



# 10-Day Rainfall & Agromet Bulletin

Department of Meteorological Services



Period: 21 – 31 January 2005

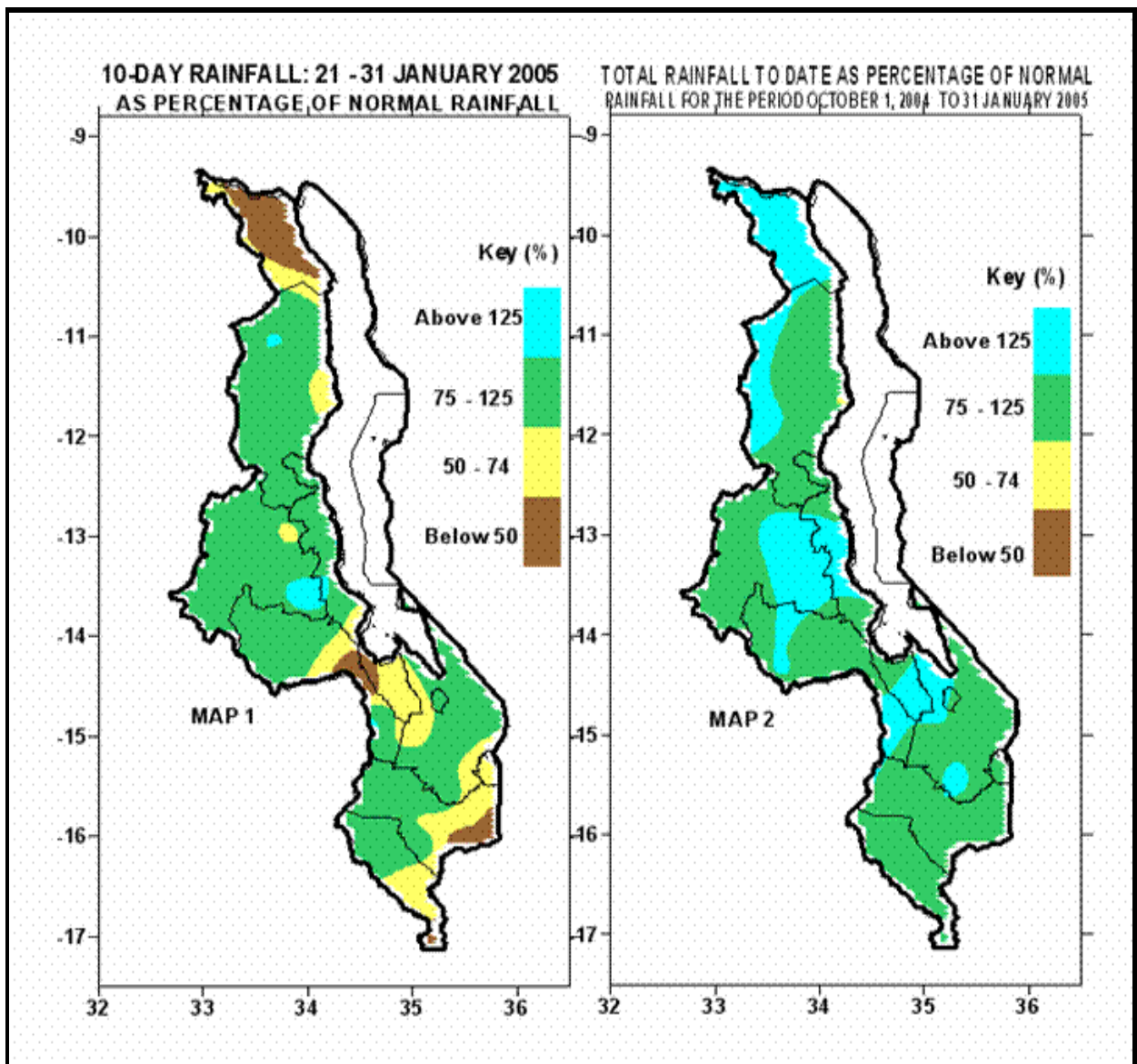
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## HIGHLIGHTS

- Significant decrease in rainfall experienced in most parts of Malawi ...
- Crops range from vegetative to flowering and maturity...
- Dry conditions expected in most areas during 1-10 February 2005...



## WEATHER SUMMARY

### 1.1 RAINFALL

In the last 10-days of January 2005 Malawi was mostly under the influence of weak Congo Airmass. As a result generally light to moderate rains were experienced in most parts of the country. Localised heavy falls were confined to very few places in the south and centre.

