Malawi 10-Day Rainfall & Agrometeorological Bulletin

Department of Climate Change and Meteorological Services

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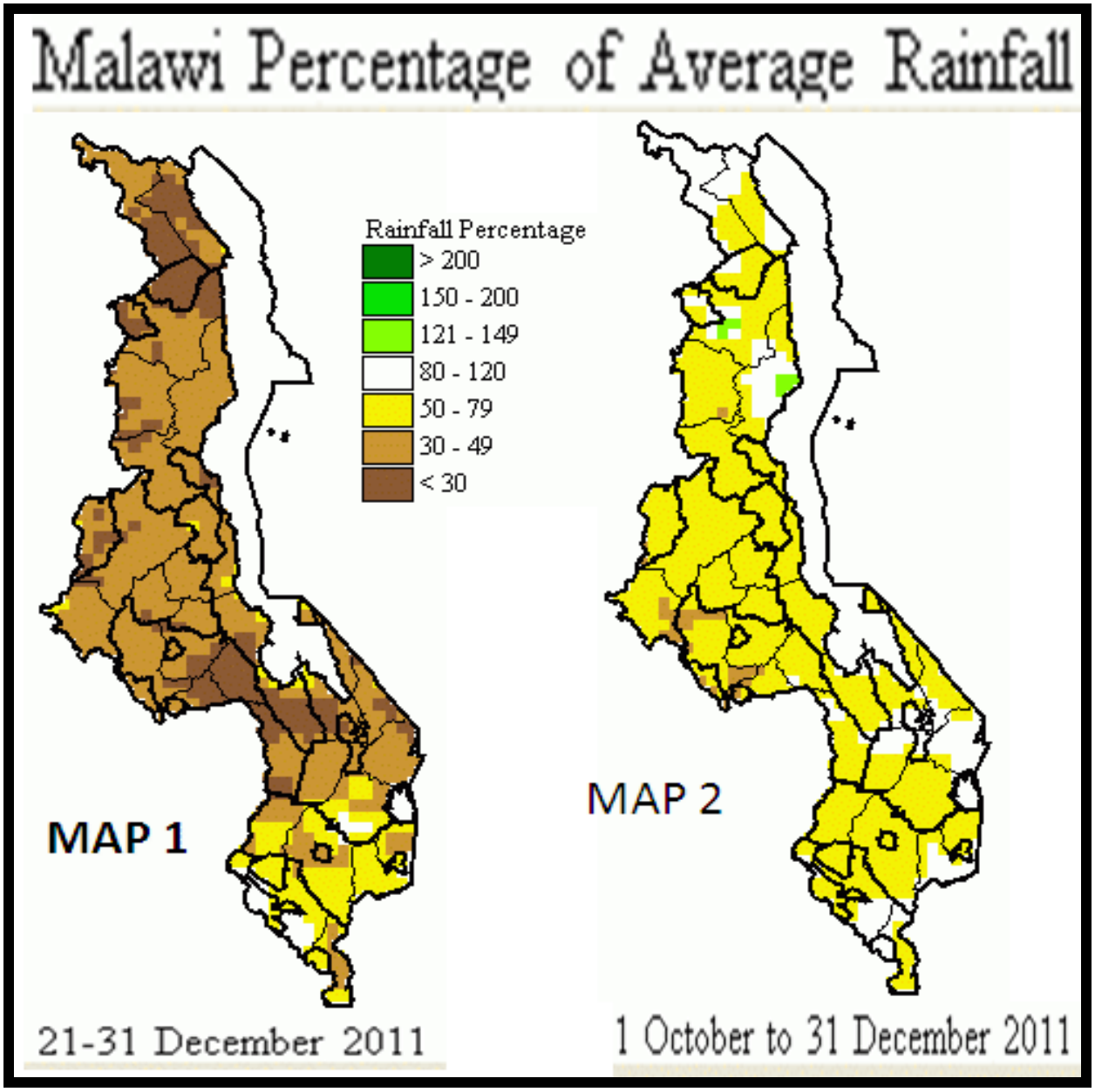
HIGHLIGHTS

