



REPUBLIC OF MALAWI

Department of Climate Change and Meteorological Services

# 10-day Weather and Agrometeorological Bulletin



*Produced in support of national early warning systems*

Period: 11 – 20 March 2014

Cropping Season: 2013/14

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## HIGHLIGHTS

- Moderate to heavy rains experienced over most parts of Malawi...
- Maize crop ranged from maturity to drying and harvesting stages ...
- Good rains to persist over northern half during 21 to 31<sup>st</sup> March 2014...

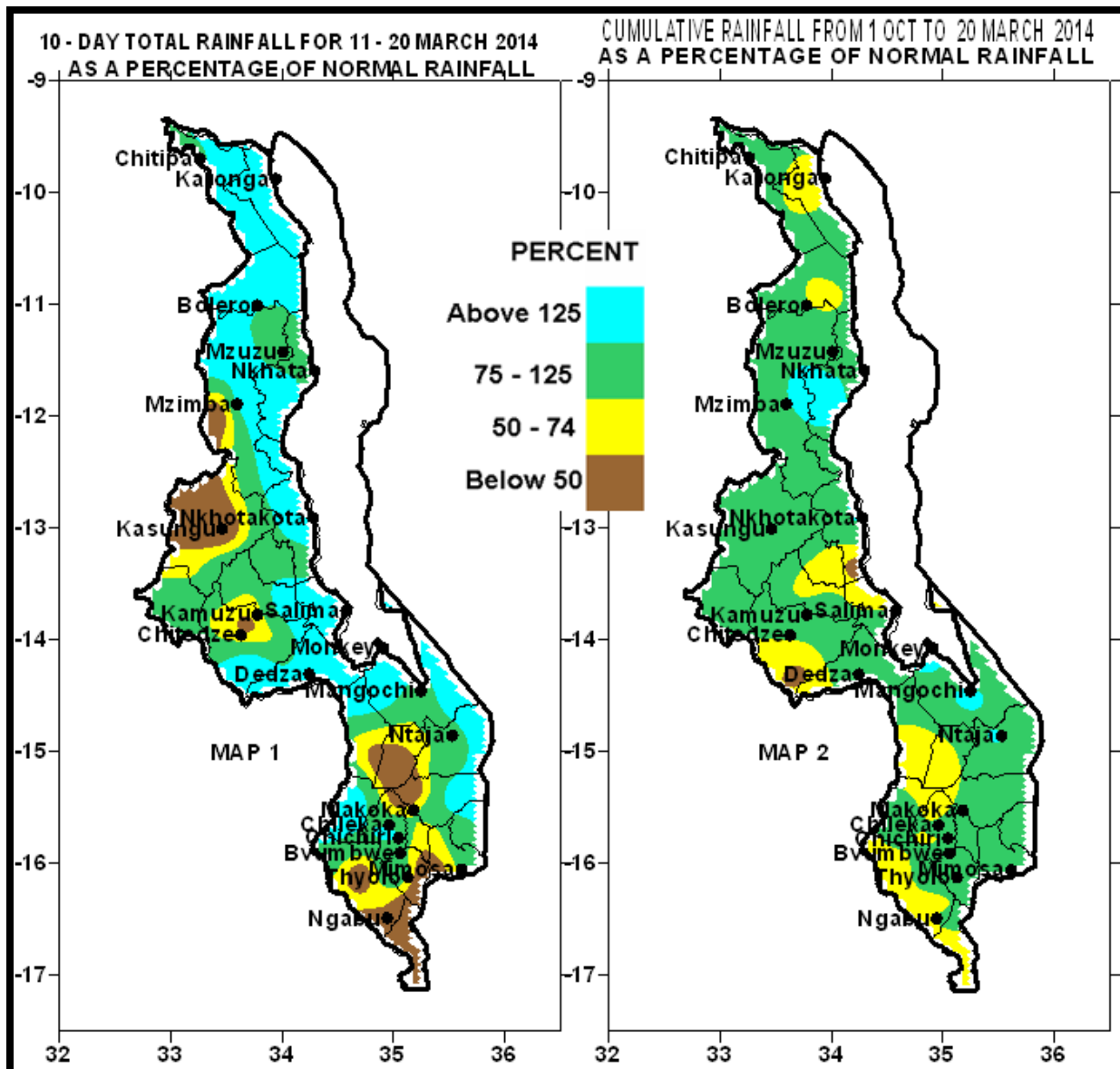


Figure 1: Rainfall Maps for Malawi for 11 to 20 March 2014

## 1.0 WEATHER SUMMARY AND IMPACTS

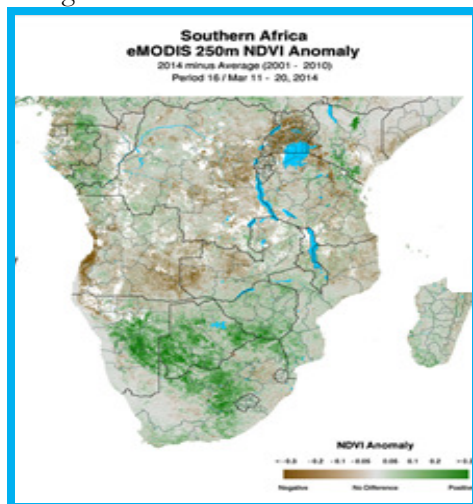
### 1.1 RAINFALL SITUATION

During the second ten day of March 2014 there was a significant improvement in rainfall distribution and amounts over most parts of Malawi particularly along the lakeshore and northern half of the country. During the entire period under discussion, there were several stations with rainfall amounts of more than 120mm. Such stations in the south included Namwera Agric (171mm) in Mangochi and Satemwa Tea Estate (123mm) in Thyolo, in the centre such high amounts were reported along the lakeshore and included Dwangwa (181mm), Lifuwu Rice Research station (171mm), Nkhotakota Met (229mm) and Salima Met (183mm) and in the north high rainfall figures were reported at Baka Agric Research station (322mm), Vinthukutu Agric (248mm) Karonga Met 201mm), Chikangawa Forest (192mm) and Nkhata Bay Met (124mm). In addition many stations had recorded over seven or more rainy days. More details are on Table 1.

Map 2 indicates cumulative rainfall performance over the country from 1 October 2013 to 20<sup>th</sup> March 2014. The map shows that most parts of Malawi have received their long term seasonal cumulative rainfall amounts (green colour on Map 2) except for a few places where cumulative rainfall performance was still below average (yellow and brown colours on map 2). Other details are on Table 1.

