



Malawi 10-Day Rainfall & Agrometeorological Bulletin

Department of Climate Change and Meteorological Services



Period: 01 – 10 December 2011

Season: 2011/2012

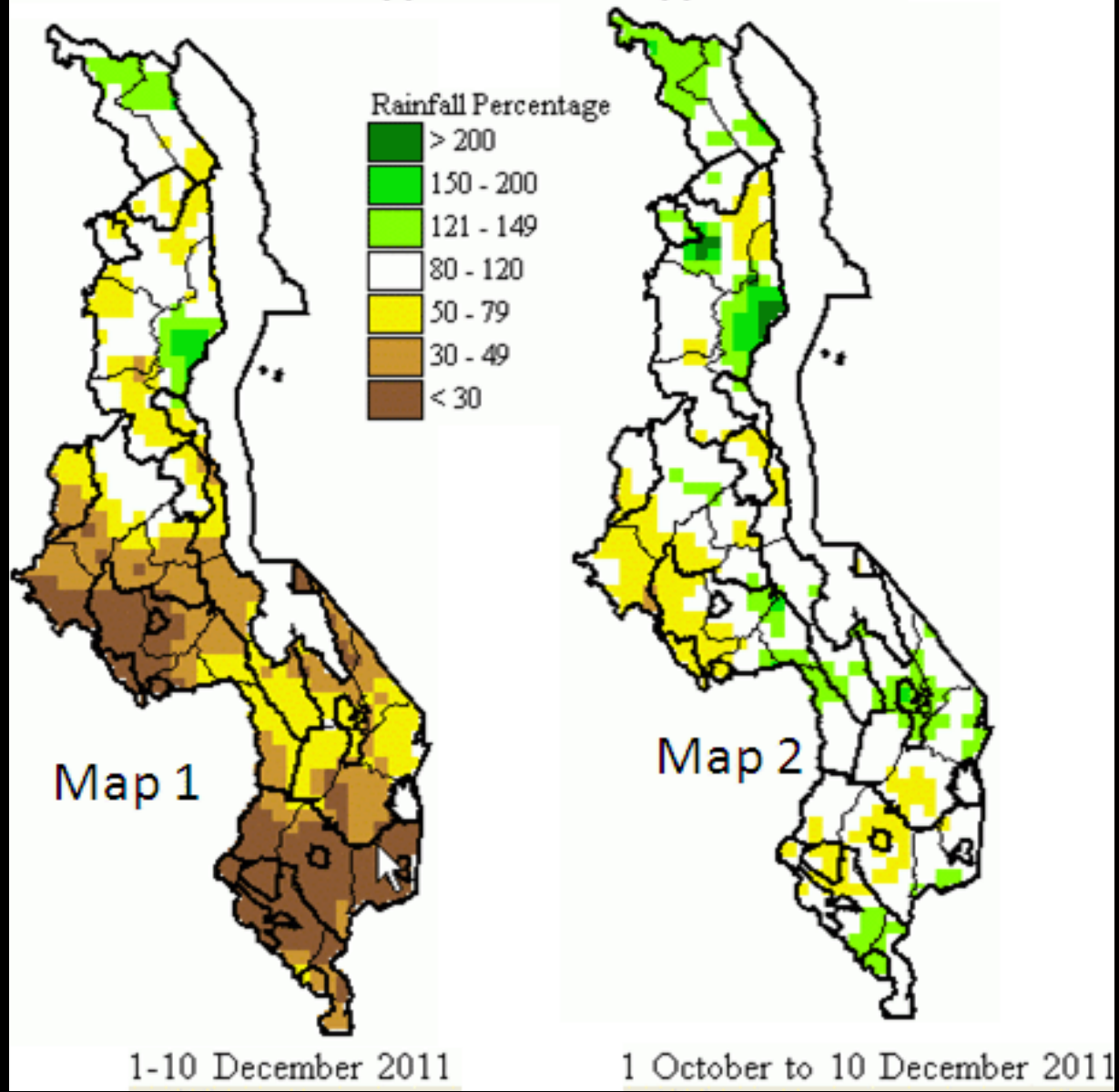
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HIGHLIGHTS

- Poor and erratic rains over the South and Centre; relatively good in the North...
- Poor and erratic rains cause poor crop establishment, growth and development...
- North and Centre to receive good rains during the period 11 to 20 December 2011 ...

