



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: 01 – 10 December 2015

Season: 2015/2016

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### HIGHLIGHTS

- **Light to moderate rains were experienced over Malawi...**
- **Land preparation and procurement of farm inputs was in progress ...**
- **Rainfall distribution expected to improve during 11 to 20th December 2015...**

### 1.0 WEATHER SUMMARY

During the first ten days of December 2015, a broad equatorial trough affected a few areas in the north and in central Malawi while the south was under relative warm and moist north easterly airmass.

#### 1.1 RAINFALL SITUATION

During the first ten days of December 2015 light and below average rains were experienced over most places in Malawi. Most places in Malawi had registered cumulative rainfall amounts of less than 39mm and most parts in southern Malawi particularly in Nsanje and Chikwawa districts registered nil rainfall throughout the entire ten days. Cumulative rainfall amounts of at least 40mm were recorded over very few places including Mzuzu Airport, Nathenje Agric, Chileka Airport and Namwera Agric. More details are in Table 1.

#### 1.3 AIR TEMPERATURE

During the first ten days of December 2015, average daily maximum temperatures in Malawi were above 28°C. Average maximum temperatures had ranged from 28.2°C at Mzuzu Met in Mzimba to 38.9°C at Ngabu Met in Chikwawa while average minimum temperatures had ranged from 17.1°C at Mzuzu Met to 25.6°C at Salima Met. The highest maximum temperature was still reported at Ngabu (41.0°C) in Chikwawa while the lowest temperature was 15.8°C recorded at Mzuzu Airport. For more details see Table 2.

#### 1.4 WIND SPEEDS

Average wind speeds measured at a height of two metres above the ground level across the country varied from 2.2km per hour at Nkhata Bay Met to 14.4km per hour at Ngabu Met in Chikwawa. More details are in Table 2.

#### 1.5 RELATIVE HUMIDITY

During the first ten days of December 2015, daily average relative humidity values collected from various stations in Malawi had ranged from 50% at Bolero Met to 70% at Mzuzu Met. Details are on the Table 2.

#### 1.6 SUNSHINE HOURS

The daily average hours of bright sunshine across Malawi were between 6.6 and 10.7 hours. Details are on the Table 2.

### 2. AGROMETEOROLOGICAL ASSESSMENT

The major on-farm agricultural activities over Malawi included land preparation, procurement of farm inputs and equipment, planting of crops particularly in areas where significant rainfall amounts have been received. For proper utilization of the rains, farmers are encouraged to adhere to principles of good husbandry including early land preparation, use of appropriate seeds, timely planting, implementation of proper plant population and spacing, control of weeds, pests and diseases and fertilizer application. Farmers are advised to seek further advice and guidance from Agricultural Extension Officers.

### 3. PROSPECTS FOR 2015/16 RAINFALL SEASON

The rainfall outlook for the 2015/16 season is that most parts of Malawi are likely to receive normal to above normal rainfall amounts during the season. However, a few areas particularly in the Shire Valley are likely to receive low rainfall amounts towards the end of season.

### 4. OUTLOOK FOR 11 – 20 DECEMBER 2015

Models for short and medium range rainfall forecasts indicate that the main rain bearing systems are likely to get established and become active within the second ten days of December 2015. Hence an improvement in rainfall distribution and amounts is expected during the period 11 to 20th December 2015

**TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR 01 TO 10 DECEMBER 2015**

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	
MZUZU	Chitipa Met	13.9	42.5	33	93.0	118.4	79	4	
	Karonga Met.	0.0	37.6	0	3.5	87.1	4	0	
	Lupembe	0.0	26.1	0	5.0	65.5	8	0	
	Vinthukutu Agric	0.0	44.7	0	47.2	110.4	43	0	
	Bolero Met	6.7	27.5	24	25.5	71.5	36	2	
	Bwengu Agric.	0.0	29.8	0	61.0	87.1	70	0	
	Chikangawa forest	0.0	54.7	0	122.6	142.6	86	0	
	Ekwendeni Agric.	18.0	51.6	35	48.5	154.5	31	1	
	Euthini Agric.	5.6	45.1	12	51.8	105.3	49	3	
	Mbawa Res. Stn	18.6	29.3	63	25.3	99.5	25	3	
	Mzimba Met	0.9	47.9	2	130.3	111.2	117	1	
	Mzuzu Met.	40.9	45.6	90	240.8	153.0	157	2	
	NkhataBay Met.	1.5	79.8	2	173.5	175.4	99	2	
Zombwe Agric	31.6	30.8	103	80.9	91.0	89	2		
KASUNGU	Dowa Agric	0.0	45.7	0	21.9	103.5	21	0	
	Kaluluma Agric	10.5	68.3	15	49.6	108.6	46	1	
	Kasungu Met	30.7	46.1	67	33.8	99	34	2	
	Malomo Agric	15.6	22.9	68	22.2	66.6	33	1	
	Mchinji Boma	8.3	69.3	12	28.6	182.7	16	1	
	Mkanda Met	0.0	42.9	0	35.0	128.8	27	0	
	Mponela Agric	0.0	54.2	0	9.2	117.6	8	0	
	Mwimba Research	0.0	46.0	0	9.6	113.4	8	0	
	Ntchisi Boma	0.0	78.3	0	40.9	140.5	29	0	
	Lifuwu	0.0	63.1	0	14.5	105.5	14	0	
	Nkhotakota Met	0.0	76.2	0	5.0	132.1	4	0	
	Salima Met	0.0	62.0	0	8.8	104.7	8	0	
	Chitedze Met.	23.4	44.0	53	54.0	130.0	42	2	
	Dedza Met	34.4	48.0	72	71.3	119.9	59	2	
LILONGWE	Dzonzi Forest	0.0	68.0	0	40.5	161.9	25	0	
	K.I.A Met	18.5	32.7	57	71.9	98.4	73	4	
	Kasiya Agric	0.0	53.3	0	14.8	163	9	0	
	Mlangeni Njolomole	0.0	56.5	0	19.5	146.3	13	0	
	Mtakataka Airwing	0.0	62.9	0	9.7	115.3	8	0	
	Nathenje Agric	56.8	38.9	146	89.1	112.5	79	3	
	Dedza RTC	34.4	49.8	69	163.5	132.5	123	1	
	Balaka Township	0.0	38.1	0	100.8	138.8	73	0	
	Chikweo Agric.	0.0	60.6	0	18.4	145.3	13	0	
	Chingale Agric	0.0	61.4	0	65.0	150.1	43	0	
	Mpilipili (Makanjila)	14.6	55.8	26	47.0	119.9	39	2	
	Makoka Met	0.0	71.7	0	108.3	164.6	66	0	
	Mangochi Met.	10.2	30.7	33	86.0	76.1	113	3	
	Monkey Bay Met.	0.6	28.6	2	8.6	50.6	17	1	
MACHINGA	Namiasi Agric	21.0	50.0	42	50.6	89.6	56	2	
	Namwera Agric	46.8	67.2	70	86.4	161.4	54	2	
	Ntaja Met.	0.7	52.0	1	58.4	125.8	46	1	
	Phalula Agric	0.0	50.6	0	62.3	164.7	38	0	
	Toleza Farm	0.0	60.4	0	201.0	143.0	141	0	
	Zomba Agric	32.6	92.9	35	95.5	203.4	47	3	
	Bvumbwe Met.	27.6	79.2	35	94.4	207.8	45	2	
	Chichiri Met.	6.2	82.1	8	64.8	383.7	17	1	
	Chileka Airport	45.3	53.4	85	94.0	176.4	53	4	
	Chiradzulu Agric	22.1	60.4	37	46.0	183.3	25	3	
	Chizunga Factory	19.2	105.8	18	78.3	263.4	30	1	
	Lujeri Tea Estate	0.0	109.9	0	412.0	426.1	97	0	
	Masambanjati Agric	0.0	77.4	0	19.2	227.8	8	0	
	Mimosa Met.	3.0	101.3	3	220.1	305.0	72	2	
Mpemba Vet	0.0	71.7	0	62.5	217.6	29	0		
BLANTYRE	Mulanje Boma	0.0	110.7	0	388.0	404.6	96	0	
	Mwanza Boma	0.0	54.8	0	66.6	198.5	34	0	
	Naminjiwa Agric	0.0	67.7	0	22.5	163.2	14	0	
	Neno Agric	0.0	63.7	0	67.0	181.2	37	0	
	Satemwa Tea Est. No.1	39.0	65.6	59	110.9	200.0	55	2	
	Thuchila Agric	18.2	51.3	35	104.3	146.4	71	1	
	Thyolo Boma	35.2	76.0	46	35.2	198.3	18	2	
	SHIRE VALLEY	Chikwawa Boma	0.0	56.3	0	18.1	154.0	12	0
		Kasinthula Res. Stn.	0.0	48.9	0	13.9	129.3	11	0
		Makhanga Agric	0.0	52.0	0	50.1	144.7	35	0
		Nchalo Illovo	0.0	38.2	0	121.4	116.3	104	0
		Ngabu Met.	0.0	48.9	0	79.5	137.2	58	0
	Nsanje Boma	0.0	59.3	0	166.2	213.6	78	0	

**TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 01 TO 10 DECEMBER 2015**

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 <sup>-2</sup> p/day
<b>KARONGA ADD</b>										
Chitipa	30.9	19.4	32.7	17.6	9.0	63	6.6	7.0	5.7	8.7
Karonga	34.2	24.3	34.5	23.0	6.5	55	8.9	8.5	6.9	10.3
<b>MZUZU ADD</b>										
Bolero	33.4	20.5	33.6	18.7	3.6	50	8.0	7.5	6.0	9.7
Mzimba	30.4	18.0	32.0	17.0	3.2	58	7.6	6.9	5.4	9.5
Mzuzu	28.2	17.1	29.7	15.8	4.3	70	8.5	6.8	5.3	10.0
Nkhata Bay	33.9	21.6	35.6	20.2	2.2	69	7.8	7.3	5.9	9.6
<b>KASUNGU ADD</b>										
Kasungu	33.7	19.8	34.9	18.6	7.6	50	9.4	8.4	6.7	10.6
<b>LILONGWE ADD</b>										
Chitedze	32.9	19.9	34.3	18.5	3.2	56	9.4	7.9	6.2	10.7
Dedza	28.6	18.0	30.6	15.9	10.1	58	8.5	7.6	6.1	10.1
KIA	31.3	17.5	32.1	17.3	5.4	55	8.8	7.5	6.0	10.3
<b>SALIMA ADD</b>										
Salima	35.5	25.6	37.0	24.1	6.8	51	10.2	6.0	4.6	11.2
<b>MACHINGA ADD</b>										
Makoka	35.1	23.1	37.6	21.2	8.6	59	9.3	8.9	7.2	10.7
Mangochi	32.1	19.8	34.9	17.5	4.3	62	10.1	8.2	6.4	11.2
Monkey Bay	36.4	24.3	38.0	22.6	2.5	57	10.2	8.9	7.2	11.2
Ntaja	35.2	24.9	37.1	17.6	8.3	54	10.1	9.4	7.7	11.2
<b>BLANTYRE ADD</b>										
Bvumbwe	29.8	19.3	32.1	16.1	6.5	56	10.5	8.2	6.5	11.4
Chichiri	32.4	20.1	34.8	16.8	5.0	54	10.0	8.3	6.5	11.1
Chileka	33.2	21.1	35.8	16.1	11.2	54	10.7	9.3	7.5	11.5
Mimosa	34.3	19.8	36.8	18.4	4.3	52	10.0	8.4	6.6	11.1
<b>SHIRE VALLEY ADD</b>										
Ngabu	38.9	25.5	41.0	22.2	14.4	57	10.5	10.8	9.0	11.4

**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