



# Malawi 10-Day Rainfall & Agrometeorological Bulletin

Department of Climate Change and Meteorological Services



Period: 11 – 20 March 2010

Season: 2009/2010

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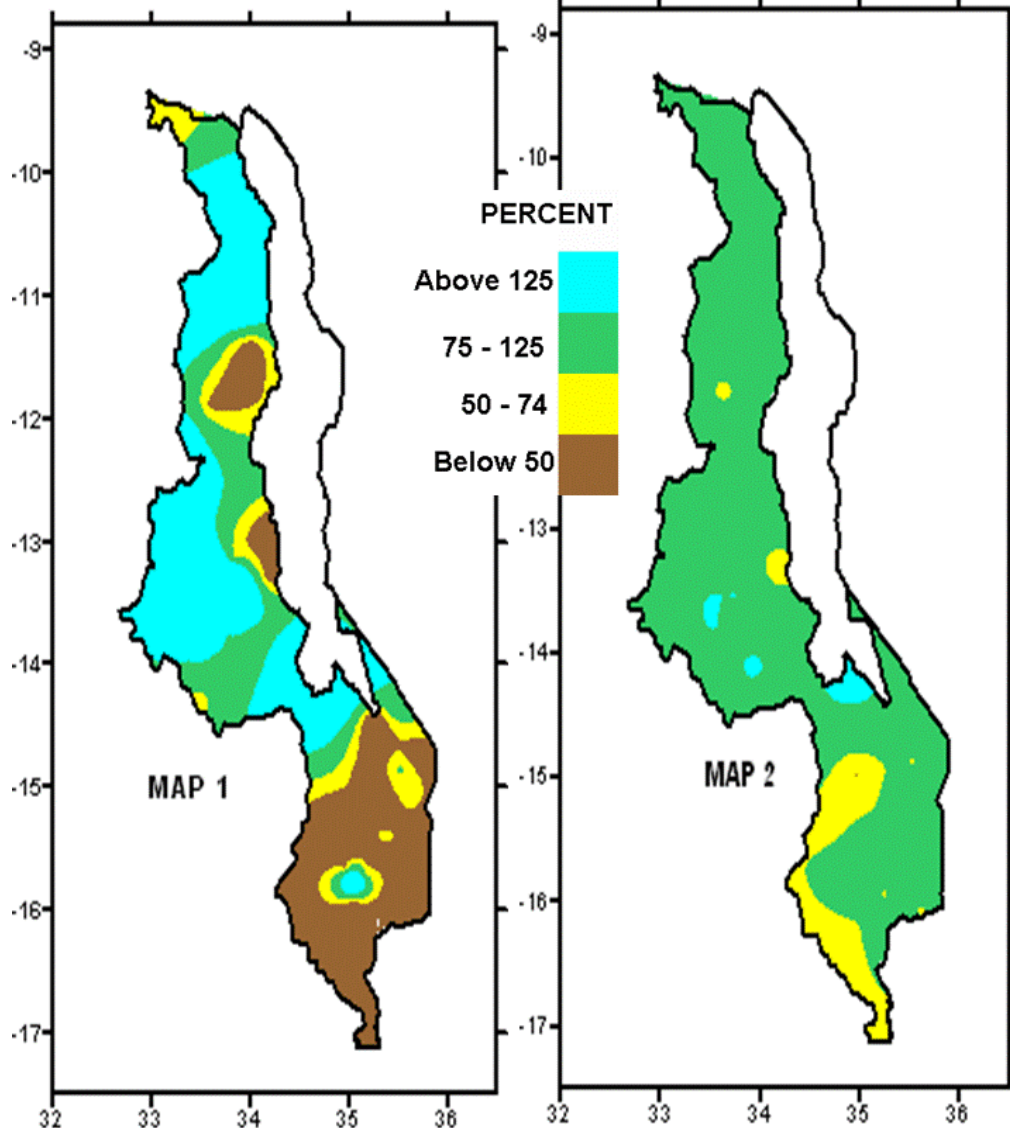
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## HIGHLIGHTS

- Moderate rainfall was received over northern half of Malawi...
- Reduced rainfall over the south facilitated maturing and drying of crops...
- Light to moderate rainfall to continue during 21 to 31 March 2010 ...

10-DAY TOTAL RAINFALL FOR 11-20 MARCH 2010  
AS A PERCENTAGE OF NORMAL RAINFALL

CUMULATIVE RAINFALL FOR 1 OCT 2009 TO 20 MAR 2010  
AS A PERCENTAGE OF NORMAL RAINFALL



## 1. WEATHER SUMMARY

### 1.1 RAINFALL SITUATION

During the second dekad of March 2010, generally light to moderate rainfall prevailed mainly over the northern half of Malawi. Below average rainfall was recorded in most parts of the south except for areas around Chichiri in Blantyre and parts of Mangochi district. Most areas in the central region registered above normal rainfall except Ntchisi district. In the north, Chitipa, and Mzimba districts registered below average rainfall (yellow and brown colours on Map 1).