Malawi Percentage of Average Rainfall



1.1 RAINFALL SITUATION

During the first ten days of December 2011, better rains with good distribution were mostly confined to northern Malawi where some areas registered up to five rainy days. Central and southern Malawi stayed largely dry with some areas reporting nil rainfall during the entire period. Cumulative rainfall for the entire ten day period was far below average at most places (Brown colour in Map 1). Very few areas reported rainfall amounts of more than 100mm and such areas included Dedza Met at Chongoni and Nkhata bay Met at Mkondezi in Nkhata bay district.

The percentage of average rainfall situation map 2 shows that most parts of Malawi had received eighty percent (80%) of the expected rainfall for the period starting from 1st October to 10 December 2011. Pockets of below average below average rainfall still existed 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 during the first ten days of December 2011. Mean maximum temperatures for most areas were above 28°C except over high altitude areas like Dedza and Mzuzu. The highest absolute maximum temperature was 44°C which was registered at Ngabu on 3rd December. Overall, mean daily maximum temperatures ranged from 28°C to 39°C while mean 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

Mean wind speeds recorded at a height of two metres above the ground level ranged from 0.1 to 3.8 metres per second or 0.4 – 13.7 Km/hour (see details on Table 2). The highest wind speeds was reported at Ngabu Met (3.8 m/s).

1.5 MEAN RELATIVE HUMIDITY

The first ten days of December 2011, relatively moist air prevailed over Malawi. Daily average relative humidity values ranged from 52% at Ntaja in Machinga to 77% at Mzuzu . More details are on the Table 2.

1.6 MEAN SUNSHINE HOURS

Malawi recorded between six and half hours and around nine hours of bright sunshine each day during the first ten days of December 2011. Mean daily sunshine duration values across the country ranged from 6.6 hours per day at

Mzuzu to 8.7 hours per day at Bvumbwe as shown in Table 2

2. AGROMETEOROLOGICAL ASSESSMENT

During the first ten days of December 2011, poor and erratic rains that have characterized the start of the 2011/12 growing season persisted over most parts of Malawi. Slightly better rains were experienced over the north compared to the centre and south. Relatively dry and far below average rainfall situation existed over the southern half of the country. Hot and dry weather resulted in fast depletion of soil moisture reserves and wilting was observed in some field crops especially during midday. Poor and erratic rains received so far have resulted poor establishment and wide variation of crop development stages. The rains have also supported growth and development of pasture and regeneration of the natural vegetation.

The major agricultural activities during the period under review included land preparation, planting of crops, weeding and fertilizer application except where dry conditions were experienced. Most areas reported poor crop stand mainly due to poor germination as a result of erratic rains

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.

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 FOR 11 – 20 DECEMBER 2011

Meanwhile medium range weather forecasts indicate that the main rain bearing systems will become more active over central and northern Malawi during the second ten days of December 2011. Therefore good rainfall prospects are expected over the north and central Malawi while poor and erratic rains will persist in most areas of southern Malawi.

