during the first ten days of April 2017

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR 21 TO 31 MARCH 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.	134.3	188.6	**71**	670.0	1059.9	**63**	10
	Chitipa Met	104.0	52.8	**197**	797.3	880.5	**91**	7
	Karonga Met.	136.0	114.0	**119**	789.1	807.7	**98**	10
	Lupembe	156.6	89.4	**175**	503.1	710.8	**71**	7
	Vinthukutu Agric	247.0	122.5	**202**	1437.6	881.0	**163**	9
MZUZU	Bolero Met	47.3	29.6	**160**	550.7	595.9	**92**	5
	Bwengu Agric.	89.6	49.3	**182**	463.0	712.2	**65**	7
	Chikangawa forest	136.4	95.2	**143**	717.6	968.7	**74**	8
	Chelinda (Nyika)	127.0	89.1	**143**	591.0	1071.7	**55**	10
	Chintheche Agric	383.2	190.0	**202**	1690.6	1325.6	**128**	10
	Ekwendeni Agric.	63.4	45.3	**140**	415.1	737.6	**56**	7
	Mbawa Res. Stn	16.6	35.8	**46**	806.2	765.1	**105**	3
	Mzimba Met	44.1	48.2	**91**	601.7	838.8	**72**	7
	Mzuzu Met.	172.9	100.9	**171**	648.4	876.2	**74**	10
	NkhataBay Met.	318.3	167.0	**191**	978.5	1082.9	**90**	11
	Rumphi Boma	57.2	38.4	**149**	553.6	676.8	**82**	7
KASUNGU	Dowa Agric	20.2	41.3	**49**	886.2	835.4	**106**	3
	Kaluluma DTC	35.2	27.8	**127**	431.3	764.7	**56**	3
	Kasungu Met	92.4	31.1	**297**	881.1	743.2	**119**	3
	Madisi Agric	21.0	27.5	**76**	956.0	796.4	**120**	3
	Mchinji Boma	152.8	50.6	**302**	1572.8	948.6	**166**	4
	Ntchisi Boma	139.7	67.5	**207**	942.9	1141.6	**83**	5
SALIMA	Dwangwa Sugar	131.4	143.8	**91**	893.8	1136.1	**79**	7
	Lifuwu	37.6	71.7	**52**	1427.0	1128.9	**126**	3
	Nkhotakota Met	54.1	142.5	**38**	1065.9	1244.6	**86**	5
	Salima Met	33.9	71.6	**47**	1265.7	1123.4	**113**	2
LILONGWE	Chileka Namitete	205.7	34.6	**595**	1242.6	861.6	**144**	4
	Chitedze Met.	20.0	41.6	**48**	913.2	829.7	**110**	2
	Dzonzi Forest	110.0	38.5	**286**	887.2	931.8	**95**	4
	K.I.A Met	60.9	47.3	**129**	804.5	810.8	**99**	4
	Kasiya Agric	96.6	36.2	**267**	1124.6	909.2	**124**	4
	Ntcheu - Nkhande	53.9	45.0	**120**	1047.5	992.0	**106**	5
	Dedza Met	38.8	44.3	**88**	994.1	945.0	**105**	6
MACHINGA	Balaka Agric	102.1	32.8	**311**	900.0	809.5	**111**	6
	Mpilipili (Makanjila)	83.8	35.0	**239**	875.6	845.5	**104**	5
	Makoka Met	58.0	32.5	**178**	913.6	904.3	**101**	4
	Mangochi Met.	158.8	33.2	**478**	1027.3	663.3	**155**	5
	Monkey Bay Met.	41.4	13.4	**309**	552.6	551.6	**100**	4
	Namiasi Agric	18.6	23.5	**79**	621.2	733.0	**85**	2
	Nankumba Agric	63.0	33.4	**189**	N/A	801.6	**N/A**	3
	Ntaja Met.	43.6	48.6	**90**	823.9	827.2	**100**	5
	Phalula Agric	58.2	27.2	**214**	649.4	784.8	**83**	3
	Toleza Farm	122.0	29.3	**416**	948.0	806.1	**118**	6
	Zomba Agric	79.4	58.2	**136**	1015.5	1111.8	**91**	6
BLANTYRE	Bvumbwe Met.	65.3	57.9	**113**	1118.5	1016.1	**110**	8
	Chichiri Met.	30.1	15.3	**197**	937.9	1028.5	**91**	6
	Chileka Airport	83.0	44.5	**187**	582.8	826.9	**70**	5
	Chiradzulu Agric	31.4	44.5	**71**	839.9	919.5	**91**	7
	Chizunga Factory	75.4	71.5	**105**	972.4	1203.3	**81**	8
	Mimosa Met.	141.5	81.3	**174**	1457.8	1268.0	**115**	8
	Mpemba Agric	127.8	52.1	**245**	1007.1	1040.5	**97**	6
	Mulanje Boma	132.9	125.0	**106**	1708.3	1524.1	**112**	5
	Naminjiwa Agric	20.0	36.5	**55**	789.4	910.1	**87**	3
	Neno Agric	158.0	42.6	**371**	1099.8	1011.1	**109**	6
	Satemwa Tea Est	157.0	61.2	**257**	995.1	978.4	**102**	7
	Thuchila Agric	41.5	40.2	**103**	1015.7	815.1	**125**	5
SHIRE VALLEY	Chikwawa Boma	91.2	33.9	**269**	646.7	714.0	**91**	5
	Nchalo	58.2	26.6	**219**	820.7	605.4	**136**	4
	Ngabu Met.	70.1	35.1	**200**	822.6	704.8	**117**	7
	Nsanje Boma	37.4	57.7	**65**	738.5	1000.5	**74**	9