There has been a significant decrease in rainfall amounts during the last 10-days of January 2005 across the country compared to the 10-days. A number of places registered below normal 10-day rainfall. Significant below normal rains were registered at Karonga (4%), Balaka (22%), Dedza and Mimosa (29%), Thyolo (35%), Mlanjeni Njolomole (41%), Salima (42%) and Nkhata Bay (45%). However, a number of places also registered above normal rainfall. Significant falls were registered at Dowa Agric (166%), Nkhota kota (152%), Ntcheu -Nkhande and Dzonzi Forest (131%), Makoka (124%), Zomba RTC (121%), Liwonde (113%), Mwanza Boma (109%) and Chikangawa Forest (106%)

Cumulative rainfall from 1<sup>st</sup> October 2004 up to 31 January 2005 shows that most areas of Malawi have received normal to above normal rainfall ranging from 82 at Lujeri to 156% at Dzonzi Forest. However, there have been pockets of below normal rainfall in some parts of the country such as Nkhata Bay which has received 57% of the expected rainfall (**Map 2 and Table 1**).

*[Note: Normal = 75 - 125%, Above normal = > 125%, Below normal = < 75%, Extremely below normal = < 50%]*

### MEAN AIR TEMPERATURE

Mean maximum temperatures indicate warm to hot temperatures persisted over Malawi during the last 10-days of January 2005. Daily average maximum temperatures ranged from 24.0°C at Dedza to 33.0°C at Ngabu in Shire Valley. The highest absolute maximum air temperature was 36.8°C, reported at Ngabu while the lowest absolute minimum temperature was 15.5°C reported at Dedza.

### MEAN DAILY WIND SPEEDS

Mean daily wind speeds observed at a height of 2 meters above ground were generally light. The values ranged from 0.3m/s (1.08km/hr) at Dedza to 1.7m/s (6.12km/hr) at Monkey Bay and Nkhota kota (See Table 2 for more details).

### MEAN RELATIVE HUMIDITY

The last 10-days of January 2005 became relatively dry in most areas compared the the 2<sup>nd</sup> 10-days of January. Mean daily relative humidity

values ranged from 68% at Karonga to 86% at Kamuzu International Airport while during the 2<sup>nd</sup> 10-days of January 2005 the daily average relative humidity values ranged from 73 to 88%. Persistent high relative humidity values facilitate occurrence of fungal diseases.

## AGROMETEOROLOGICAL ASSESSMENT

The decline in rainfall performance coupled with high temperatures and sunshine hours experienced during the period under review allowed floods in Ntcheu to recede. In other areas where localised dry spells were experienced crops survived on residual soil moisture. However, if the dry spell continues in some parts of the country, it may have a serious negative impact on production as most of the crops are at a critical stage of development where rainfall is needed most. Already crop production this season has been negatively affected by amongst others heavy continuous rains, floods, leaching of soil nutrients weeding problems due to continuous rains and shortage of basal dressing fertiliser at critical crop growth stages.

Crops ranged from vegetative to flowering and maturity stages across the country. Maize stand was generally reported poor except in fields where either organic or inorganic fertilizers have been applied. Early planted maize in some parts of Malawi particularly in the south has reached maturity stage.

Figures released on 27 January 2005 by the Ministry of Agriculture showed that total smallholder and estate maize production was estimated at 1.724 million MT which is almost the same as last year's production of 1.733 million MT. These are preliminary estimates. It is still too early to make meaningful conclusions. The situation is expected to be more clear in March during the second round production estimates when most crops will have reached maturity stage.

## 3. SEASONAL OUTLOOK

The 2004/05 seasonal forecast update for January to March 2005 indicate more rains are likely to come during the period. High rainfall intensities would result in flash floods and river flooding in low lying areas. Localized dry spells of different magnitudes are still expected.

### FORECAST FOR - JANUARY

Meanwhile weather systems indicate that the major rain belt will be over Tanzania and Malawi will be mostly under the influence of a ridge of high pressure from the Indian Ocean. As a result widespread dry spells are expected over most parts of Malawi except for the extreme north during the first 10-days of February 2005.

**TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR  
DEKAD 3 OF JANUARY 2005: PERIOD 21 – 31**

STATION NAME	DEKADAL	DEKADAL	DEKADAL	TOTAL	NORMAL	TOTAL	RAINY
	TOTAL	NORMAL	TOTAL	TO	TO	TO DATE	DAYS
	RAINFALL		AS %	DATE	DATE	AS %	
<b>SOUTHERN REGION</b>	mm	mm	NORMAL	mm	mm	NORMAL	<sup>≥</sup> 0.3 mm
Balaka Township	21.2	97.2	22	470.4	499.0	94	3
Chancellor College	53.7	100.8	53	915.2	742.0	123	7
Chichiri Met.	70.8	93.0	76	736.0	597.2	123	7
Chileka Airport	66.2	79.3	83	482.1	499.7	96	5
Kasinthula Res. Stn.	32.3	62.5	52	429.1	387.3	111	8
Liwonde Township	91.0	80.5	113	577.0	458.4	126	7
Lujeri Tea Estate	53.6	134.8	40	880.6	1076.1	82	9
Makoka Met	98.0	79.0	124	721.1	548.1	132	7
Mangochi Met.	62.4	74.0	84	573.1	445.1	129	7
Mimosa Met.	29.4	100.0	29	746.7	736.5	101	6
Monkey Bay Met.	94.4	114.2	83	677.3	545.4	124	7
Mulanje Boma	50.9	115.0	44	885.7	828.6	107	4
Mwanza Boma	90.0	82.8	109	676.6	542.0	125	4
Ngabu Met.	31.5	52.2	60	384.0	420.2	91	5
Ntaja Met.	75.9	84.5	90	505.4	501.2	101	4
Satemwa Tea Est. No.1	92.0	95.0	97	870.4	672.4	129	9
Toleza Farm	27.4	80.6	34	595.1	472.8	126	3
Thyolo Boma	32.1	91.2	35	547.3	606.3	90	2
Thyolo Met	60.6	88.5	68	833.9	610.1	137	7
Zomba RTC	129.3	107.3	121	938.4	679.3	138	10
<b>CENTRAL REGION</b>							
Chitedze Met.	72.0	81.9	88	580.0	514.5	113	5
Dedza Met	52.8	95.6	55	491.9	526.1	93	4
Dowa Agric	140.1	84.2	166	627.6	481.6	130	6
Dwangwa Sugar Corp.	72.8	87.0	84	532.5	593.1	90	5
Dzonzi Forest	105.8	80.8	131	863.9	552.1	156	5
K.I.A. Met.	57.6	90.9	63	658.2	478.8	137	5
Lifuwu	104.6	122.7	85	833.7	619.6	135	7
Mlangeni Njolomole	34.8	85.2	41	649.2	534.9	121	3
Natural Res. College	86.5	74.6	116	708.9	489.9	145	3
Nkhotakota Met	163.3	107.1	152	759.6	615.7	123	5
Ntcheu - Nkhande	110.1	84.0	131	882.0	605.8	146	5
Ntchisi Boma	51.7	74.6	69	685.7	472.8	145	5
Salima Met	48.6	114.4	42	683.1	636.2	107	7
Dedza RTC	33.8	116.3	29	604.9	550.4	110	2
<b>NORTHERN REGION</b>							
Chikangawa forest	63.6	47.3	134	491.6	410.6	120	8
Karonga Met.	74.7	70.8	106	643.6	545.5	118	6
Mzimba Met	39.4	72.6	54	774.5	515.3	150	4
Mzuzu Met.	2.3	54.1	4	647.6	422.8	153	3
NkhataBay Met.	57.3	63.3	91	619.5	485.1	128	5

**TABLE 2: AGROMETEOROLOGICAL PARAMETERS  
FOR DEKAD 3 OF JANUARY 2005**

STATION	MAX TEMP	MIN TEMP	ABS MAX	ABS MIN	WIND SPEED	RH
	(°C)	(°C)	(°C)	(°C)	m/s	%
BOLERO	27.9	18.2	30.1	16.4	0.4	77
CHICHIRI	28.5	20.3	29.5	16.5	0.6	78
CHILEKA	29.1	21.1	31.3	20.0	1.0	79
NTAJA	30.5	23.4	31.8	20.5	0.9	80
CHITEDZE	28.0	18.0	30.7	17.5	0.4	69
CHITIPA	27.6	17.1	29.1	16.6	1.5	75
DEDZA	24.0	16.7	27.2	15.5	0.3	77
KARONGA	31.3	22.8	34.0	22.2	1.2	68
K I A	27.6	19.7	30.5	17.2	1.2	86
MAKOKA	28.0	19.4	29.6	18.2	1.1	79
MANGOCHI	30.8	21.8	33.1	21.0	1.3	78
MIMOSA	29.6	20.3	32.3	18.2	1.0	80
MONKEY BAY	30.1	22.1	32.6	21.1	1.7	77
MZIMBA	27.3	17.0	30.0	15.9	1.0	73
MZUZU	27.4	16.7	30.4	14.9	1.5	76
NGABU	33.0	24.0	36.8	20.4	1.2	76
NKHATA BAY	30.7	21.1	23.1	20.0	1.5	77
NKHOTAKOTA	32.6	23.3	32.7	20.0	1.7	84
SALIMA	29.6	22.0	31.5	20.0	1.5	77
THYOLO	28.2	19.9	30.8	17.9	1.5	81

**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