TABLE 1: DEKADAL RAINFALL SUMMARY FOR 01 – 10 DECEMBER 2011 AT SELECTED STATIONS

STATION NAME	DEKADAL TOTAL RAINFALL	DEKADAL NORMAL	DEKADAL TOTAL AS % NORMAL	TOTAL TO DATE	NORMAL TO DATE	TOTAL TO DATE AS % NORMAL	RAINY DAYS ≥ 0.3mm
SOUTHERN REGION							
Bvumbwe Met.	23.4	79.2	30	115.8	207.8	56	2
Chichiri Met.	0.0	82.1	0	139.1	383.7	36	0
Chileka Airport	20.4	53.4	38	151.2	176.4	86	1
Chingale Agric	0.0	61.4	0	165.4	150.1	110	0
Makhanga Met	0.4	52.0	1	77.7	144.7	54	1
Makoka Met	4.4	71.7	6	210.6	164.6	128	1
Mangochi Met.	37.5	30.7	122	178.8	76.1	235	2
Mimosa Met.	7.5	101.3	7	340.4	305.0	112	2
Monkey Bay Met.	29.7	28.6	104	274.3	50.6	542	2
Namwera Agric	20.6	67.2	31	59.3	161.4	37	2
Ngabu Met.	3.2	48.9	7	63.0	137.2	46	1
Ntaja Met.	14.8	52.0	28	120.7	125.8	96	2
Satemwa Tea Est.	0.5	65.6	1	196.4	200.0	98	1
Thuchila Agric	11.8	51.3	23	90.8	146.4	62	1
CENTRAL REGION							
Chitedze Met.	10.4	44.0	24	90.6	130.0	70	2
Dedza Met	109.4	48.0	228	313.3	119.9	261	3
K.I.A Met	3.1	32.7	9	148.0	98.4	150	1
Kasungu Met	51.3	46.1	111	64.0	99.0	65	2
Mponela Agric	0.0	54.2	0	92.0	117.6	78	0
Nkhotakota Met	24.9	76.2	33	113.1	132.1	86	2
Salima Met	10.5	62.0	17	61.2	104.7	58	3
NORTHERN REGION							
Baka Res. Stn.	72.8	54.4	134	114.7	97.3	118	3
Bolero Met	6.6	27.5	24	22.7	71.5	32	1
Chitipa Met	48.8	42.5	115	223.6	118.4	189	4
Karonga Met.	68.4	37.6	182	125.6	87.1	144	5
Mzimba Met	9.6	47.9	20	93.5	111.2	84	4
Mzuzu Met.	33.3	45.6	73	261.2	153.0	171	5
NkhataBay Met.	121.5	79.8	152	338.8	175.4	193	5

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 01 – 10 DECEMBER 2011

STATION	MAX TEMP	MIN TEMP	ABS MAX	ABS MIN	WIND SPEED	RH	SUN SHINE HOURS	Eo mm per day	Et mm per day	RAD- TION cal cm ⁻² p/day
	(°C)	(°C)	(°C)	(°C)	m/s	%				
BVUMBWE	29.3	17.2	33.7	14.4	2.5	56	8.7	7.6	6.1	10.2
CHICHIRI	29.9	18.2	34.1	16.0	1.1	71	N/A	N/A	N/A	N/A
CHILEKA	32.2	21.6	37.2	18.5	3.1	54	N/A	N/A	N/A	N/A
CHITEDZE	30.3	18.5	34.4	17.0	1.1	56	N/A	N/A	N/A	N/A
CHITIPA	28.7	18.7	31.6	18.1	1.8	65	6.7	6.6	5.2	8.8
DEDZA	25.0	16.3	27.5	15.1	0.1	77	N/A	N/A	N/A	N/A
K I A	28.9	17.1	31.8	14.5	1.9	58	8.5	7.3	5.8	10.1
KARONGA	31.5	22.7	33.1	20.5	1.4	68	N/A	N/A	N/A	N/A
KASUNGU	31.4	19.3	35.2	18.1	2.1	49	N/A	N/A	N/A	N/A
MAKOKA	29.8	18.2	33.8	15.1	1.3	62	N/A	N/A	N/A	N/A
MANGOCHI	32.9	23.2	35.5	20.0	1.7	60	N/A	N/A	N/A	N/A
MIMOSA	31.8	18.3	36.6	14.4	1.2	62	N/A	N/A	N/A	N/A
MONKEY BAY	31.6	23.7	34.5	21.4	2.2	65	N/A	N/A	N/A	N/A
MZIMBA	28.6	18.5	31.5	17.6	1.3	64	8.4	7.1	5.6	10.0
MZUZU	26.8	16.8	30.4	14.7	1.3	77	6.6	6.0	4.7	8.8
NGABU	38.9	22.5	44.1	18.7	3.8	55	N/A	N/A	N/A	N/A
NKHATA BAY	32.1	21.1	35.1	20.1	0.9	73	N/A	N/A	N/A	N/A
NKHOTAKOTA	30.8	22.3	34.1	22.2	2.5	56	N/A	N/A	N/A	N/A
NTAJA	32.7	21.8	35.5	19.6	2.1	52	N/A	N/A	N/A	N/A
SALIMA	32.5	23.2	36.4	21.0	2.9	66	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) = mps x 3.6