Only Namwera in the south registered higher than 75mm of rainfall, while in the central region, Dedza, Dowa, Dwangwa, Kaluluma, Kasiya, Lifuwu, Mponela and Salima reported rainfall higher than 75mm. As for the northern region, Bolero, Karonga and Nkondezi registered higher than 75mm of rainfall (Table 1).

Cumulative rainfall performance as at 20<sup>th</sup> of March 2010 indicated that most areas in Malawi had received three quarters of the long term average rainfall amounts for the period (depicted by green colour on Map 2). However, some parts of Southern Malawi still indicate below average cumulative rainfall (yellow colour Map 2). These include Nsanje, Chikhwawa, and Mwanza.

### 1.2 MEAN AIR TEMPERATURE

Warm to hot conditions were experienced over most areas during the period under review. High temperatures were reported in low altitude areas while lower temperatures were reported over higher altitude areas. The highest daily maximum temperature was recorded at Ngabu (35°C) in the Shire Valley district of Chikhwawa. On the other hand, lowest daily minimum temperature of 16°C was reported at Dedza (See Table 2 for more details).

### 1.4 MEAN WIND SPEEDS

Low mean wind speeds prevailed over Malawi during the period under review. The lowest mean wind speed was 0.6m/s (2.2 Km/h), reported at Chitipa, Karonga and Chitedze; while the highest wind speed was 2.3 m/s (8.3 Km/h) recorded at Chileka (Refer to Table 2 for more details).

## 1.5 MEAN RELATIVE HUMIDITY

Most areas continued to report high daily average relative humidity (RH) values. The highest RH value was 84% reported at Mzuzu and Nkhata Bay in the north while the lowest mean RH value of 66% was reported at Ngabu and Mimosa in the south (Table 2).

## 2. AGROMETEOROLOGICAL ASSESSMENT

In the southern region, reduced rainfall facilitated drying of matured. Crops ranged from flowering to maturity and drying stages.

The improvement in rainfall performance in most parts is expected to support growth and development of crops, planting of root and tuber crops as well as replenish water resources.

Indicators from the Crop Water Requirement Satisfaction Index (WRSI) model suggest that crop production this year will be lower than last year. However, the overall crop production at national level would be enough for domestic consumption and surplus. However, due to prolonged dry spells household food shortages are expected in some districts in southern Malawi particularly in Chikhwawa and Nsanje where some farmers are not expected to harvest anything from the rain-fed crop.

## 3. RAINFALL PROSPECTS FOR JANUARY TO MARCH 2010

Most dynamical and statistical Climate models continue to project that Malawi will receive normal to above normal rainfall amounts during the period January to March 2010.

## 4. OUTLOOK FOR 21 – 31 MARCH 2010

Medium range model projections suggest that easterly waves will influence weather over Malawi. As a result expect light to moderate rainfall that will be locally heavy over Malawi during 21 to 31 March 2010.

