Malawi 10-Day Rainfall & Agrometeorological Bulletin

Department of Climate Change and Meteorological Services

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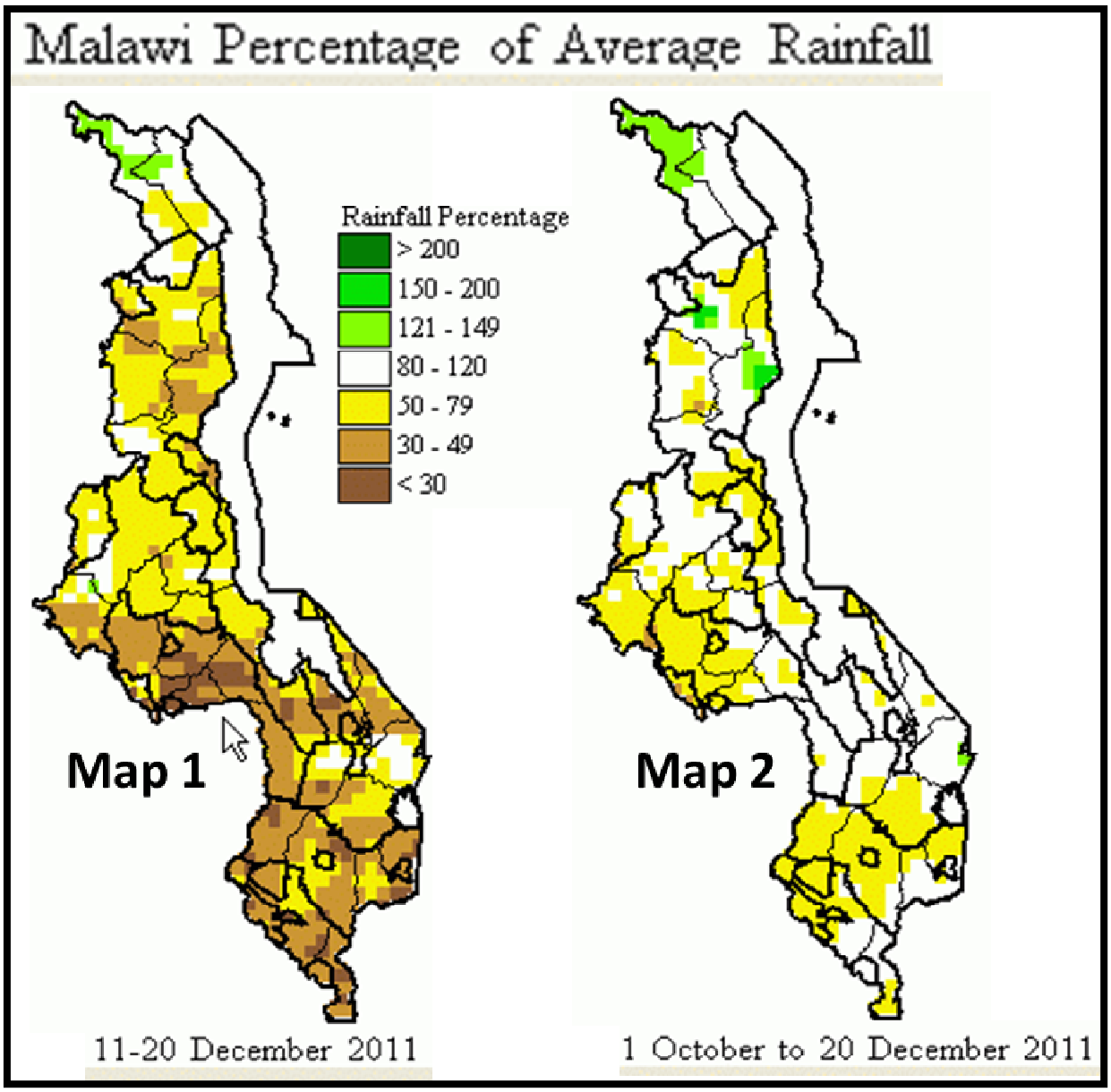
HIGHLIGHTS

- *Poor and erratic rains persisted over Malawi during 11 to 20 December 2011…*
- *Erratic rains result in wide variations in crop development stages…*
- *Poor and erratic rains to persist over Malawi during the period 21 to 31 December 2011 …*



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1.1 RAINFALL SITUATION

During the period 11 to 20 December 2011, most parts of Malawi received below average rainfall except for the extreme northern areas (**light green colour on Map 1**) where rains were well distributed in both time and space. Central and southern Malawi stayed largely dry with some areas reporting little or nil rainfall throughout the entire period. Cumulative rainfall 10-day rainfall amounts for the period have been far below average at most places (**Brown colour in Map 1**). Very few areas reported significant rainfall amounts of more than 100mm and such areas included Nkhotakota Met 216mm, Mangochi Met 148mm, and Chitipa Met 126mm.