- *Poor and below average rainfall persisted during 21 to 31 December 2011…*
- *Maize crop ranges from germination to vegetative stages in most parts of Malawi…*
- *Widespread locally heavy rains expected over Malawi during 01 to 10 January 2012…*



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1.1 RAINFALL SITUATION

During the period 21 to 31 December 2011, the main rain bearing systems for Malawi remained weak and less active. As a result most areas received suppressed rainfall amounts with very few rainy days. Many areas in the country continued to experience far below average cumulative rainfall amounts (brown Colour on Map 1). During the entire period under review the few places that recorded significant cumulative rainfall above 60mm included Salima Met 102mm, Makoka Met 90mm, Chingale Agric 75mm and Mimosa Met 70mm.

Map 2 indicates cumulative rainfall performance half way through the 2011/2012 rainfall season. Generally the map showed average to below average rainfall performance over most areas in Malawi. The 2011/12 rainfall season has been characterised by slow, poor build-up and erratic rainfall performance during most of the period October to December 2011. 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 last ten days of December 2011. Daily average maximum temperatures for most areas were above 30°C except over high altitude areas like Bvumbwe, Dedza, Chitipa, Mzimba and Mzuzu. The highest absolute maximum temperature was 44°C which was registered at Ngabu on 31st December 2011. Overall, the average daily maximum temperatures ranged from 25°C at Dedza and Mzuzu to 37°C at Ngabu while average minimum temperatures ranged from 16°C at Dedza to around 24°C at Salima. 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 0.7 to 3.2 metres per second or 2.5 – 11.5 Km/hour (see details on Table 2). The highest wind speeds was reported at Ngabu Met (3.2 m/s).

1.5 MEAN RELATIVE HUMIDITY

Relatively moist air prevailed over Malawi during the period 21 to 31 December 2011. Daily average relative humidity values ranged from 51% at Makoka in Zomba to 76% at Mzuzu. 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 7.2 at Mzuzu and Chitipa to 7.6 at Bvumbwe Met station as shown in Table 2

2. AGROMETEOROLOGICAL ASSESSMENT

During the last ten days of December 2011, there was a decline in rainfall distribution and intensity over most parts of Malawi. Reports indicated that as a result of soil moisture stress crops started wilting especially over some parts of the southern half of Malawi and farmers were forced to suspend planting and basal and top dressing fertilizer applications. On the other hand dry conditions facilitated weeding. The seasonal rainfall performance so far has been poor and erratic particularly over southern half of Malawi. The onset in most areas has been erratic and poor. The rainfall performance so far has improved pasture availability for animal production and supported water resources. Poor and erratic rains have resulted poor crop establishment in most field crops and there are variations in crop development stages.

Maize crop generally ranged from planting and germination to advanced vegetative stages. Some hybrid Maize that was planted between mid-October and early November in some parts of the South and Centre had started tasseling and flowering. Planting of crops was being finalized in the south and some parts of the Centre while still going on in the north. Planting of crops in the north sometimes continue into January and early February.

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 seasonal 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 01 – 10 JANUARY 2012

Meanwhile, models for medium range forecasts indicate that a low pressure area in Mozambique Channel is expected to maintain both Congo Air mass and Inter Tropical Convergence Zone within Malawi. Therefore widespread locally heavy rains are expected during the first ten days of January 2012. These rains will support most farm operations including growth and development of most crops.

