10-Day Rainfall & Agromet Bulletin

Department of Meteorological Services

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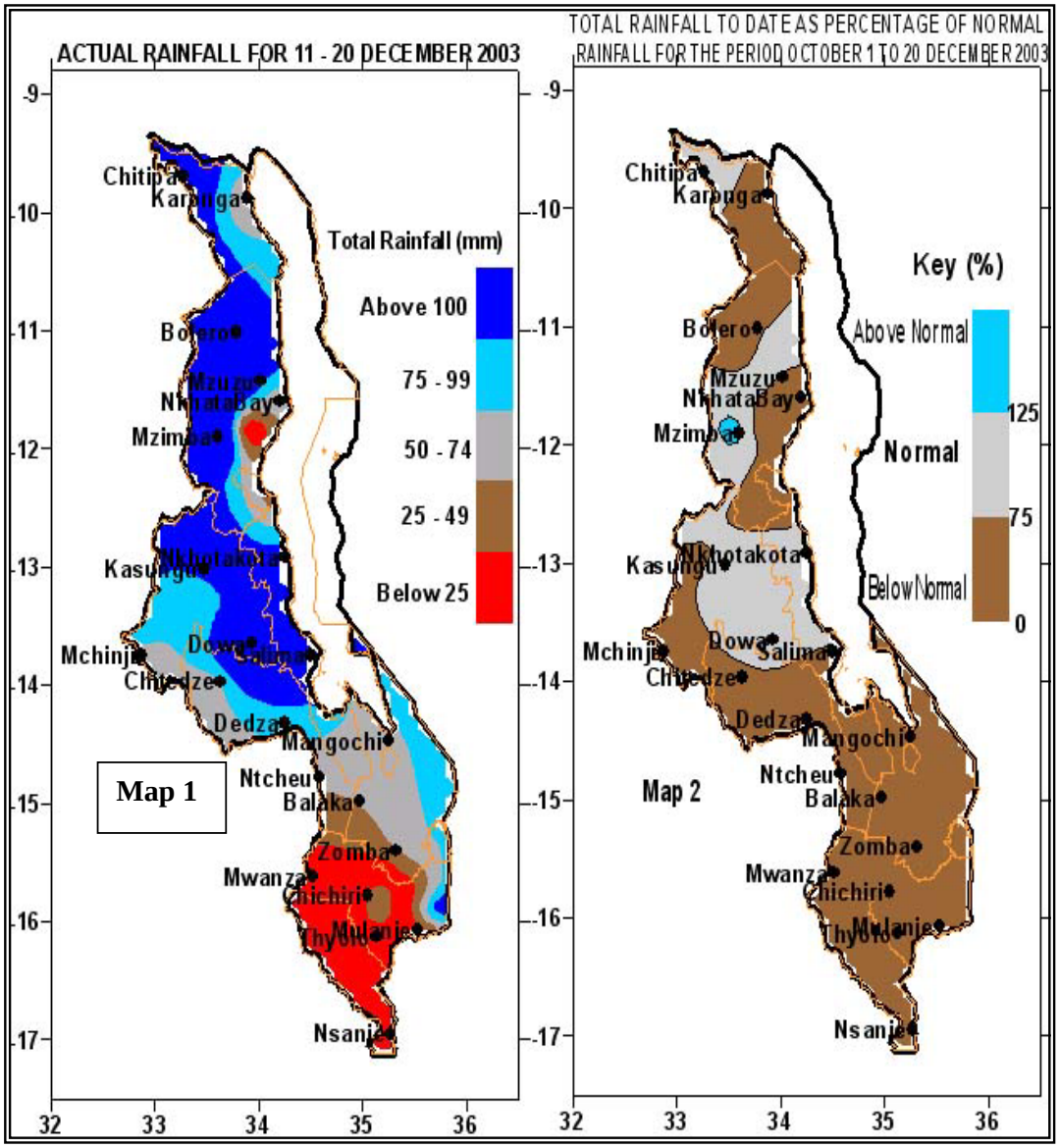
HIGHLIGHTS

