Malawi 10-Day Rainfall & Agrometeorological Bulletin

Department of Climate Change and Meteorological Services

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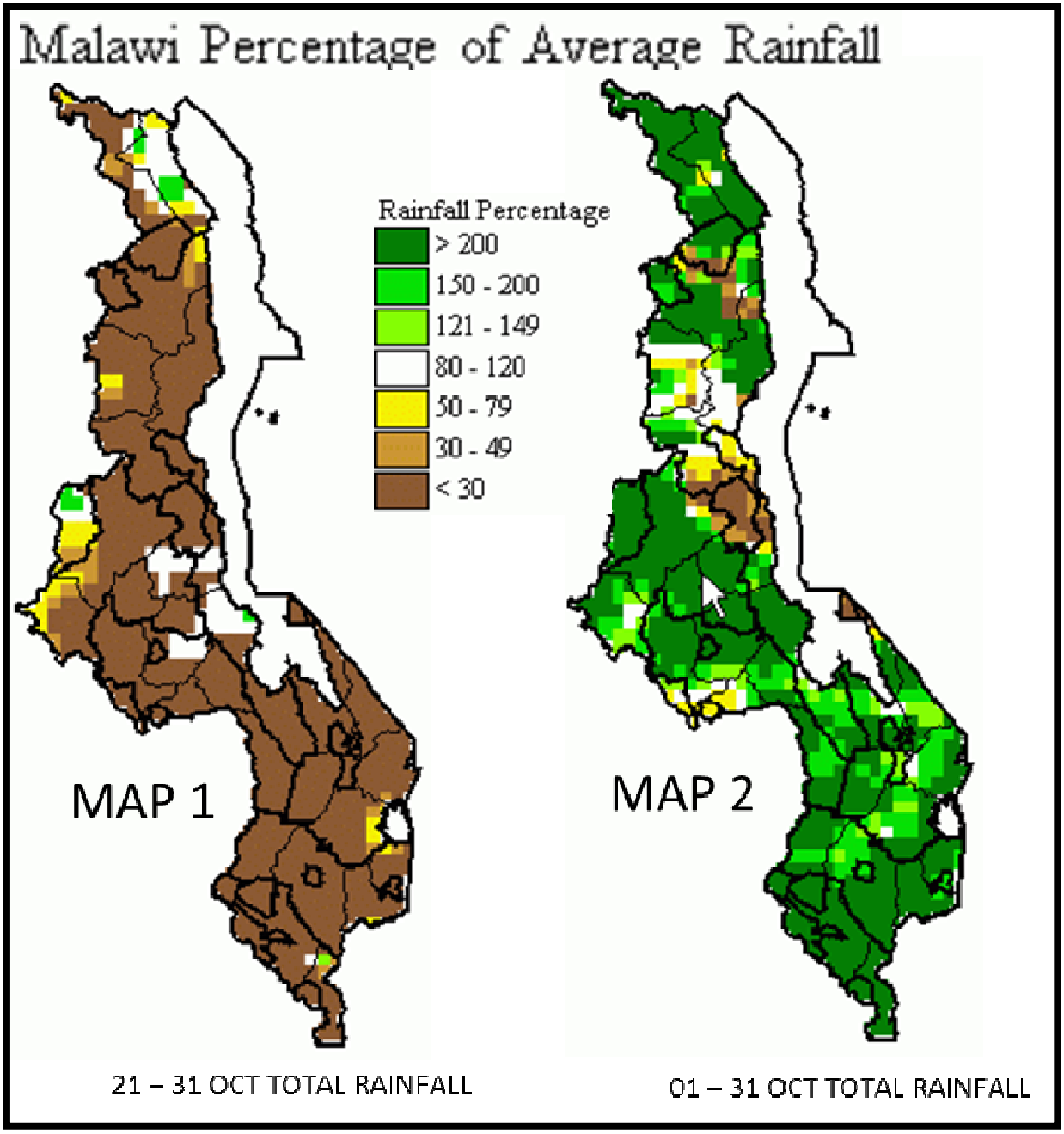
HIGHLIGHTS

- *Hot and dry weather prevailed over Malawi during 21 – 31 October 2011…*
- *Land preparation and procurement of farm inputs were major agricultural activities …*
- *Rainfall distribution and amounts expected to improve during 01 – 10 November 2011…*



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1.1 RAINFALL SITUATION

In the last ten days of October 2011, most parts of Malawi experienced dry weather resulting in most areas registering much below average rainfall situation (Brown colour in Map 1). Rainfall was experienced over very few isolated places. Throughout the period under review places which reported cumulative ten day rainfall amounts of above 10mm included Mulanje Boma (26mm), Lujeri Tea Estate in Mulanje (18mm) and Masambanjati Agric in Thyolo (15mm).

