



# Malawi 10-Day Rainfall & Agrometeorological Bulletin

Department of Climate Change and Meteorological Services



Period: 21 – 31 March 2010

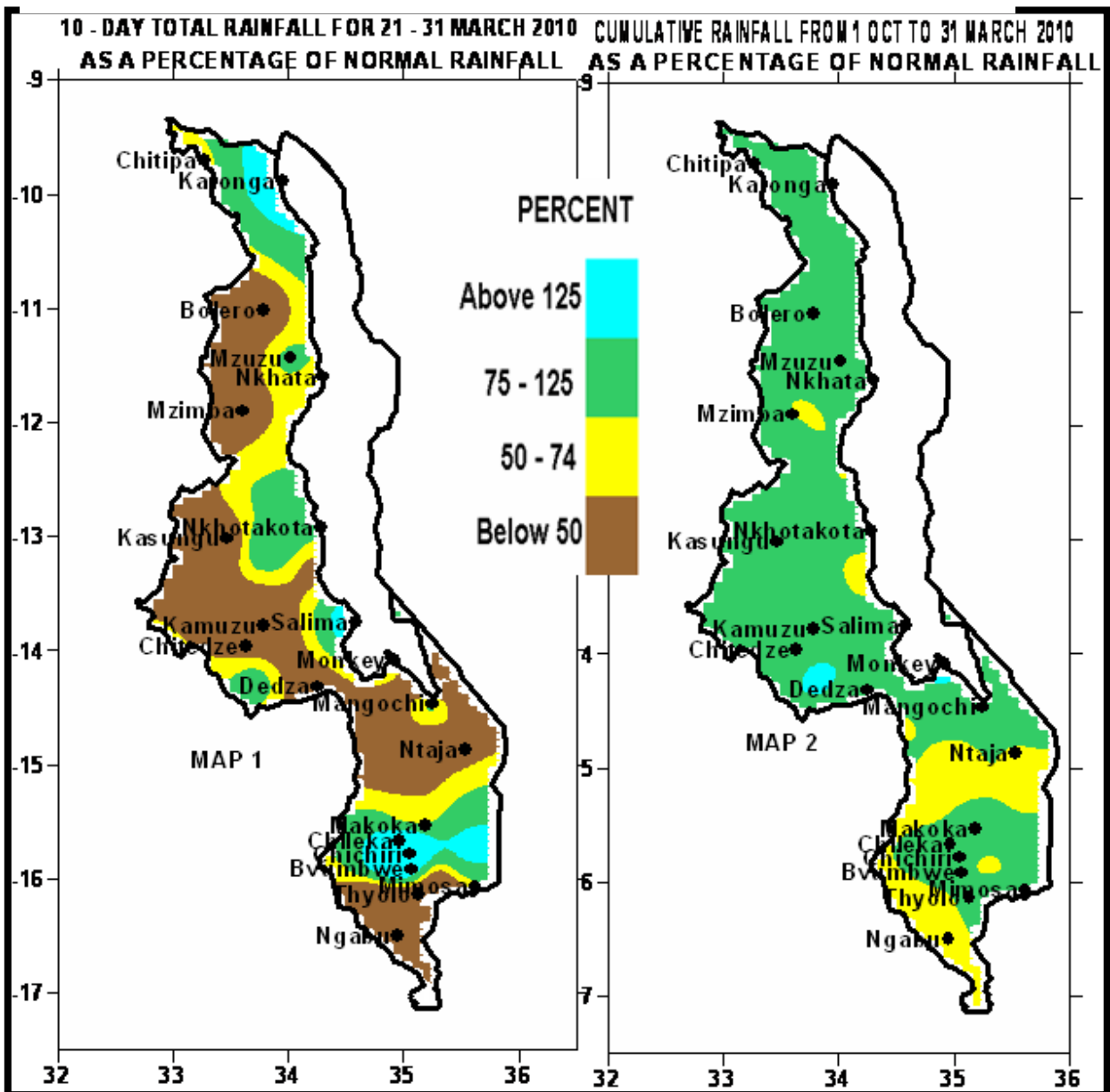
Season: 2009/2010

Issue No.18

Release date: 3<sup>rd</sup> April 2010

## HIGHLIGHTS

- Dry weather returned to most areas of Malawi...
- Dry weather facilitated harvesting and drying of matured crops...
- Improved rainfall performance expected during 1 – 10<sup>th</sup> April 2010 ...