TABLE 1: DEKADAL RAINFALL SUMMARY FOR 11 – 20 MARCH 2010 AT SELECTED STATIONS

	DEKADAL	DEKADAL	RAINFALL	TOTAL	NORMAL	RAINFALL	RAINY
STATION NAME	TOTAL	NORMAL	DEKADAL	TO	TO	TOTAL	DAYS
	RAINFALL	RAINFALL	TOTAL	DATE	DATE	TODATE	
SOUTHERN REGION	(mm)	(mm)	(%)	(mm)	(mm)	(%)	≥ 0.3 mm
Balaka Township	23.0	40.2	57	374.0	776.7	48	1
Bvumbwe Met.	36.3	54.2	67	892.7	958.2	93	3
Chichiri Met.	45.7	16.1	284	1049.9	1013.2	104	2
Chikweo Agric.	18.6	67.3	28	761.3	945.3	81	4
Chileka Airport	22.8	45.8	50	667.2	782.4	85	2
Chingale Agric	16.0	52	31	697.6	833.1	84	1
Chiradzulu Agric	24.5	38.1	64	772.8	875	88	5
Chizunga Factory	3.0	84.5	4	995.0	1131.8	88	2
Kasinthula Res. Stn.	0.0	29.6	0	818.7	646	127	0
Liwonde Township	0.0	41.5	0	546.2	728.3	75	0
Lujeri Tea Estate	34.3	146.5	23	1298.7	1612.8	81	2
Mpilipili (Makanjila)	46.7	39.6	118	616.7	810.5	76	2
Makoka Met	11.4	46.7	24	802.6	871.8	92	4
Mangochi Met.	0.0	44.1	0	713.1	630.1	113	0
Mimosa Met.	14.2	89	16	846.8	1186.7	71	1
Monkey Bay Met.	51.6	16.3	317	864.1	538.2	161	3
Namwera Agric	78.4	69.3	113	806.9	920.5	88	4
Neno Agric	10.0	46.9	21	687.6	968.5	71	2
Ngabu Met.	8.2	37.3	22	459.3	669.7	69	2
Ntaja Met.	37.2	44.6	83	574.0	778.6	74	2
Phalula Agric	3.5	37	9	543.0	757.6	72	1
Thuchila Agric	17.0	37.9	45	548.2	774.9	71	2
Thyolo Met	6.8	58.6	12	898.2	1050.8	85	3
Zomba R.T.C	41.0	73.9	55	1148.6	1053.6	109	2
<b>CENTRAL REGION</b>							
Chileka Namitete	47.0	44.6	105	681.8	827	82	4
Chitedze Met.	55.3	51.1	108	835.5	788.1	106	5
Dedza Met	77.4	42.7	181	872.3	842.6	104	6
Dowa Agric	77.5	45.4	171	806.1	794.1	102	6
Dwangwa Sugar Corp.	96.2	91.8	105	819.2	992.3	83	6
Kaluluma DTC	85.8	50.3	171	734.3	736.9	100	7
K.I.A Met	48.2	41.8	115	642.5	763.5	84	5
Kasiya Agric	121.3	38.9	312	1155.2	873	132	4
Kasungu Met	68.5	38.7	177	754.3	712.1	106	4
Lifuwu	123.1	78.7	156	1122.4	1057.2	106	5
Malomo Agric	36.0	46.7	77	668.6	761.3	88	4
Mchinji Boma	60.4	46.7	129	946.4	898	105	5
Mponela Agric	232.0	35.1	661	935.0	739.5	126	6
Nathenje Agric	36.5	39.1	93	1022.0	757.8	135	4
Nkhotakota Met	22.2	113.7	20	1210.6	1102.1	110	2
Ntcheu - Nkhande	54.4	50.4	108	913.9	947	97	4
Ntchisi Boma	26.2	82.4	32	614.9	1074.1	57	2
Salima Met	119.2	85.6	139	986.1	1051.8	94	6
Dedza RTC	136.6	49.2	278	923.7	900.7	103	5
<b>NORTHERN REGION</b>							
Bolero Met	99.1	27.9	355	597.4	566.3	105	7
Chitipa Met	39.0	66.1	59	985.0	827.7	119	4
Karonga Met.	106.1	78.9	134	612.1	693.7	88	6
Mbawa Res. Stn	62.8	40.4	155	850.1	729.3	117	4
Mzimba Met	17.8	41.7	43	547.7	790.6	69	4
Mzuzu Met.	11.2	58.2	19	906.3	775.3	117	9
NkhataBay Met.	75.8	96.7	78	861.9	915.9	94	7
Zombwe Agric	33.3	35.5	94	600.2	624.2	96	4

**TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 11 – 20 MARCH 2010**

STATION	MAX TEMP (°C)	MIN TEMP (°C)	ABS MAX (°C)	ABS MIN (°C)	WIND SPEED (m/s)	RELATIVE HUMIDITY (%)
BOLERO	27.8	18.6	31.0	16.3	N/A	71
BVUMBWE	26.1	17.8	28.0	16.3	1.7	79
CHICHIRI	27.1	20.3	29.0	17.6	0.8	75
CHILEKA	29.3	20.6	30.7	19.0	2.3	75
CHITEDZE	28.0	18.9	29.6	18.4	0.6	80
CHITIPA	27.7	18.2	29.9	17.6	0.6	81
DEDZA	24.6	16.1	26.9	14.8	0.7	81
K I A	27.3	17.7	29.1	16.3	1.2	78
KARONGA	30.4	22.5	31.8	21.0	0.6	78
KASUNGU	28.9	19.6	30.3	18.4	0.9	78
MAKOKA	28.3	18.1	30.5	17.4	0.9	78
MANGOCHI	N/A	23.0	N/A	22.0	1.2	74
MIMOSA	30.0	17.5	32.4	18.5	1.0	66
MONKEY BAY	30.5	22.9	32.5	22.2	1.2	77
MZIMBA	29.6	17.3	29.6	16.2	0.7	80
MZUZU	26.7	17.6	28.5	15.0	1.0	84
NGABU	34.8	23.4	36.1	22.4	1.9	66
NKHATA BAY	30.8	21.4	32.2	19.8	0.5	84
NKHOTAKOTA	29.0	22.2	30.2	21.6	N/A	79
NTAJA	27.8	21.6	31.7	21.0	1.2	77
SALIMA	29.6	22.4	31.6	20.7	1.4	80

**Glossary of some terms on this table**

- 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 (m/s) to Kilometers per hour (Km/h) = m/s x 3.6