Sporadic rains are expected to persist over Malawi until major rain bearing systems get established over the country, normally between mid-November and December. So far during the month of October 2011 most parts of Malawi have received pre-rains that are locally referred to as Chizimalupsya and locally heavy rainfall amounts have been registered throughout the country causing cumulative rainfall picture to be much above average (Green areas in Map 2). For more details see Table 1.

1.2 MEAN AIR TEMPERATURE

Mean Air temperatures were hot to very hot over most areas during the last ten days of Octber 2011. The mean temperatures for most areas were above 35°C. The absolute maximum temperatures for Ngabu went as high as 44°C which was very close to 45°C - highest ever recored on 24 November 2011 at Ngabu. Overall, mean daily maximum temperatures for the period ranged between 31°C at Mzuzu and Chitipa to 42°C at Mangochi while mean minimum temperatures ranged from around 14°C at Mzuzu to around 25°C at Mangochi. For more details see Table 2.

1.4 MEAN WIND SPEEDS

Mean wind speeds recorded at a height of two metres above the ground level across the country ranged from 0.8 to 3.5 metres per second or 2.9 – 12.6 Km/hr (see table 2). The highest wind speeds were reported at Chileka (3.5 m/s).

1.5 MEAN RELATIVE HUMIDITY

During the last ten days of October 2011, air over Malawi became drier than the previous ten day period. Daily average relative humidity values were as low as 32% at Ntaja. The highest daily average was 51%, recorded at Ngabu. Details are on the Table 1.

1.6 MEAN SUNSHINE HOURS

Long hours of bright sunshine were observed over Malawi during the last ten days of October 2011. Mean daily sunshine duration values across the country ranged from 10.5 hours per day at Chitipa to 12.2 hours per day at Mangochi as shown in Table 2

2. AGROMETEOROLOGICAL ASSESSMENT

The last ten days of October 2011 have been drier than the first twenty days of the month. The rains which were received during early October apart from inspiring farmers to speed up land preparations, had improved water resources and soil moisture reserves. These rains also triggered germination of pasture and regeneration of the natural vegetation which in turn improved the availability of livestock feed. In southern highlands including some parts of Zomba, Mulanje and Blantyre districts some farmers had planted maize on very small scale and the crop was reported to be at vegetative stage. However, this crop was being threatened by very hot and dry weather which were depleting very fast the available soil moisture reserves.

The major agricultural activities during the period under review included implementation of government Farm Input Subsidy Program (FISP) and land preparation in readiness for the establishment of the main rain bearing systems for Malawi. Reports also suggested that the fuel crisis which has rocked the country has negatively impacted on the implementation of Farm Input Subsidy Program and this could lead to low agricultural production during 2011/2012 season.

3. PROSPECTS FOR 2011/12 RAINFALL SEASON

***"Normal total rainfall amounts are expected over most parts of Malawi* from October 2011 to March 2012**". The rainfall forecast indicates that from October to December 2011, the northern half of the country will receive normal to above normal total rainfall amounts while the southern half will experience normal to below normal total rainfall amounts. The greater part of the country will experience normal to above normal total rainfall amounts during January to March 2012.

This forecast is relevant only to seasonal time-scales and relatively large areas. It does not fully account for local and month to month variations in distribution of rainfall such as localised dry spells and flash floods.

The seasonal forecast is used as a planning tool. For day to day operations, users are advised to make use of the available short and medium range forecasts and the 10-day Rainfall and Agrometeorological bulletin.

