10-Day Rainfall & Agromet Bulletin

Department of Meteorological Services

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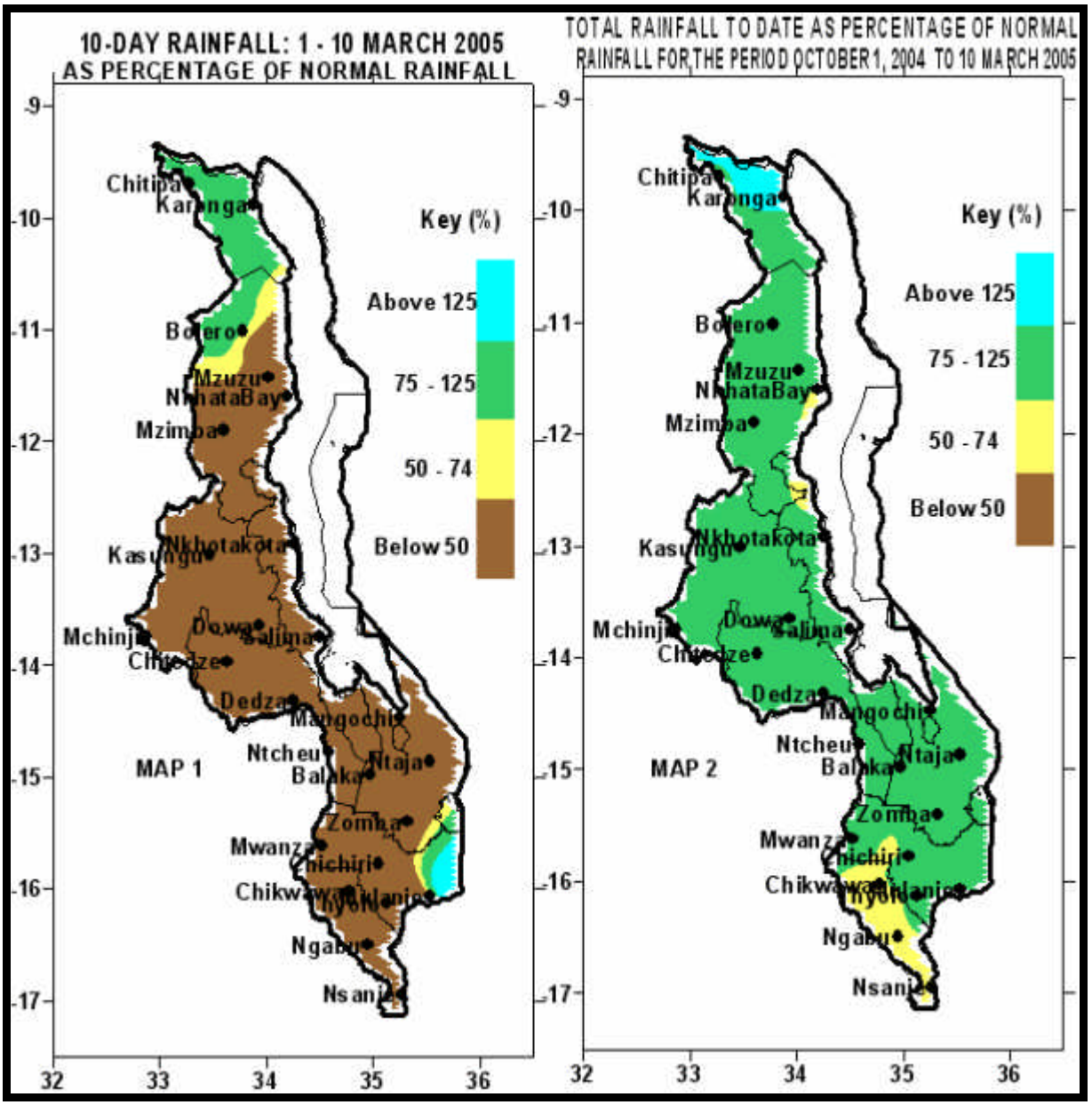
HIGHLIGHTS

- **Dry conditions experienced in south and centre…**
- **Dry spell reduces prospects of good harvest…**
- **Dry weather expected during 11 - 20 March 2005…**