### 1.2 VEGETATION CONDITION

Figure 2: Vegetation Condition over Southern Africa



The vegetation difference from long term average map for Southern Africa for the period 11 to 20 March 2014 continued to show stressed vegetation and negative anomalies over some parts of the region as the main rainfall season comes to an end. (Figure 2).

### 1.3 AIR TEMPERATURE

Warm to temperatures persisted over Malawi during the period under review. Mean daily maximum temperatures were in upper 20s to lower 30s. The highest absolute maximum temperature for the period was 37°C observed at Ngabu. For more details see Table 2.

### 1.4 WIND SPEEDS

Mean wind speeds at a height of two metres above ground level remained light and blew from all directions. The mean daily wind speeds had ranged from 0.5 to 2.8 metres per second. The lowest mean wind speed was reported at Mzimba while the highest mean wind speed was recorded at Chitipa. For more details refer to Table 2.

### 1.5 RELATIVE HUMIDITY

During the period under review, air over Malawi had remained fairly moist. Most stations had recorded mean daily relative humidity values of at least 70% except at Chichiri. The highest mean daily relative humidity was reported at Mzuzu (83%). More details are on the Table 2. High relative humidity values are favourable for outbreaks of fungal diseases.

## 2. AGROMETEOROLOGICAL ASSESSMENT

During the period under review, wet weather had returned to most areas that had experienced a dry spells during the first ten days of March 2014. The moderate to heavy rains that fell were supportive to growth and development of roots and tubers as well as the late planted crops while dry conditions had facilitated harvesting and drying of matured crops. The rains had also assisted in replenishing soil moisture reserves. On the negative note the wet weather had hampered harvesting of matured crops. Maize crop had ranged from flowering to maturity, drying stages. Crops that had reached physiological maturity required more sunshine hours for drying.

