10-Day Rainfall & Agromet Bulletin

Department of Meteorological Services

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HIGHLIGHTS

- **Most areas experienced light rains during 1 – 10 December 2003…**
- **The light rains sustained soil moisture for germination of crops …**
- **Conditions favourable for widespread rains during 11 – 20 December…**

1. WEATHER SUMMARY

1.1 RAINFALL

In the first ten-days of December 2003 most parts of Malawi experienced light rainfall amounts except for areas around Zomba, Nkhota Kota, Mzuzu and some parts of Mulanje and Nkhata Bay where significant rainfall amounts were experienced. Good rainfall distribution was experienced around Nkhata Bay and Mzuzu and Mimosa in Mulanje where up to six rainy days were reported. Elsewhere light rainfall amounts that were experienced caused total rainfall for the ten-day period to be far below the expected amounts for the period under review (Table 1). The cumulative rainfall performance from 1stOctober 2003 up to 10 December 2003 has been generally below normal (less than 75%) over most parts of Malawi.

1.2 MEAN AIR TEMPERATURE

Due to increased cloudiness in the first ten-days of December daily maximum temperatures dropped slightly. However, hot conditions continued to be experienced over the country with very hot air temperatures confined to Shire valley. The daily average maximum temperatures ranged from 27°C at Mzuzu to 36°C at Ngabu while minimum temperatures ranged from 17°C at Mzuzu to 24°C at Ngabu and Salima. During the period Ngabu in Shire Valley continued to be the hottest spot, 43°C (Table 2).

1.3 MEAN SUNSHINE HOURS

Most parts of Malawi experienced some cloudiness which resulted in some rainfall and lower hours of bright sunshine. Sunshine hour durations ranged between 7 and 9 hours per day.

1.4 MEAN DAILY WIND SPEEDS

Mean wind speeds observed at height of 2 meters above the ground were in the range of 1 – 4 metres per second. The highest wind speed was registered at Ngabu (3.6 m/s) in Shire Valley followed by Chileka which recorded 3.4m/s (Table 2).

1.5 MEAN RELATIVE HUMIDITY

Most areas experienced daily average relative humidity values of more than 60% which showed significant improvement in atmospheric moisture content over the country. This could be attributed to fairly moist air that covered lower levels of the atmosphere during the period under review. The lowest daily average relative humidity value was reported at Ngabu and Mangochi (56%) while 78% registered at Mzuzu was the highest (Table 2).

2. AGROMETEOROLOGICAL ASSESSMENT

During the first ten-days of December 2003 most areas experienced light rainfall amounts except for isolated areas where substantial rainfall amounts were received. The light rains supported germination, growth and development of crops that were planted between mid and end of November while heavier rainfall amounts enabled planting activities to spread to more areas. So far, good rains for planting of crops have been sporadic and pockets of dry areas still existed in some parts of the country by 10th December 2003. In some areas farmers had not started planting of crops because effective rains had not been received yet. Usually effective planting rains are expected by mid November in the south, mid December in centre and end of December over Northern Malawi. Land preparation and planting of crops (in areas with sufficient moisture) were still major agricultural activities over most parts of Malawi.

3. FORECAST FOR 11 – 20 DECEMBER 2003

Meanwhile, the Inter Tropical Convergence Zone (ITCZ) is expected to get established over Malawi by 16th of December. Therefore most parts of Malawi are likely to receive planting rains by mid December 2003. Tropical disturbance in Mozambique Channel may regenerate to cyclone strength.