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. WEATHER SUMMARY

1.1 RAINFALL

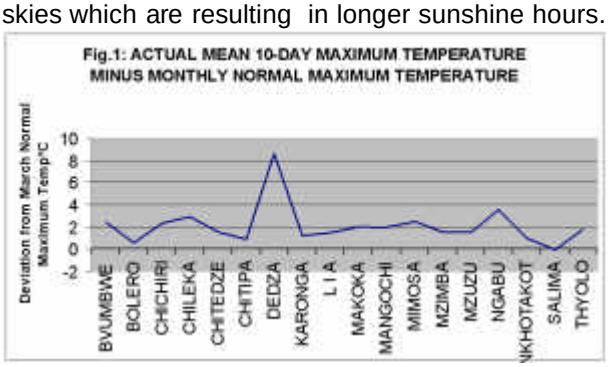
During the first 10-days of March 2005, Malawi was mostly under the influence of an inland Hgh Pressure Cell. As a result most parts of the country were dry. Good rainfall amounts with better distribution were experienced over northern parts of the country. On average the north registered 4 rainy days. Areas that recorded rainfall above 25mm during the period under discussion include Karonga Met (74.0mm), Chitipa Met (64.9mm), Bolero Met (62.9mm), Mzuzu and Nkhata Bay Met (38.9mm), Lujeri Tea Estate (38.5mm) and Thyolo Met (28.9mm). However, 10-day rainfall totals as a percentage of normal indicates that significant rains were only received at Lujeri (260%), Bolero (112%), Karonga Met (97%), and Chitipa Met (95%). See Map 1 and Table 1.

Total seasonal rainfall from 1st October 2004 up to 10 March 2005 showed that most areas in Malawi have received normal rainfall despite the prolonged dry spell that has been experienced. This is due to the abundant rains that were received in November, December and early January. Pockets of below normal rainfall exist in Chikwawa and Nsanje districts and some parts of Blantyre district in the south while above normal rainfall situation exist over Karonga and Chitipa in the north. Areas that have received much below normal cumulative rainfall include Nkhata Bay (57%) in the north and Chikwawa (65%) in Shire Valley. **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 demonstrate that unusually hot weather continued over most pasts of Malawi during the first 10-days of March 2005. The highest absolute maximum air temperature was recorded at Ngabu (40.5°C) while the lowest absolute minimum temperature was reported at Dedza, 14.0°C. The 10-day average maximum temperatures were above the 30-year average for the month of March. At Dedza daily mean maximum temperatures were 8°C higher than the long term average for March (Fig 1). The higher than normal daytime temperatures are due to clear skies which are resulting in longer sunshine hours.



. MEAN DAILY WIND SPEEDS

Mean daily wind speeds at a height of 2 meters above ground continued to be light and variable. The values ranged from 0.6m/s (2.2km/hr) at Bolero, Chitedze and Mzimba to 1.9m/s (6.8km/hr) at Thyolo. See Table 2 for more details.

. MEAN RELATIVE HUMIDITY

Mean Relative Humidity values during the first 10-days of March 2005 ranged from 62% at Ngabu and Chileka to 79% Mzuzu. This implies that the first 10-days of March were slightly drier than the 8-days of February 2005.

. AGROMETEOROLOGICAL ASSESSMENT

Dry conditions were again experienced in most parts of Malawi during the first 10-days of March 2005. The rains that were received in the last days of February did not improve the soil moisture to resuscitate the dying crops. Most crops have been scorched by the dry spell that occurred for more than one month in most parts of the country particularly over the south and some parts of the centre. The situation is slightly better in the north though localised areas were also hit by the dry spell. The situation is worse along Shire river valley from Mangochi through Balaka to Chikwawa and Nsanje districts where due to high temperatures and long sunshine hours crops reached permanent wilting point and did not recover due to the rains in the last days of February. Crops that have suffered most include maize, tobacco, beans and groundnuts. The dry spell has affected this year's maize yield, initially estimated at 1.7 million tonnes. Due to prolonged dry spell some farmers particularly those who planted late as well as those who planted late maturing maize varieties might not harvest anything and this will have implications in food security during the coming consumption period (April 2005 – March 2006). Meanwhile, harvesting of maize that survived the dry spell has started in some parts of the south. However, this is expected to improve food situation at household level for only few months.

. FORECAST FOR – MARCH

Medium range weather systems indicate that Malawi will be persistently under a ridge of high pressure cell from the Indian Ocean. This will reduce cloud development over most parts of Malawi. Therefore, rainfall is expected to be confined to the northern areas, lakeshore and southern highlands while dry weather will persist elsewhere during the period 11 to 20 March 2005.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR DEKAD 1 OF MARCH 2005: PERIOD 1 – 10