The percentage of average rainfall situation map 2 indicates that most areas in Malawi have received 80 percent (80%) of the expected rainfall for the period starting from 1st October to 20 December 2011. However, pockets of completely dry areas have persisted particularly over the southern half of Malawi. For more details see Map 2 and Table 1.

1.2 MEAN AIR TEMPERATURE

Malawi continued to experience hot to very hot air temperatures over most areas during the second ten days of December 2011. Daily average maximum temperatures for most areas were above 28°C except over high altitude areas like Dedza, Chitipa, Mzimba and Mzuzu. The highest absolute maximum temperature was 41°C which was registered at Ngabu on 13th December. Overall, the average daily maximum temperatures ranged from 26°C at Dedza to 36°C at Ngabu while average minimum temperatures ranged from 16°C at Dedza to around 24°C at Monkey Bay . For more details see Table 2.

1.4 MEAN WIND SPEEDS

Average wind speeds recorded at a height of two metres above the ground level ranged from 0.8 to 3.1 metres per second or 1.4 – 11.2 Km/hour (see details on Table 2). The highest wind speeds was reported at Chileka Met (3.1 m/s).

1.5 MEAN RELATIVE HUMIDITY

Relatively moist air prevailed over Malawi during the period 11 to 20 December 2011. Daily average relative humidity values ranged from 53% at Chileka Airport in Blantyre to 86% at Dedza. More details are on the Table 2.

1.6 MEAN SUNSHINE HOURS

Malawi experienced mostly cloudy skies during the period under review. Daily average sunshine hours ranged from 3.8 at Mzimba Met to 7.4 at Bvumbwe Met station as shown in Table 2

2. AGROMETEOROLOGICAL ASSESSMENT

During the period 11 to 20 December 2011, most areas in Malawi experienced rains that were poorly distributed in both time and space. Rains were slightly better in the north where some areas experienced up to seven rainfall days. Central and Southern Malawi continued to experience erratic rainfall pattern which resulted in far below average rainfall situation. Hot and dry weather resulted in fast depletion of soil moisture reserves and wilting was observed in some field crops. Poor and erratic rains have resulted poor establishment and wide variation of crop development stages. Outbreaks of Armyworms have been reported in some districts in Malawi including Balaka, Machinga, Kasungu, Kasungu, Salima, Nkhotakota and Chitipa and the Ministry of Agriculure, Irrigation and water Development has produced an alert to the farming communities and the general public in Malawi on the likelihood of more outbreaks due to the prevailing weather conditions.

The major agricultural activities during the period under review still included land preparation, planting of crops, weeding and fertilizer application except where extremely dry conditions were experienced.

3. PROSPECTS FOR 2011/12 RAINFALL SEASON

***"Normal total rainfall amounts are expected over most parts of Malawi* at the end of 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.

4. OUTLOOK FOR 21 – 31 DECEMBER 2011

Meanwhile medium range weather forecasts indicate that the main rain bearing systems will remain weak over Malawi during the last ten days of December 2011. Therefore poor and erratic rains will persist over Malawi during the period 21 to 31 December 2011.