4. OUTLOOK 01 – 10 NOVEMBER 2011

Meanwhile short to medium range weather forecast models indicate that the main rain belt is likely to get established over Malawi within the first ten days of November 2011. Hence rainfall distribution and amounts are likely to improve during the first ten days of November 2011.

TABLE 1: DEKADAL RAINFALL SUMMARY FOR 21 – 31 OCTOBER 2011 AT SELECTED STATIONS

STATION NAME	DEKADAL TOTAL RAINFALL	DEKADAL NORMAL	DEKADAL TOTAL AS %	TOTAL TO DATE	NORMAL TO DATE	TOTAL TO DATE AS %	RAINY DAYS
SOUTHERN REGION	mm	mm	NORMAL	mm	mm	NORMAL	≥ 0.3mm
Balaka Township	0.0	16.0	**0**	10.5	27.3	**38**	0
Bvumbwe Met.	0.0	17.2	**0**	61.4	30.0	**205**	0
Chichiri Met.	0.0	39.1	**0**	74.0	97.0	**76**	0
Chileka Airport	0.0	16.5	**0**	25.0	28.8	**87**	0
Chingale Agric	0.0	6.5	**0**	64.8	14.6	**444**	0
Mpilipili (Makanjila)	0.0	11.5	**0**	0.0	19.2	**0**	0
Makoka Met	0.0	12.8	**0**	102.1	24.5	**417**	0
Mangochi Met.	0.0	6.0	**0**	5.6	13.9	**40**	0
Masambanjati Agric	14.7	15.9	**92**	61.4	37.2	**165**	2
Mimosa Met.	7.7	32.3	**24**	90.5	62.0	**146**	1
Monkey Bay Met.	0.0	2.6	**0**	0.0	4.1	**0**	0
Mpemba Vet	3.4	19.6	**17**	25.1	37.7	**67**	1
Mulanje Boma	25.7	62.2	**41**	85.8	123.6	**69**	1
Mwanza Boma	0.0	22.9	**0**	32.2	44.7	**72**	0
Namiasi Agric	0.0	1.6	**0**	0.0	6.5	**0**	0
Namwera Agric	0.0	8.4	**0**	11.1	12.3	**90**	0
Nchalo Sucoma	0.0	9.7	**0**	0.0	16.4	**0**	0
Ngabu Met.	0.0	13.5	**0**	45.7	23.3	**196**	0
Nsanje Boma	0.0	32.1	**0**	31.6	52.8	**60**	0
Ntaja Met.	0.0	7.9	**0**	17.6	13.1	**134**	0
Phalula Agric	0.0	14.3	**0**	18.3	27.6	**66**	0
Satemwa Tea Est.	1.5	21.0	**7**	1.5	36.4	**4**	1
Thuchila Agric	0.0	11.0	**0**	0.0	29.1	**0**	0
Thyolo Boma	0.0	14.7	**0**	2.0	35.9	**6**	0
Thyolo Met	3.3	18.2	**18**	49.6	38.9	**128**	1
Zomba R.T.C	0.0	13.3	**0**	51.1	24.7	**207**	0
CENTRAL REGION							
Chileka Namitete	0.0	10.0	**0**	0.0	14.8	**0**	0
Chitedze Met.	0.0	7.9	**0**	11.0	12.3	**89**	0
Dedza Met	0.0	4.6	**0**	65.4	11.0	**595**	0
Dowa Agric	0.0	4.8	**0**	1.8	7.0	**26**	0
Dwangwa.	0.0	3.9	**0**	0.0	8.6	**0**	0
Dzonzi Forest	0.0	8.2	**0**	46.0	22.0	**209**	0
K.I.A Met	0.0	8.2	**0**	21.1	11.0	**192**	0
Kasiya Agric	0.0	8.7	**0**	42.2	23.4	**180**	0
Kasungu Met	0.0	5.4	**0**	4.2	6.7	**63**	0
Lifuwu	0.0	1.4	**0**	0.0	3.2	**0**	0
Malomo Agric	0.0	1.6	**0**	0.0	3.6	**0**	0
Madisi Agric	0.0	4.4	**0**	3.9	5.9	**66**	0
Mtakataka Airwing	0.0	6.8	**0**	0.0	9.2	**0**	0
Nkhotakota Met	0.0	3.5	**0**	3.1	6.3	**49**	0
Ntcheu - Nkhande	0.0	11.9	**0**	0.0	22.4	**0**	0
Ntchisi Boma	0.0	2.4	**0**	0.0	5.6	**0**	0
Salima Met	0.0	2.7	**0**	0.1	7.4	**1**	0
Dedza RTC	0.0	15.4	**0**	0.0	28.5	**0**	0
NORTHERN REGION							
Baka Res. Stn.	0.0	0.6	**0**	0.0	1.4	**0**	0
Bolero Met	0.0	4.0	**0**	10.6	6.1	**174**	0
Bwengu Agric.	0.0	2.9	**0**	7.2	8.7	**83**	0
Chitipa Met	0.0	3.6	**0**	1.0	4.6	**22**	0
Chintheche Agric	0.0	9.0	**0**	30.0	15.7	**191**	0
Emfeni Agric	0.0	0.2	**0**	0.0	1.0	**0**	0
Karonga Met.	0.0	1.3	**0**	0.0	1.8	**0**	0
Lupembe	0.0	1.1	**0**	2.0	1.6	**125**	0
Mbawa Res. Stn	0.0	8.5	**0**	9.6	10.8	**89**	0
Mzimba Met	0.0	3.6	**0**	7.5	5.2	**144**	0
Mzuzu Met.	0.0	10.7	**0**	166.7	36.1	**462**	0
NkhataBay Met.	0.0	5.2	**0**	41.2	13.9	**296**	0
Rumphi Boma	0.0	1.0	**0**	0.0	3.2	**0**	0