- **Good rains confined to northern, central and few southern areas…**
- **Dry weather persists over half of southern Malawi…**
- **Planting, weeding and fertilizer application were major activities …**
- **Conditions favourable for more rains during 21 - 31 December**



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1. WEATHER SUMMARY

1.1 RAINFALL

Northern and central Malawi experienced great improvement in rainfall pattern during the second ten-days of December 2003. Good rains with good distribution and amounts in both time and space were received. Some areas recorded up to nine rainy days. Mzimba with 252mm accumulated the highest rainfall. In the south, however, most areas received light rainfall with poor distribution. Some places recorded nil rainfall. The worst affected areas were Shire Valley, Mwanza, and parts of Blantyre, Thyolo, Phalombe, and Mulanje districts (Table 1 and Map 1). In these areas localised places have been dry since October 2003.

The cumulative rainfall performance from 1st October 2003 up to 20 December 2003 shows that very few areas received above 75% of the expected amounts (Map 2).

1.2 MEAN AIR TEMPERATURE

Due to increased cloudiness daily maximum temperatures were in the warm to hot category in most parts of the country except in Shire Valley where very hot temperatures were maintained. The daily average maximum temperatures ranged from 26°C at Lilongwe International Airport (LIA) and Mzimba and Mzuzu to 38°C at Ngabu while minimum temperatures ranged from 17°C at Chitipa, Mzimba and Mzuzu to 27°C at Ngabu (Table 2). Shire Valley has been registering abnormally high temperatures with extremely dry conditions since October 2003.

1.3 MEAN SUNSHINE HOURS

Due to cloudy conditions, hours of bright sunshine reduced significantly over most parts of Malawi except in lower Shire where Ngabu registered an average of 8.7 hours on daily basis. Most areas witnest between 3 and 7 hours of bright sunshine every day.

1.4 MEAN DAILY WIND SPEEDS

Mean wind speeds at height of 2 meters above the ground were in the range of 0 – 3 metres per second (Table 2). The highest wind speed was 2.5 m/s and was registered at Ngabu in Shire Valley. The lowest wind speed was recorded at Chitedze (0.4 m/s).

1.5 MEAN RELATIVE HUMIDITY

Moist air covered central and northern areas and most areas reported daily average relative values in excess of 74%. Slightly lower relative humidity values were experienced over the south. The lowest was reported at Ngabu and Thyolo (52%).

2. AGROMETEOROLOGICAL ASSESSMENT

Good rains that fell over northern, central and in some parts of southern Malawi supported planting, germination, growth and development of crops during the period under review. In some areas crops ranged from emergence to early vegetative stage. Weeding and first application of fertilizer were in progress. However, pockets of dry areas still existed over Nsanje and Chikwawa in Shire Valley, Mwanza, and parts of Blantyre, Thyolo, Phalombe and Mulanje districts and farmers were eagerly waiting for planting rains. This delay in onset of planting rains is likely to affect the length of the current growing season particularly if the rains will start at the end of December 2003 (over a month late) and end by mid March 2004. This would mean only two and half months of growing season. Only very early maturing crop varieties would do well under such conditions.

3. FORECAST FOR 21 – 31 DECEMBER 2003

Meanwhile, both Congo air and Inter Tropical Convergence Zone (ITCZ) are expected to remain active over Malawi. Therefore scattered to widespread rains are expected during the last days of December 2003. These rains will support planting, germination, growth and development of crops and fertilizer application in the outlook period.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR DEKAD 2 OF DECEMBER 2003: PERIOD 11 - 20