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TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR DEKAD 1 OF DECEMBER 2003: PERIOD 1 - 10TH

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	≥ 0.3mm
Chancellor College	61.1	117.8	94.5	245.4	39	2
Chichiri Met.	1.0	80.1	24.7	222.2	11	1
Chikwawa Boma	0.0	42.7	58.3	121.8	48	0
Chileka Airport	10.8	55.7	33.2	179.8	18	2
Makoka Met	6.6	81.8	56.1	190.0	30	3
Mangochi Met.	3.5	53.6	14.8	131.6	11	2
Mimosa Met.	39.3	103.5	168.2	300.3	56	6
Monkey Bay Met.	2.0	67.0	4.0	114.0	4	2
Mwanza Boma	4.5	63.7	18.7	186.5	10	1
Naminjiwa Agric	26.2	78.5	101.7	178.9	57	1
Nchalo Sucoma	11.7	57.9	24.2	134.9	18	0
Ngabu Met.	1.0	63.9	38.0	152.6	25	1
Ntaja Met.	12.3	67.9	39.0	149.4	26	2
Satemwa Tea Est. No.1	10.5	98.9	78.4	267.0	29	2
Thyolo Met	0.4	80.4	86.7	223.6	39	1
CENTRAL REGION						
Chitedze Met.	17.8	62.4	23.0	153.8	15	5
Dwangwa Sugar Corp.	42.4	81.9	74.5	181.5	41	4
L.I.A. Met.	16.8	48.5	59.4	117.4	51	2
Nkhotakota Met	63.2	67.4	131.9	139.2	95	2
Salima Met	1.2	75.9	1.2	124.3	1	1
NORTHERN REGION						
Bolero Met	8.6	43.8	18.5	128.7	14	2
Chitipa Met	29.7	51.2	69.1	133.1	52	2
Karonga Met.	18.3	39.1	18.3	85.9	21	3
Mbawa Res. Stn	7.0	38.7	10.5	108.0	10	1
Mzimba Met	8.9	59.0	36.5	119.4	31	4
Mzuzu Met.	81.8	59.2	125.7	197.1	64	6
NkhataBay Met.	128.3	75.8	156.4	358.7	44	5

TABLE 2:AGROMETEOROLOGICAL PARAMETERS

DEKAD 1 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
BOLERO	30.6	20.3	35.1	17.4	1.4	58	7.2	7.1	5.6	9.2
CHICHIRI	27.6	17.8	34.0	14.9	2.2	65	7.0	6.7	5.4	9.1
CHILEKA	30.7	20.5	36.5	18.5	3.4	61	7.1	7.7	6.3	9.2
NTAJA	31.5	21.7	35.6	20.0	2.7	63	7.1	7.6	6.2	9.2
CHITEDZE	30.1	18.4	32.4	16.4	0.8	60	7.0	6.7	5.3	9.1
CHITIPA	29.5	17.3	32.6	15.4	3.2	60	8.0	7.4	6.0	9.7
KARONGA	32.2	23.4	34.9	21.0	2.1	63	7.9	7.8	6.4	9.6
L I A	29.7	17.8	32.5	16.2	2.0	67	7.4	6.9	5.5	9.4
MAKOKA	28.7	18.8	33.0	17.0	1.9	66	7.0	6.8	5.4	9.1
MANGOCHI	33.5	23.2	36.5	21.5	2.2	56	7.4	8.0	6.5	9.4
MONKEY BAY	32.5	24.2	35.9	22.9	2.8	60	7.5	8.2	6.7	9.5
MZIMBA	28.6	18.2	32.5	16.8	1.1	68	7.0	6.5	5.1	9.1
MZUZU	27.1	16.6	30.4	14.5	1.8	78	5.0	5.5	4.4	7.8
NGABU	36.0	24.0	43.0	21.7	3.6	56	9.0	9.5	7.9	10.5
NKHATA BAY	31.2	21.0	35.1	19.8	2.1	72	7.4	7.2	5.8	9.3
NKHOTAKOTA	30.7	22.7	33.7	20.0	2.0	67	8.4	7.9	6.3	10.0
SALIMA	32.8	24.0	35.9	22.0	2.7	57	8.7	8.4	6.9	10.2
THYOLO	29.6	19.0	35.2	16.4	1.7	63	7.0	7.2	5.8	9.1

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).