



# 10-Day Rainfall & Agromet Bulletin

Department of Meteorological Services



Period: 21 – 31 January 2004

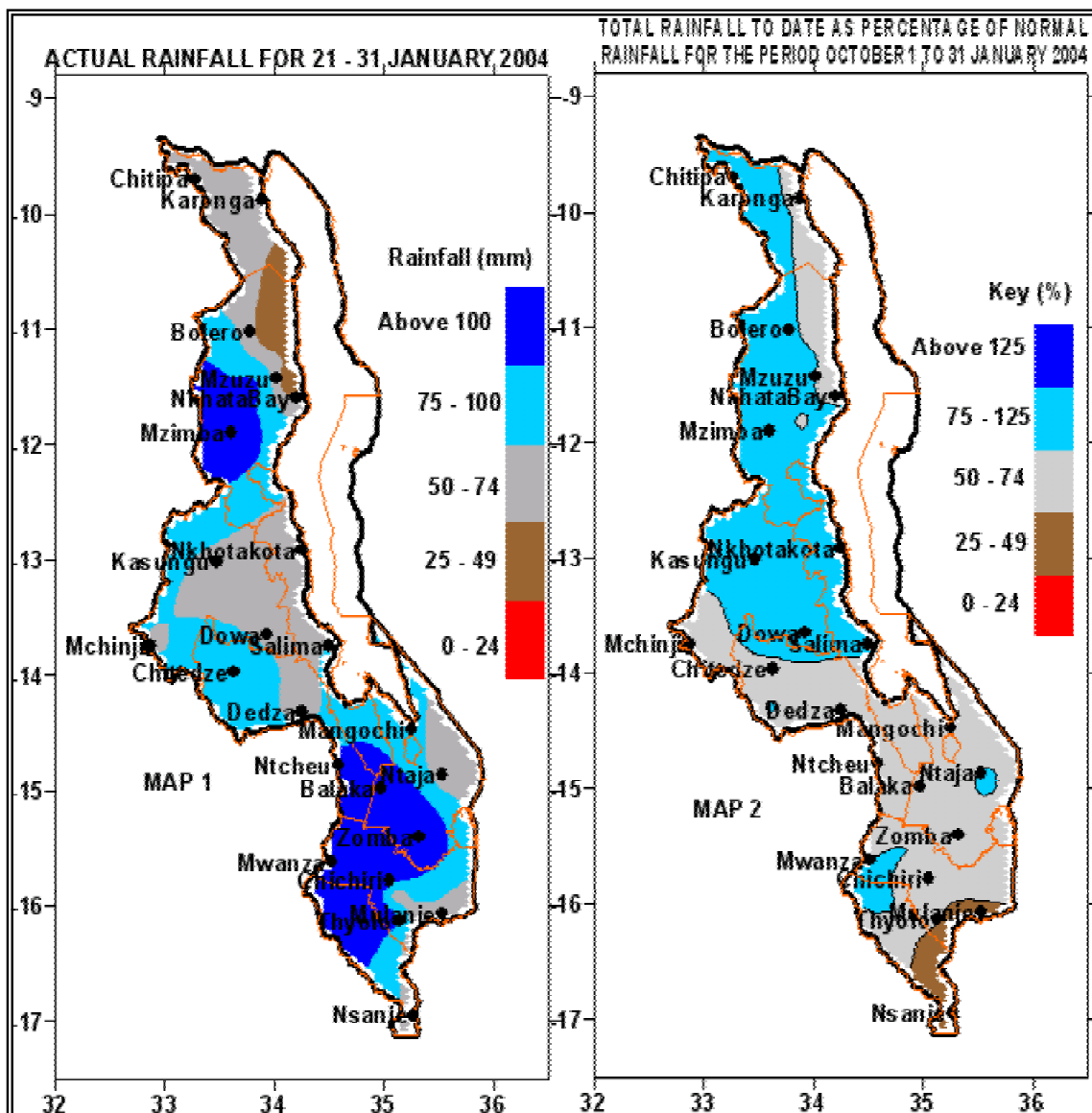
Season: 2003/2004

Issue No.12

Release date: 4 February 2004

## HIGHLIGHTS

- Moderate to heavy rains continued over Malawi...
- Continuous rains disrupted farming operations ...
- Cumulative rainfall performance improves...
- Rainfall distribution likely to decrease within 1 – 10 February 2004...