STATION NAME **SOUTHERN REGION**	DEKADAL TOTAL RAINFALL mm	DEKADAL NORMAL mm	**DEKADAL TOTAL AS % NORMAL**	TOTAL TO DATE mm	NORMAL TO DATE mm	**TOTAL TO DATE AS % NORMAL**	RAINY DAYS [3] **0.3 mm**
Bvumbwe Met.	1.5	73.2	2	721.8	874.1	83	1
Chancellor College	0.0	110.7	0	1015.7	1127.8	90	0
Chichiri Met.	2.6	76.8	3	842.4	887.1	95	1
Chikwawa Boma	15.5	47.0	33	400.9	614.9	65	2
Chileka Airport	0.0	53.6	0	494.5	736.7	67	0
Kasinthula Res. Stn.	0.2	87.2	0	490.0	616.4	79	0
Liwonde Township	0.0	63.0	0	668.1	709.2	94	0
Lujeri Tea Estate	38.5	14.8	260	1106.3	1466.3	75	4
Makoka Met	0.0	85.3	0	803.3	853.1	94	0
Mangochi Met.	0.9	58.3	2	660.8	704.0	94	1
Mimosa Met.	21.4	112.2	19	867.1	1111.0	78	1
Mulanje Boma	8.6	136.6	6	976.1	1251.5	78	2
Mwanza Boma	0.0	73.8	0	747.1	832.3	90	0
Nchalo Sucoma	9.5	57.0	17	394.2	588.6	67	1
Ngabu Met.	2.1	52.1	4	431.6	645.0	67	1
Ntaja Met.	1.0	55.8	2	721.2	740.9	97	1
Satemwa Tea Est. No.1	2.0	108.2	2	955.8	1018.0	94	2
Toleza Farm	0.0	63.6	0	636.9	719.2	89	0
Thyolo Boma	0.0	84.4	0	650.5	918.3	71	0
Thyolo Met	28.9	87.7	33	934.3	915.8	102	4
Zomba RTC	0.0	78.1	0	1097.0	997.9	110	0
CENTRAL REGION							
Chitedze Met.	0.7	59.1	1	765.1	768.6	100	1
Dedza Met	0.0	63.5	0	675.6	806.4	84	0
Dowa Agric	3.3	61.6	5	706.8	740.9	95	1
Dwangwa Sugar Corp.	3.9	128.4	3	592.1	928.7	64	2
Dzonzi Forest	9.8	82.9	12	1084.5	836.3	130	2
K.I.A. Met.	20.7	72.4	29	853.5	727.4	117	2
Kasungu Met	0.0	62.1	0	808.7	768.8	105	0
Nkhotakota Met	0.0	121.1	0	840.9	1017.6	83	0
Ntcheu - Nkhande	25.7	79.9	32	994.1	921.5	108	1
Ntchisi Boma	24.7	53.5	46	733.4	733.2	100	3
Salima Met	0.0	111.3	0	858.9	1023.0	84	0
Dedza RTC	0.0	86.8	0	762.5	851.5	90	0
NORTHERN REGION							
Bolero Met	62.9	56.2	112	644.1	627.7	103	4
Chitipa Met	64.9	68.2	95	984.3	799.4	123	4
Karonga Met.	74.0	76.3	97	922.3	662.6	139	4
Mzimba Met	1.5	73.9	2	892.9	750.4	119	2
Mzuzu Met.	38.9	83.8	46	809.3	830.7	97	5
NkhataBay Met.	38.9	92.5	42	596.0	1046.5	57	5

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR DEKAD 1 OF MARCH 2005

STATION	MAX TEMP (°C)	MIN TEMP (°C)	ABS MAX (°C)	ABS MIN (°C)	WIND SPEED m/s	RH %
BVUMBWE	27.3	14.9	30.2	11.9	1.4	71
BOLERO	28.6	17.5	29.9	15.2	0.6	74
CHICHIRI	28.1	17.8	31.0	14.6	1.0	68
CHILEKA	31.2	20.6	34.2	18.3	1.6	62
NTAJA	25.6	20.4	32.0	19.0	0.7	74
CHITEDZE	28.4	17.6	29.9	15.9	0.6	70
CHITIPA	27.3	17.6	28.6	13.0	1.7	78
DEDZA	24.6	16.3	26.0	14.0	1.3	70
KASUNGU	29.3	18.9	32.1	17.0	1.7	65
KARONGA	30.6	22.3	32.0	20.2	1.3	77
L I A	27.6	16.7	29.0	14.5	1.3	70
MAKOKA	28.4	17.7	30.0	15.1	1.2	73
MANGOCHI	32.3	21.8	34.5	19.8	1.4	66
MIMOSA	31.6	18.6	34.6	16.9	1.1	64
MZIMBA	27.6	17.8	29.2	16.4	0.6	71
MZUZU	36.2	16.8	28.8	14.3	1.4	79
NGABU	36.2	22.9	40.5	20.4	1.3	62
NKHATA BAY	30.5	20.9	32.7	19.5	1.0	78
NKHOTAKOTA	29.7	22.8	31.4	21.2	1.2	67
SALIMA	30.6	20.9	32.0	19.5	1.5	67
THYOLO	29.1	18.0	32.2	14.6	1.9	74

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