Preliminary indications from the Agro meteorological maize yield forecasting model show that Malawi will most likely harvest enough Maize for national consumption. However, prolonged dry spells in March have compromised crop yields and production in some districts such as Karonga in the north and Balaka in the south and some household will experience food maize shortages.

## 3. PROSPECTS FOR 2013/14 RAINFALL SEASON

The rainfall outlook for January to March 2014 suggests that ***Malawi is likely to experience normal to above normal total rainfall amounts.***

## 4. OUTLOOK FOR 21 TO 31 MARCH 2014

Models for short and medium term weather forecasts suggest that the main rains are tailing off particularly over southern and central Malawi while the lakeshore and north will be affected by easterly waves. Therefore rainfall is expected to be confined to highlands, lakeshore and northern half of Malawi during the last ten days of March 2014..

**TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR 11 TO 20 MARCH 2014**

STATION NAME	ACTUAL DEKADAL TOTAL RAINFALL mm	DEKADAL NORMAL (EXPECTED) RAINFALL mm	ACTUAL TOTAL AS PERCENTAGE OF NORMAL (EXPECTED) RAINFALL	TOTAL ACTUAL RAINFALL TO DATE mm	NORMAL (EXPECTED) RAINFALL TO DATE mm	ACTUAL TODATE AS PERCENTAGE OF NORMAL	RAINY DAYS $\geq 0.3$ mm
<b>SOUTHERN REGION</b>							
Balaka Township	17.8	40.2	44	446.1	776.7	57	3
Bvumbwe Met.	17.7	54.2	33	864.8	958.2	90	4
Chichiri Met.	30.4	16.1	189	811.3	1013.2	80	5
Chikwawa Boma	10.6	32.9	32	545.3	680.1	80	1
Chikweo Agric.	89.6	67.3	133	760.0	945.3	80	7
Chileka Airport	38.2	45.8	83	587.7	782.4	75	7
Chingale Agric	23.4	52.0	45	732.5	833.1	88	3
Chiradzulu Agric	19.1	38.1	50	683.9	875.0	78	1
Mpilipili	98.2	39.6	248	533.5	810.5	66	6
Masambanjati Agric	33.7	74.7	45	949.6	1123.7	85	2
Mimosa Met.	87.3	89.0	98	987.8	1186.7	83	9
Monkey Bay Met.	94.3	16.3	579	815.9	538.2	152	6
Mpemba Vet	80.2	61.9	130	709.7	988.4	72	5
Mulanje Boma	44.6	70.2	64	1353.4	1399.1	97	3
Mwanza Boma	91.8	55.4	166	701.7	901.7	78	5
Namiasi Agric	23.6	49.7	47	546.5	709.5	77	4
Namwera Agric	179.2	69.3	259	774.7	920.5	84	7
Neno Agric	81.8	46.9	174	817.6	968.5	84	1
Ngabu Met.	17.9	37.3	48	508.4	669.7	76	2
Nsanje Boma	20.9	49.9	42	650.9	942.8	69	2
Phalula Agric	3.5	37.0	9	380.9	757.6	50	2
Satemwa Tea Est. No.1	122.7	63.1	194	1263.6	917.2	138	6
Thyolo Boma	39.1	78.0	50	742.2	996.3	74	5
Thyolo Met	19.8	58.6	34	1143.1	1050.8	109	4
Zomba R.T.C	111.3	73.9	151	984.0	1053.6	93	5
<b>CENTRAL REGION</b>							
Chitedze Met.	20.5	51.1	40	649.8	788.1	82	3
Dowa Agric	76.1	45.4	168	704.0	794.1	89	6
Dwangwa	181.1	91.8	197	969.6	992.3	98	8
Dzonzi Forest	30.5	57.0	54	533.0	893.3	60	4
K.I.A Met	24.2	41.8	58	696.5	763.5	91	4
Kasungu Met	5.0	38.7	13	715.3	712.1	100	3
Lifuwu	171.1	78.7	217	411.1	1057.2	39	8
Madisi Agric	49.4	33.6	147	648.6	768.9	84	4
Mkanda Met	33.9	41.3	82	706.6	783.7	90	2
Mponela Agric	25.0	35.1	71	474.7	739.5	64	3
Mtakataka Airwing	99.6	52.4	190	304.6	727.5	42	6
Nathenje Agric	22.5	39.1	58	635.9	757.8	84	1
Nkhotakota Met	229.0	113.7	201	1524.7	1102.1	138	5
Ntcheu - Nkhonde	46.4	50.4	92	629.5	947.0	66	7
Ntchisi Boma	73.3	82.4	89	388.5	1074.1	36	4
Salima Met	183.4	85.6	214	987.3	1051.8	94	9
<b>NORTHERN REGION</b>							
Baka Res. Stn.	321.6	140.0	230	544.0	871.3	62	8
Bolero Met	37.4	27.9	134	452.3	566.3	80	4
Bwengu Agric.	53.9	47.5	113	480.5	662.9	72	4
Chikangawa forest	192.2	63.1	305	1444.1	873.5	165	9
Chitipa Met	76.5	66.1	116	724.1	827.7	87	7
Chintheche Agric	116.5	124.2	94	1334.5	1135.6	118	7
Euthini Agric.	76.6	41.2	186	731.7	680.9	107	4
Karonga Met.	200.7	78.9	254	494.7	693.7	71	9
Mbawa Res. Stn	13.2	40.4	33	585.4	729.3	80	5
Mzimba Met	25.0	41.7	60	827.5	790.6	105	6
Mzuzu Met.	39.5	58.2	68	798.9	775.3	103	6
NkhataBay Met.	124.2	96.7	128	1035.2	915.9	113	10
Rumphi Boma	30.5	37.7	81	268.5	638.4	42	5
Vinthukutu Agric	248.3	79.5	312	793.8	758.5	105	9
Zombwe Agric	38.1	35.5	107	707.4	624.2	113	4

**TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 11 TO 20 MARCH 2014**

STATION	MAX TEMP (°C)	MIN TEMP (°C)	ABS MAX (°C)	ABS MIN (°C)	WIND SPEED (m/s)	RH (%)	EVAP (mm)
<b>KARONGA ADD</b>							
Chitipa	26.8	18.0	21.5	16.9	2.8	76	N/A
Karonga	30.3	20.3	32.0	18.5	1.1	74	N/A
<b>Bolero</b>							
Bolero	28.4	17.9	29.9	17.8	N/A	76	N/A
Mzuzu	25.4	17.5	26.4	16.5	1.0	83	N/A
Mzimba	27.4	17.1	28.2	16.5	0.5	79	N/A
Nkhata Bay	30.3	21.1	32.1	20.2	0.6	82	N/A
<b>Kasungu</b>							
Kasungu	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>LILONGWE ADD</b>							
KIA	27.1	17.3	29.0	15.0	1.3	76	4.5
Chitedze	28.1	17.8	30.1	16.2	0.6	78	N/A
Dedza	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>SALIMA ADD</b>							
Salima	30.6	21.7	32.5	20.0	1.5	77	N/A
Nkhotakota	28.8	21.5	30.1	19.4	1.5	77	N/A
<b>MACHINGA ADD</b>							
Makoka	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ntaja	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mangochi	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Monkey Bay	31.1	22.6	32.3	21.4	1.5	73	N/A
<b>BLANTYRE ADD</b>							
Chileka	29.5	20.7	31.7	19.1	2.3	76	N/A
Chichiri	28.0	19.1	30.1	18.0	1.2	67	N/A
Bvumbwe	27.0	15.3	28.7	14.0	1.7	77	N/A
Mimosa	31.5	20.2	33.0	19.0	1.1	75	4.6
<b>SHIRE VALLEY ADD</b>							
Ngabu	34.3	23.7	37.0	22.8	1.7	71	N/A

**Glossary of some terms on this table**

- 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) = mps x 3.6