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 21 TO 31 MARCH 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	26.8	17.6	28.2	16.5	7.6	81	6.8	6.0	4.7	8.8
Karonga	29.2	20.6	30.5	19.1	3.6	80	6.0	6.0	4.7	8.3
MZUZU ADD										
Bolero	28.4	18.6	29.1	16.4	5.4	84	3.9	4.9	3.9	6.7
Mzimba	25.5	17.0	27.8	15.7	4.3	80	4.0	4.7	3.7	6.8
Mzuzu	23.3	17.8	27.2	16.1	5.8	90	2.7	4.0	3.2	6.0
Nkhata Bay	28.2	21.1	30.6	20.7	2.5	90	2.8	4.3	3.4	6.0
Kasungu	27.4	18.0	29.6	15.6	3.6	59	6.8	6.1	4.8	8.6
LILONGWE ADD										
Chitedze	26.9	17.6	27.9	15.1	3.6	64	7.0	6.1	4.8	8.8
Dedza	23.8	14.8	26.4	12.3	5.4	81	6.5	5.4	4.1	8.5
KIA	25.4	17.1	26.6	14.2	5.8	77	6.7	5.7	4.5	8.6
SALIMA ADD										
Nkhotakota	28.8	21.9	30.5	21.5	4.0	78	7.1	6.4	5.0	8.9
Salima	29.6	22.3	30.5	20.2	8.6	73	7.6	7.0	5.6	9.2
MACHINGA ADD										
Makoka	28.1	19.6	27.7	15.0	4.0	81	4.2	5.1	4.1	7.0
Mangochi	29.6	21.1	32.0	20.0	2.9	78	7.5	6.5	5.1	9.1
Monkey Bay	29.2	22.0	30.4	20.4	6.8	76	7.2	6.7	5.3	8.9
Ntaja	28.0	19.8	29.6	18.4	5.0	81	6.4	6.0	4.7	8.5
BLANTYRE ADD										
Bvumbwe	23.5	15.4	25.9	13.2	7.6	85	4.2	4.6	3.6	7.0
Chichiri	25.4	17.6	28.4	15.4	6.1	81	5.5	5.3	4.2	7.9
Chileka	27.3	19.4	29.2	16.6	9.0	75	6.0	6.0	4.8	8.2
Mimosa	27.0	19.3	28.4	16.2	3.6	84	4.5	5.0	4.0	7.2
SHIRE VALLEY ADD										
Ngabu	31.6	22.9	33.7	20.5	1.4	76	5.5	6.0	4.8	7.9

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