STATION NAME	DEKADAL TOTAL RAINFALL	DEKADAL NORMAL	TOTAL TO DATE	NORMAL TO DATE	TOTAL TODATE AS %	RAINY DAYS
SOUTHERN REGION	mm	mm	mm	mm	NORMAL	≥ 0.3 mm
Blantyre TownHall	0.0	71.8	0.0	256.4	0	0
Bvumbwe Met.	47.8	59.5	102.4	274.1	37	4
Chancellor College	61.6	90.0	156.1	335.4	47	3
Chichiri Met.	23.9	57.2	48.6	279.4	17	4
Chikwawa Boma	3.1	56.2	61.4	178.0	34	2
Chileka Airport	14.4	57.3	47.6	237.1	20	2
FortLister Phalombe	145.0	103.7	282.0	356.9	79	3
I.T.G. Limbe	53.4	16.0	53.4	249.5	21	2
Lujeri Tea Estate	17.6	126.8	286.9	552.9	52	2
Makoka Met	14.1	57.1	70.2	247.1	28	6
Monkey Bay Met.	74.6	83.7	78.6	197.7	40	7
Ngabu Met.	4.0	48.0	42.0	200.6	21	3
Thyolo Met	15.8	78.7	102.5	302.3	34	6
CENTRAL REGION						
Chitedze Met.	71.0	66.9	94.0	220.7	43	9
Dwangwa Sugar Corp.	44.4	70.2	118.9	251.7	47	7
L.I.A. Met.	147.5	58.0	206.9	175.4	118	8
Kasungu Met	161.2	84.7	163.4	215.5	76	6
Mwimba Research	65.0	69.9	151.4	194.8	78	5
Nkhotakota Met	115.5	84.7	247.4	223.9	110	7
Salima Met	139.7	84.5	140.9	208.8	67	4
NORTHERN REGION						
Baka Res. Stn.	32.5	85.0	56.0	182.3	31	5
Chikangawa forest	15.0	56.3	70.1	219.0	32	2
Chitipa Met	157.3	67.7	226.4	200.8	113	9
Karonga Met.	53.8	85.8	72.1	171.7	42	8
Kavuzi Rosefalls	82.7	56.4	185.2	365.0	51	8
Lupembe	65.0	56.2	65.0	136.5	48	1
Mbawa Res. Stn	124.0	67.4	152.0	175.4	87	8
Mzimba Met	251.9	68.5	288.4	187.9	153	9
Mzuzu Met.	144.6	82.6	270.3	279.7	97	8
NkhataBay Met.	66.0	98.8	222.4	457.5	49	8
Rumphi Boma	131.1	53.4	141.7	129.6	109	7

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR DEKAD 2 OF DECEMBER 2003

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
BVUMBWE	28.4	17.8	29.9	17.1	1.4	62	7.4	6.8	5.4	9.4
CHICHIRI	28.9	19.0	30.6	17.2	1.5	69	2.7	5.2	4.2	6.3
CHILEKA	31.6	22.3	34.6	20.6	3.0	67	6.9	7.6	6.2	9.1
CHITEDZE	27.3	18.7	31.4	17.5	0.4	71	5.0	5.6	4.4	7.8
CHITIPA	27.2	17.1	30.0	15.5	1.6	62	3.0	5.2	4.3	6.4
KASUNGU	27.2	18.6	29.4	16.4	1.8	80	3.5	5.1	4.1	6.8
KARONGA	30.1	22.2	33.5	21.2	1.6	75	5.0	6.1	4.9	7.7
L I A	26.0	18.0	28.4	16.1	1.3	83	3.0	4.7	3.7	6.5
MAKOKA	28.3	19.6	29.8	17.9	1.5	71	6.0	6.3	5.0	8.5
MONKEY BAY	30.6	23.8	31.8	21.5	2.5	69	6.5	7.3	5.9	8.8
MZIMBA	26.2	17.0	28.5	15.6	0.8	80	3.0	4.6	3.7	6.5
MZUZU	25.8	17.1	29.1	16.0	1.6	86	2.5	4.4	3.5	6.2
NGABU	38.4	26.5	40.5	24.5	2.9	52	8.7	9.8	8.1	10.3
NKHATA BAY	28.8	21.4	33.0	19.5	1.5	80	6.5	6.4	5.1	8.7
NKHOTAKOTA	28.0	22.0	30.1	19.9	2.0	83	3.4	5.3	4.2	6.8
SALIMA	30.4	22.2	32.8	19.5	2.0	74	5.7	6.4	5.1	8.3
THYOLO	31.9	20.2	34.0	18.9	1.8	52	7.0	7.3	5.9	9.2

Glossary of some terms on this table

- E_O = Potential Evaporation
- E_T = Potential Evapotranspiration and 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).