10-Day Rainfall & Agromet Bulletin

Department of Meteorological Services

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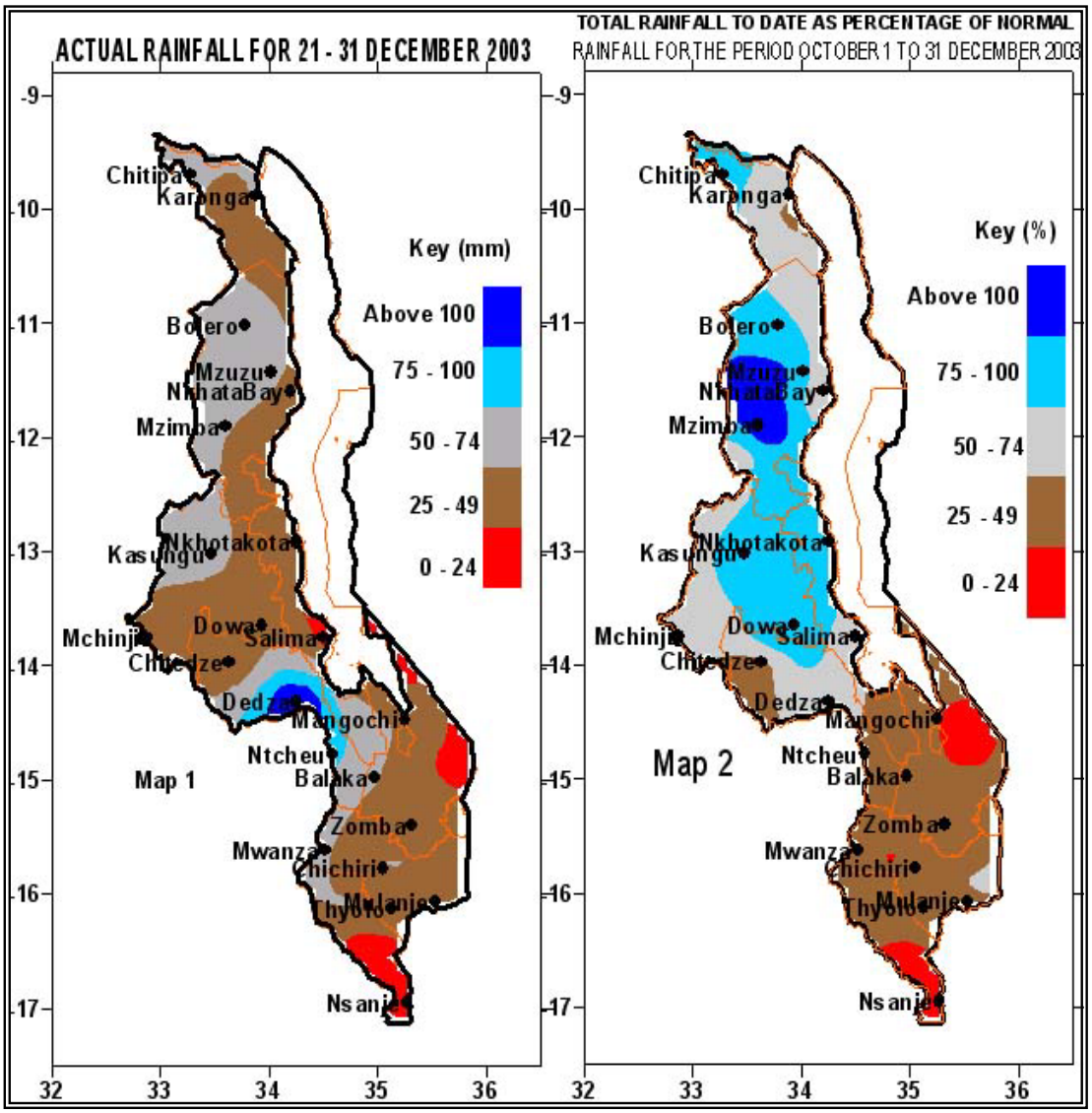
HIGHLIGHTS

- **Light to moderate rainfall experienced over Malawi…**
- **Poor cumulative rainfall received in the south by December end…**
- **Planting rains not yet received in parts of the southern Malawi…**
- **Centre and north to enjoy good rains during 1 – 10 January 2004…**



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1. WEATHER SUMMARY

1.1 RAINFALL

During the period 21 – 31 December 2003 light rainfall was experienced over most parts of Malawi. Although the amounts were light, the distribution in some areas was good with some areas experiencing up to eight rainy days. However, dry conditions persisted over some areas in the south particularly in the Lower Shire Valley.