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 21 – 31 OCTOBER 2011

STATION	MAX TEMP (°C)	MIN TEMP (°C)	ABS MAX (°C)	ABS MIN (°C)	WIND SPEED m/s	RH %	SUN SHINE HOURS	Eo mm per day	Et mm per day	RAD-TION cal cm^{-2} p/day
BOLERO	35.0	20.3	36.9	16.2	N/A	33	N/A	N/A	N/A	N/A
BVUMBWE	32.5	19.7	34.9	16.4	1.9	46	11.0	8.5	6.7	11.4
CHICHIRI	33.1	20.8	34.6	17.5	1.0	50	N/A	N/A	N/A	N/A
CHILEKA	36.5	23.3	38.7	24.0	3.5	37	11.0	10.0	8.2	11.4
CHITEDZE	34.5	18.3	35.8	16.8	1.2	35	11.5	8.3	6.5	11.9
CHITIPA	30.5	18.1	35.7	18.5	3.0	33	10.5	8.5	6.8	11.2
K I A	32.7	17.7	33.9	15.0	1.9	32	11.3	8.3	6.5	11.7
KARONGA	35.1	22.5	38.0	21.5	1.4	43	10.9	8.9	7.0	11.5
KASUNGU	35.0	19.2	36.2	17.4	3.1	43	N/A	N/A	N/A	N/A
MAKOKA	33.3	20.4	34.7	19.3	1.2	43	N/A	N/A	N/A	N/A
MANGOCHI	41.7	24.8	39.9	20.0	1.8	42	12.2	10.5	8.5	12.3
MIMOSA	35.6	18.6	37.6	16.7	1.1	49	7.7	7.3	5.9	9.3
MONKEY BAY	37.1	23.4	38.5	22.0	1.8	39	11.4	9.5	7.6	11.8
MZIMBA	32.6	18.4	35.0	14.9	1.5	34	11.2	8.2	6.4	11.8
MZUZU	30.6	13.8	32.1	10.6	1.4	43	11.7	7.8	6.0	12.1
NGABU	41.4	23.7	43.9	22.3	3.1	51	N/A	N/A	N/A	N/A
NKHATA BAY	36.6	17.4	38.1	15.1	0.8	50	10.8	8.3	6.5	11.4
NKHOTAKOTA	35.7	22.4	37.1	21.0	2.1	37	10.9	9.3	7.5	11.5
NTAJA	36.7	22.3	38.2	20.7	2.3	32	N/A	N/A	N/A	N/A
SALIMA	37.2	23.3	38.5	22.5	1.6	42	N/A	N/A	N/A	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) = mpsx3.6