TABLE 1: DEKADAL RAINFALL SUMMARY FOR 21 – 31 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.	46.5	61.9	75	196.3	336.3	58	5
Chichiri Met.	28.2	104.4	27	256.0	578.0	44	5
Chileka Airport	42.5	57.7	74	276.3	284.7	97	4
Chingale Agric	74.8	68.6	109	273.9	292.2	94	4
Makhanga Met	31.3	62.2	50	109.0	258.4	42	1
Makoka Met	89.5	77.9	115	363.1	303.0	120	3
Mangochi Met.	27.4	39.2	70	353.7	156.5	226	6
Mimosa Met.	70.3	76.5	92	468.3	464.0	101	4
Monkey Bay Met.	23.4	53.4	44	331.2	150.3	220	3
Mulanje Boma	57.9	98.4	59	393.2	595.3	66	3
Ngabu Met.	36.7	61.0	60	197.5	251.0	79	2
Ntaja Met.	18.0	69.4	26	213.1	259.3	82	3
Thyolo Met	22.3	71.4	31	236.5	353.5	67	4
CENTRAL REGION							
Chitedze Met.	40.5	70.5	57	155.9	252.1	62	2
Dedza Met	29.6	68.6	43	429.7	253.7	169	3
Dowa Agric	16.5	71.2	23	257.9	241.4	107	3
K.I.A Met	50.4	72.1	70	264.9	222.7	119	5
Kasungu Met	25.0	54.0	46	147.4	211.8	70	2
Mlangeni Njolomole	19.4	64.3	30	141.1	285.3	49	3
Nkhotakota Met	58.6	94.1	62	387.9	314.2	123	5
Ntcheu - Nkhande	25.8	87.6	29	208.7	319.2	65	3
Salima Met	102.1	84.0	122	174.1	269.5	65	2
NORTHERN REGION							
Bolero Met	35.1	58.4	60	81.3	175.6	46	5
Bwengu Agric.	20.7	62.9	33	46.8	209.9	22	2
Chitipa Met	7.0	80.4	9	357.1	261.1	137	2
Karonga Met.	52.8	63.0	84	249.1	213.4	117	5
Mbawa Res. Stn	52.8	71.0	74	165.1	241.9	68	5
Mzimba Met	22.3	69.6	32	147.7	243.9	61	3
Mzuzu Met.	34.6	63.1	55	330.4	271.2	122	6
NkhataBay Met.	7.9	76.0	10	416.9	319.3	131	3

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 21 – 31 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	30.5	18.9	32.0	17.8	N/A	69	N/A	N/A	N/A	N/A
BVUMBWE	28.2	17.8	30.8	14.6	1.7	61	7.6	6.9	5.5	9.6
CHILEKA	30.9	21.0	33.5	17.8	2.5	65	N/A	N/A	N/A	N/A
CHITEDZE	30.0	19.1	32.1	15.9	0.7	67	N/A	N/A	N/A	N/A
CHITIPA	28.1	18.6	30.1	17.6	1.4	72	7.2	6.5	5.1	9.2
DEDZA	25.5	15.8	26.7	14.8	1.0	75	N/A	N/A	N/A	N/A
K I A	27.9	17.6	29.4	15.1	1.2	70	7.5	6.6	5.2	9.5
KARONGA	30.9	22.6	33.9	21.6	1.3	72	N/A	N/A	N/A	N/A
MAKOKA	32.2	20.0	31.5	15.1	1.1	51	N/A	N/A	N/A	N/A
MANGOCHI	32.5	22.5	34.1	20.2	1.3	71	N/A	N/A	N/A	N/A
MIMOSA	31.7	18.9	34.2	14.9	1.0	57	N/A	N/A	N/A	N/A
MONKEY BAY	32.0	23.7	34.0	21.4	1.8	64	N/A	N/A	N/A	N/A
MZIMBA	28.5	17.8	30.6	16.1	0.9	70	7.4	6.5	5.1	9.4
MZUZU	24.9	19.6	28.0	15.4	1.3	76	7.2	6.3	4.9	9.2
NGABU	37.2	22.4	44.1	18.5	3.2	55	N/A	N/A	N/A	N/A
NKHOTAKOTA	30.3	22.7	31.8	21.4	2.0	N/A	N/A	N/A	N/A	N/A
NTAJA	31.8	21.8	33.5	19.4	1.7	N/A	N/A	N/A	N/A	N/A
SALIMA	32.9	24.4	35.2	22.6	2.0	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