## 1. WEATHER SUMMARY

### 1.1 RAINFALL

Malawi experienced fairly continuous widespread rains with moderate to heavy amounts during the period 21 – 31 January 2004. Most areas in the south reported above normal 10-day rainfall totals with at least seven rainy days. Some parts particularly the western sectors of southern Malawi and Mzimba in the north registered very high rainfall intensities and total rainfall for the period was in excess of 120mm. High rainfall intensities experienced were caused by Congo air mass which was enhanced by tropical cyclone “Elita” in the Mozambique Channel.

There has been a marked increase in cumulative rainfall since October 2003 up to 31<sup>st</sup> January 2004, over most parts of Malawi. The northern half had received between 75 and 125% of normal rainfall except northern lakeshore areas which received rainfall ranging from 50 to 74% of normal. Most areas in southern half received rainfall of between 50 and 74% of normal with below 50% of normal confined to lower Shire Valley and some parts of Mulanje district (Map 2 and Table 1).

### 1.2 MEAN AIR TEMPERATURE

Warm to hot temperatures were experienced over most parts of Malawi except at Dedza where mild temperatures were reported (Table 2). The highest daily average maximum temperatures were reported at Ngabu in Shire Valley while the lowest was reported at Dedza in central Malawi.

### 1.3 AVERAGE DAILY WIND SPEEDS

Average wind speeds recorded at a height of 2m above ground ranged from 1 to 2 m/s. Nkhotakota registered the highest (2.4m/s).

### 1.4 MEAN RELATIVE HUMIDITY

Widespread rains maintained very humid conditions to prevail over Malawi through out the period. Daily average relative humidity values were in excess of 70%. The highest was 91% while the lowest was 71%.

### 1.5 MEAN SUNSHINE HOURS

The few stations that reported Sunshine hours indicated that cloudy to overcast skies were

experienced over Malawi. Most areas reported an average of less than four hours of bright sunshine. This resulted in low solar radiation (less than 8 Cal/ cm<sup>-2</sup>/day) to be received over most parts of Malawi.

## 2. AGROMETEOROLOGICAL ASSESSMENT

Widespread rainfall received during the period under discussion supported crop growth and development. However, continuous rains hampered some farming operations such as weeding and fertilizer application particularly over some parts of the south. High rainfall intensities in some areas caused soil erosion, water logging conditions and leaching of nutrients. Maize crop is still at early vegetative stage in some areas particularly in the south, where planting rains came late. Elsewhere, maize crop is reported to be at advanced vegetative to flowering stages which require more soil moisture for the purpose cob development. Adequate rainfall is therefore required during these crop stages. On the other hand sunny spells would facilitate weeding and fertilizer application.

## 3. FORECAST FOR 1 – 10 FEBRUARY 2004

Current atmospheric conditions indicate that tropical cyclone Elita in the South West Indian Ocean is likely to move further southwards and weaken before the end of the period. Atmospheric Pressure will build up over the southeast coast of the sub-region and Transvaal region of South Africa. Moist and unstable Congo air mass will gradually become weak and less effective over Malawi as the rain belt shifts to the north. Therefore, relatively dry weather is expected over the south and some areas in the centre, particularly during the last days of the period.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR  
DEKAD 3 OF JANUARY 2004: PERIOD 21 - 31