Cumulative rainfall performance since October 1 shows that overall, northern and central Malawi have experienced normal rainfall. On the other hand southern Malawi has received below normal (less than 50%) cumulative rainfall by end of December 2003.The worst hit areas include Shire Valley, parts of Blantyre and Machinga districts.

There has been a significant departure in the performance of the 2003/2004 rainfall over the country during the period October to December 2003. The onset of the main rains started in the north and central areas of the country during end of November and early December while some parts of the south had only received isolated light rains. This unpredictable reversal in the onset of rains has been mainly due to:

- Unusual delay in the establishment of main rain-bearing system Inter Tropical Convergence Zone (ITCZ). The ITCZ passed over Malawi only once during December.
- Congo Air, which got established much earlier than the ITCZ, only affected the central and northern areas of the country because the southern areas were outside the southern limits of the system.

1.2 MEAN AIR TEMPERATURE

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 (Table 2). Ngabu in Shire Valley registered highest temperature of 41°C.

1.3 AVERAGE DAILY WIND SPEEDS

Average wind speeds at height of 2 meters above the ground ranged from 1 to 3 metres per second (Table 2). The highest wind speed was 3.1 m/s, registered at Ngabu in Shire Valley.

1.4 MEAN RELATIVE HUMIDITY

Fairly moist air covered most parts of the country and the highest daily average relative humidity value was 86% which was registered at Bvumbwe Research Station. The lowest was reported at Ngabu (58%).

2. AGROMETEOROLOGICAL ASSESSMENT

Most of northern and central Malawi continued to enjoy good rains. These rains supported crop development and management. Crops in most areas ranged from emergence to early vegetative stages. The continuing dry conditions in some parts of Southern Malawi have resulted in wilting and even death of maize crop and further delays in planting. In some parts Blantyre and Shire Valley farmers have not yet planted crops due to unavailability of rains. Any planting decision now should consider the fact that rains normally end in March in the south, April to May in central and northern Malawi.

3. FORECAST FOR 1 – 10 JANUARY 2004

Meanwhile, atmospheric conditions indicate that both Congo air and Inter Tropical Convergence Zone (ITCZ) will be confined over central and northern Malawi. The eastern sector of southern Malawi will therefore benefit from the ITCZ. Wet conditions are expected over most parts of northern and central Malawi as well as the eastern sector of southern Malawi. The western sector is likely to experience sporadic rains during 1 – 10 January 2004.

4. RAINFALL MID- SEASON UPDATE

The state of Sea Surface Temperatures in the equatorial Pacific Ocean which can result into the development of either El Nino or La Nina has been used as an indicator of seasonal rainfall behaviour in southern Africa including Malawi. Currently, these Sea Surface Temperatures are still near normal and do not support the development of either El Nino or La Nina during the remainder of the season. Hence the rains, once fully

established, across the country are expected to progress normally up to the end of the season.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR DEKAD 3 OF DECEMBER 2003: PERIOD 21 - 31