## 1. WEATHER SUMMARY

### 1.1 RAINFALL SITUATION

During the last ten days of March 2010, generally most parts of Malawi became dry. Isolated areas that received rainfall exceeding 140mm in the south included Mpemba (194mm) in Blantyre, Salima (141mm) in the centre and Karonga Met (222mm) in the north. Otherwise, below average rainfall (yellow and brown colours on Map 1) was recorded in most parts Malawi.

Cumulative rainfall performance as at 31<sup>st</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, pockets of rainfall deficits still existed in some parts of Southern Malawi especially in Chikhwawa and Nsanje districts

### 1.2 MEAN AIR TEMPERATURE

Warm to hot temperatures 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. In absence of data from Ngabu, the highest daily maximum temperature was recorded at Monkey Bay (33°C) in Mangochi district. On the other hand, lowest daily minimum temperature was reported at Kamuzu International Airport (15.5°C). (See Table 2 for more details).

### 1.4 MEAN WIND SPEEDS

Low mean wind speeds prevailed over Malawi during the last days of March 2010. The lowest mean wind speed was 0.6m/s (2.2 Km/h), reported at Nkhata Bay while the highest wind speed was 2.5 m/s (9.0 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 relative humidity value was 81% reported at Mzuzu and Bvumbwe while the lowest mean relative humidity value of 53% was reported at Mimosa in Mulanje. (Table 2).

## 2. AGROMETEOROLOGICAL ASSESSMENT

Dry conditions that were experienced in the last ten days of March facilitated drying and harvesting of matured crops. In most parts of Malawi crops have reached maturing and drying stages and more sunshine is needed. However, there is a small proportion of the crop that was replanted after the dry spell that especially in southern Malawi that still needs moisture for it to reach full maturity. The improvement in rainfall performance in during the first ten days of April would support growth and development of root and tuber crops as well as replenish water resources. On the other hand, more rains would hinder harvesting of matured crops and increase field losses.

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 reasonable surplus. Household food shortages are expected in some districts which were worst hit by dry prolonged spells particularly in Chikhwawa and Nsanje where some farmers are not expected to harvest anything from the rain-fed crop.

## 3. RAINFALL PROSPECTS FOR APRIL TO JUNE 2010

As the main rainfall season comes to an end, Easterly waves are expected to maintain locally heavy rains in some parts of Malawi especially during the better part of April before incursions of cool and moisture air bring chiperoni weather over the country. Therefore, expect light to moderate rainfall to persist particularly over highlands and along the lakeshore districts during May and June 2010.

## 4. OUTLOOK FOR 01 – 10 April 2010

Medium range model projections suggest that easterly waves will influence weather over Malawi. Therefore expect an improvement in rainfall distribution and amounts during the first ten days of April 2010.