STATION NAME	DEKADAL TOTAL RAINFALL mm	DEKADAL NORMAL mm	TOTAL TO DATE mm	NORMAL TO DATE mm	TOTAL TODATE AS % NORMAL	RAINY DAYS ≥ 0.3 mm
<b>SOUTHERN REGION</b>						
Blantyre TownHall	157.0	111.3	235.0	600.1	39	6
Bvumbwe Met.	74.1	90.5	352.9	589.8	60	6
Chancellor College	134.8	100.8	533.4	742.0	72	10
Chichiri Met.	148.2	93.0	352.5	597.2	59	10
Chikwawa Boma	155.1	62.1	328.7	418.7	79	7
Chileka Airport	169.4	79.3	368.2	499.7	74	9
I.T.G. Limbe	74.1	116.5	259.2	589.4	44	3
Kasinthula Res. Stn.	60.1	62.5	176.0	387.3	45	2
Monkey Bay Met.	96.3	114.2	266.6	545.4	49	7
Mulanje Boma	64.6	115.0	360.0	828.6	43	8
Naminjiwa Agric	82.3	83.0	401.7	557.4	72	6
Nchalo Sucoma	115.6	54.2	187.1	366.2	51	7
Ngabu Met.	90.0	52.2	202.1	420.2	48	6
Ntaja Met.	61.0	84.5	383.1	501.2	76	5
Satemwa Tea Est. No.1	104.6	95.0	373.7	672.4	56	8
Thuchila Agric	88.2	66.1	210.7	402.2	52	5
Thyolo Met	65.9	88.5	280.7	610.1	46	5
Zomba RTC	156.0	107.3	495.1	679.3	73	7
<b>CENTRAL REGION</b>						
Chitedze Met.	95.0	81.9	337.7	514.5	66	7
Dedza Met	65.4	95.6	335.8	526.1	64	9
L.I.A. Met.	79.0	90.9	438.4	478.8	92	8
Kasungu Met	68.4	67.0	379.1	473.9	80	7
Mchinji Boma	72.8	88.4	421.0	575.4	73	3
Natural Res. College	13.3	74.6	86.7	489.9	18	3
Nkhotakota Met	56.0	107.1	470.5	615.7	76	8
Ntchisi Boma	56.9	74.6	539.9	472.8	114	7
Salima Met	77.4	114.4	498.1	636.2	78	9
<b>NORTHERN REGION</b>						
Baka Res. Stn.	58.4	63.6	247.2	446.5	55	4
Bolero Met	66.7	47.3	344.7	410.6	84	4
Chitipa Met	61.3	72.6	474.3	515.3	92	5
Karonga Met.	54.2	54.1	311.8	422.8	74	6
Kavuzi Rosefalls	30.6	82.1	406.9	697.5	58	5
Mzimba Met	129.2	63.3	523.0	485.1	108	9
Mzuzu Met.	90.3	69.9	535.2	567.5	94	7
NkhataBay Met.	59.7	53.4	485.7	762.1	64	8
Rumphi Boma	35.4	61.7	268.6	374.2	72	6

**TABLE 2: AGROMETEOROLOGICAL PARAMETERS  
FOR DEKAD 3 OF JANUARY 2004**

STATION	MAX TEMP	MIN TEMP	ABS MAX	ABS MIN	WIND SPEED	RH	SUN SHINE HOURS	E <sub>o</sub> mm per day	E <sub>t</sub> mm per day	RAD- TION cal cm <sup>-2</sup> p/day
	(°C)	(°C)	(°C)	(°C)	m/s	%				
BVUMBWE	27.1	19.7	28.3	15.5	2.0	91	N/A	N/A	N/A	N/A
CHICHIRI	27.6	20.4	28.7	17.6	1.8	90	N/A	N/A	N/A	N/A
CHILEKA	27.0	20.3	30.2	19.2	2.3	81	3.2	5.1	4.1	6.7
NTAJA	27.9	21.0	29.8	19.9	1.6	84	4.4	5.5	4.4	7.4
CHITEDZE	26.2	18.4	29.7	17.4	0.7	76	N/A	N/A	N/A	N/A
CHITIPA	26.9	18.2	28.5	16.9	1.3	71	N/A	N/A	N/A	N/A
DEDZA	22.8	15.7	25.8	14.0	1.6	83	2.6	4.3	3.4	6.3
KASUNGU	26.9	18.3	28.9	17.5	1.9	81	3.2	4.9	4.0	6.7
KARONGA	30.5	23.0	33.0	21.5	1.3	72	5.2	6.3	5.1	7.9
L I A	26.0	16.0	28.8	15.1	1.4	81	2.7	4.5	3.6	6.3
MONKEY BAY	28.8	22.5	31.0	19.8	1.8	78	N/A	N/A	N/A	N/A
MZIMBA	25.5	17.2	28.2	15.5	1.2	85	N/A	N/A	N/A	N/A
MZUZU	26.5	17.3	28.4	15.9	1.6	82	N/A	N/A	N/A	N/A
NGABU	32.1	23.4	36.5	22.2	2.1	75	3.1	5.7	4.7	6.6
NKHATA BAY	30.5	21.6	34.5	20.8	N/A	82	N/A	N/A	N/A	N/A
NKHOTAKOTA	28.4	21.8	30.0	19.5	2.4	79	N/A	N/A	N/A	N/A
SALIMA	28.8	21.6	30.5	19.9	1.6	81	3.0	5.1	4.1	6.5
THYOLO	27.1	19.8	30.0	18.9	2.0	79	N/A	N/A	N/A	N/A

**Glossary of some terms on this table**

- E<sub>o</sub> = Potential Evaporation
- E<sub>T</sub> = 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).
- N/A means data not available