STATION NAME ***SOUTHERN REGION***	DEKADAL TOTAL RAINFALL mm	DEKADAL NORMAL mm	TOTAL TO DATE mm	NORMAL TO DATE mm	TOTAL TODATE AS % NORMAL	RAINY DAYS ≥ 0.3 mm
Blantyre TownHall	0.0	72.2	0.0	328.6	0	0
Bvumbwe Met.	23.2	71.6	125.6	345.7	36	4
Chancellor College	41.1	106.5	197.2	441.9	45	4
Chichiri Met.	57.2	73.4	105.8	352.8	30	4
Chikwawa Boma	55.3	58.3	116.7	236.3	49	5
Chileka Airport	20.8	64.8	68.4	301.9	23	3
I.T.G. Limbe	52.4	75.2	105.8	324.7	33	1
Makoka Met	24.7	72.1	94.9	319.2	30	3
Mangochi Met.	47.9	67.1	62.7	251.0	25	8
Mimosa Met.	36.7	95.7	221.2	474.4	47	3
Monkey Bay Met.	20.4	94.6	99.0	292.3	34	5
Mwanza Boma	56.4	75.9	107.2	324.9	33	2
Naminjiwa Agric	40.8	82.8	144.2	332.2	43	2
Ngabu Met.	3.6	65.2	45.6	265.8	17	3
Ntaja Met.	21.5	64.4	60.5	276.6	22	6
Satemwa Tea Est. No.1	34.7	78.1	193.9	432.9	45	6
Thyolo Met	50.4	84.4	152.9	386.7	40	6
CENTRAL REGION						
Chitedze Met.	20.8	71.5	114.8	292.2	39	5
Dedza	132.9	77.6	194.0	28.2.1	69	7
L.I.A. Met.	38.4	63.6	245.3	239.0	103	4
Kasungu Met	58.0	50.9	221.4	266.4	83	3
Nkhotakota Met	28.1	93.4	275.5	317.3	87	3
Salima Met	10.1	86.9	151.0	295.7	51	3
NORTHERN REGION						
Baka Res. Stn.	32.5	73.9	88.5	256.2	35	2
Chitipa Met	53.9	102.7	280.3	303.5	92	6
Karonga Met.	54.0	70.9	126.1	242.6	52	4
Kavuzi Rosefalls	49.6	89.8	234.8	454.8	52	5
Mzimba Met	50.8	74.4	339.2	262.3	129	4
Mzuzu Met.	70.5	82.6	340.8	362.3	94	6
NkhataBay Met.	20.4	80.5	242.8	538.0	45	4

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR DEKAD 3 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	27.6	18.8	29.5	17.5	1.9	86	7.8	6.7	5.2	9.7
CHICHIRI	28.7	19.7	31.0	19.0	1.8	75	5.5	6.2	4.9	8.2
CHILEKA	31.4	22.3	33.9	20.7	2.5	67	6.9	7.4	6.0	9.1
NTAJA	31.1	22.0	33.4	21.0	2.0	76	8.7	7.8	6.2	10.3
CHITEDZE	28.9	18.8	30.8	17.2	0.7	70	7.0	6.5	5.1	9.2
CHITIPA	30.8	19.9	31.1	17.0	2.0	79	8.0	7.2	5.7	9.7
KASUNGU	30.2	21.1	30.6	17.5	2.1	84	8.3	7.3	5.8	10.0
KARONGA	31.7	23.0	33.0	22.0	1.7	76	8.6	7.8	6.2	10.1
L I A	27.5	18.4	29.6	17.4	1.8	84	7.9	6.7	5.2	9.7
MAKOKA	29.2	20.1	31.0	19.0	1.4	71	7.0	6.8	5.4	9.2
MANGOCHI	33.1	23.0	35.5	21.5	1.4	68	8.7	8.1	6.5	10.3
MIMOSA	33.3	20.9	35.1	18.5	1.4	70	8.0	7.6	6.1	9.8
MONKEY BAY	31.8	23.8	33.4	22.1	1.9	69	8.0	7.9	6.3	9.8
MZIMBA	27.6	17.9	29.5	16.4	0.8	72	7.5	6.5	5.1	9.4
MZUZU	27.2	16.8	29.5	15.7	1.5	81	6.5	6.0	4.7	8.8
NGABU	38.1	26.3	41.0	23.2	3.1	58	9.1	9.9	8.2	10.6
NKHATA BAY	30.7	21.3	32.7	19.6	1.8	74	7.7	7.2	5.7	9.5
NKHOTAKOTA	30.0	22.3	32.0	20.5	1.6	75	7.7	7.3	5.8	9.6
SALIMA	31.9	23.4	33.2	22.1	1.6	68	9.7	8.2	6.5	10.9
THYOLO	30.9	21.0	34.5	20.0	1.5	72	7.0	7.1	5.7	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).