TABLE 1: DEKADAL RAINFALL SUMMARY FOR 11 – 20 DECEMBER 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
Bvumbwe Met.	34.0	66.6	51	149.8	274.4	55	5
Chichiri Met.	88.7	89.9	99	227.8	473.6	48	6
Chileka Airport	82.6	50.6	163	233.8	227.0	103	4
Chingale Agric	33.7	73.5	46	199.1	223.6	89	2
Makoka Met	63.0	60.5	104	273.6	225.1	122	2
Mangochi Met.	147.5	41.2	358	326.3	117.3	278	4
Masambanjati Agric	70.6	88.4	80	201.9	316.2	64	3
Mimosa Met.	57.6	82.5	70	398.0	387.5	103	2
Monkey Bay Met.	33.5	46.3	72	307.8	96.9	318	5
Mpemba Vet	18.0	74.4	24	171.4	292.0	59	2
Namwera Agric	42.8	61.5	70	102.1	222.9	46	3
Neno Agric	81.0	66.1	123	207.4	247.3	84	3
Ngabu Met.	97.8	52.8	185	160.8	190.0	85	4
Ntaja Met.	74.4	64.1	116	195.1	189.9	103	6
Thuchila Agric	77.1	53.2	145	167.9	199.6	84	2
Thyolo Met	70.1	71.6	98	214.2	282.1	76	3
CENTRAL REGION							
Chitedze Met.	24.8	51.6	48	115.4	181.6	64	5
Dedza Met	86.8	65.2	133	400.1	185.1	216	5
Dwangwa Sugar Corp.	35.5	78.7	45	158.5	247.5	64	3
K.I.A Met	66.5	52.2	127	214.5	150.6	142	5
Kasungu Met	58.4	58.8	99	122.4	157.8	78	5
Nkhotakota Met	216.2	88.0	246	329.3	220.1	150	4
Ntchisi Boma	18.0	90.9	20	48.7	231.4	21	1
Salima Met	10.8	80.8	13	72.0	185.5	39	3
NORTHERN REGION							
Baka Res. Stn.	57.8	85.0	68	172.5	182.3	95	1
Bolero Met	23.5	45.7	51	46.2	117.2	39	3
Chitipa Met	126.5	62.3	203	350.1	180.7	194	6
Chintheche Agric	45.8	81.7	56	164.5	286.5	57	1
Karonga Met.	70.7	63.3	112	196.3	150.4	131	6
Mbawa Res. Stn	29.2	71.4	41	112.3	170.9	66	2
Mzimba Met	31.9	63.1	51	125.4	174.3	72	7
Mzuzu Met.	34.6	55.1	63	295.8	208.1	142	6
NkhataBay Met.	70.2	67.9	103	409.0	243.3	168	7
Vinthukutu Agric	45.6	68.0	67	181.2	178.4	102	2

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 11 – 20 DECEMBER 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	29.6	19.4	33.1	18.9	N/A	72	N/A	N/A	N/A	N/A
BVUMBWE	28.0	17.9	32.1	14.0	1.7	66	7.4	6.8	5.4	9.4
CHICHIRI	28.4	18.4	33.0	15.1	0.9	70	N/A	N/A	N/A	N/A
CHILEKA	30.8	21.5	35.9	17.9	3.1	53	N/A	N/A	N/A	N/A
CHITEDZE	28.6	18.7	31.7	16.4	0.8	69	N/A	N/A	N/A	N/A
CHITIPA	27.0	17.8	27.8	17.1	1.1	69	4.1	5.3	4.3	7.1
DEDZA	25.5	16.1	26.9	14.8	1.0	86	N/A	N/A	N/A	N/A
K I A	27.6	17.0	30.7	15.5	1.5	70	5.8	6.0	4.8	8.4
KARONGA	30.4	22.0	32.3	21.2	1.2	72	N/A	N/A	N/A	N/A
KASUNGU	28.6	17.4	32.5	13.5	1.5	66	N/A	N/A	N/A	N/A
MANGOCHI	28.1	21.8	33.1	19.4	1.7	71	N/A	N/A	N/A	N/A
MIMOSA	31.5	19.4	35.0	15.3	1.0	66	N/A	N/A	N/A	N/A
MONKEY BAY	30.4	23.0	32.1	21.4	2.0	73	N/A	N/A	N/A	N/A
MZIMBA	27.3	17.9	30.5	16.8	0.9	72	3.8	5.2	4.1	7.0
MZUZU	26.2	17.0	29.7	15.6	1.2	79	5.0	5.4	4.2	7.8
NGABU	36.1	22.3	40.5	2.5	59.0	N/A	N/A	N/A	N/A	N/A
NKHATA BAY	31.0	20.8	33.5	20.0	0.6	79	N/A	N/A	N/A	N/A
NKHOTAKOTA	29.3	22.4	32.1	20.2	1.8	71	N/A	N/A	N/A	N/A
NTAJA	30.8	21.9	34.1	19.1	2.3	64	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