**TABLE 1: DEKADAL RAINFALL SUMMARY FOR 21 – 31 MARCH 2010 AT SELECTED STATIONS**

STATION NAME	DEKADAL TOTAL RAINFALL (mm)	DEKADAL NORMAL RAINFALL (mm)	RAINFALL DEKADAL TOTAL (%)	TOTAL TO DATE (mm)	NORMAL TO DATE (mm)	RAINFALL TOTAL TODATE (%)	RAINY DAYS ≥ 0.3 mm
<b>SOUTHERN REGION</b>							
Balaka Township	6.0	32.8	18	380.0	809.5	47	1
Bvumbwe Met.	8.6	57.9	15	901.3	1016.1	89	3
Chichiri Met.	58.4	15.3	382	1108.3	1028.5	108	6
Chikwawa Boma	14.0	33.9	41	510.7	714.0	72	1
Chileka Airport	62.4	44.5	140	729.6	826.9	88	4
Kasinthula	0.0	21.2	0	818.7	667.2	123	0
Lujeri Tea Estate	98.5	131.2	75	1397.2	1744.0	80	7
Makoka Met	22.6	32.5	70	825.2	904.3	91	4
Mangochi Met.	25.3	33.2	76	738.4	663.3	111	4
Mimosa Met.	40.9	81.3	50	887.7	1268.0	70	5
Monkey Bay Met.	9.5	13.4	71	873.6	551.6	158	3
Mpemba Vet	193.8	52.1	372	1235.8	1040.5	119	9
Namiasi Agric	0.0	23.5	0	550.2	733.0	75	0
Naminjiwa Agric	60.5	36.5	166	738.9	910.1	81	5
Nchalo Sucoma	0.0	26.6	0	406.9	605.4	67	0
Ngabu Met.	4.0	35.1	11	463.3	704.8	66	1
Ntaja Met.	17.5	48.6	36	591.5	827.2	72	4
Thyolo Met	11.6	56.3	21	909.8	1107.1	82	3
<b>CENTRAL REGION</b>							
Chitedze Met.	7.2	41.6	17	842.7	829.7	102	1
Dedza Met	2.2	36.6	6	874.5	879.2	99	1
K.I.A Met	0.6	47.3	1	643.1	810.8	79	1
Kasungu Met	1.7	31.1	5	756.0	743.2	102	2
Malomo Agric	40.4	30.8	131	709.0	792.1	90	4
Mchinji Boma	28.6	50.6	57	975.0	948.6	103	6
Mponela Agric	9.0	27.9	32	944.0	767.4	123	3
Mtakataka Airwing	37.0	36.0	103	1023.0	763.5	134	8
Nathenje Agric	12.0	38.5	31	1034.0	796.3	130	2
Nkhotakota Met	81.4	142.5	57	1292.0	1244.6	104	5
Ntchisi Boma	14.3	67.5	21	629.2	1141.6	55	2
Salima Met	141.0	71.6	197	1127.1	1123.4	100	10
<b>NORTHERN REGION</b>							
Bolero Met	1.9	29.6	6	599.3	595.9	101	2
Chitipa Met	31.5	52.8	60	1016.5	880.5	115	3
Emfeni Agric	23.0	31.1	74	462.8	749.0	62	3
Karonga Met.	222.2	114.0	195	834.3	807.7	103	0
Mzimba Met	12.2	48.2	25	559.9	838.8	67	1
Mzuzu Met.	90.7	100.9	90	997.0	876.2	114	7
NkhataBay Met.	89.9	167.0	54	951.8	1082.9	88	7

**TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 21 – 31 MARCH 2010**

STATION	MAX TEMP (°C)	MIN TEMP (°C)	ABS MAX (°C)	ABS MIN (°C)	WIND SPEED (m/s)	RELATIVE HUMIDITY (%)
BOLERO	28.9	17.8	29.7	16.3	N/A	72
BVUMBWE	26.7	18.3	28.5	16.6	1.9	81
CHICHIRI	27.5	19.1	29.5	18.0	0.8	75
CHILEKA	29.4	21.1	32.0	19.6	2.5	75
CHITIPA	27.0	18.3	28.1	17.8	2.0	75
DEDZA	24.8	16.9	26.8	16.0	1.2	78
K I A	26.9	17.4	27.8	15.5	1.8	76
KARONGA	31.0	22.1	33.0	21.5	0.9	74
KASUNGU	28.4	18.7	29.9	17.5	1.3	77
MAKOKA	28.7	19.3	30.6	17.5	1.1	77
MANGOCHI	N/A	23.0	N/A	21.9	0.9	66
MIMOSA	31.6	12.9	33.6	19.0	1.0	53
MONKEY BAY	31.5	23.3	32.5	22.2	1.2	71
MZIMBA	27.6	17.7	28.6	16.1	0.9	77
MZUZU	25.4	17.4	26.4	16.0	1.4	81
NKHATA BAY	31.1	21.3	32.2	20.0	0.6	80
NTAJA	30.6	21.9	31.6	21.0	1.3	75
SALIMA	30.0	22.5	31.1	21.7	1.2	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