Malawi 10-Day Rainfall & Agrometeorological Bulletin

Department of Climate Change and Meteorological Services

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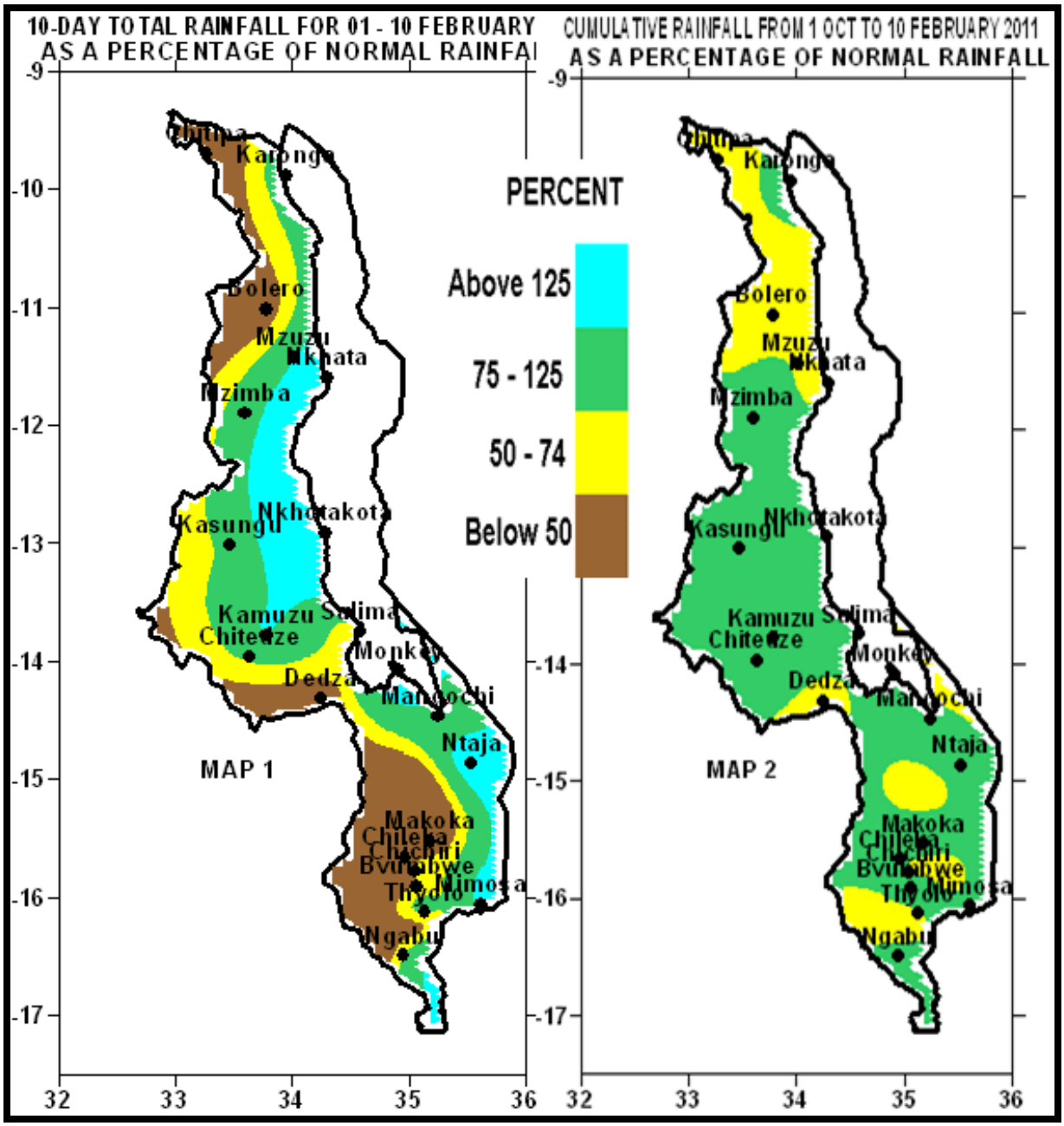
HIGHLIGHTS

- Eastern sector experience a boost in rainfall amounts …
- Dry spells cause wilting of crops especially in low altitude areas…
- More rains over North and Centre; less in the south during 11– 20 February 2011…



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1. WEATHER SUMMARY

1.1 RAINFALL SITUATION

During the first 10-days of February 2011, the main rain bearing systems were more active over the eastern sector of Malawi particularly along the lakeshore and some parts of Mulanje, Zomba and Machinga districts. As a result high cumulative 10-day rainfall amounts were mostly confined to east side (light blue *Colour on Map 1*). Stations which recorded high cumulative 10-day rainfall amounts greater than 100mm in the south included Lujeri Tea Estate 206mm, Mulanje Boma 148mm, Monkey Bay 145mm, Mimosa 126mm, Ntaja 124mm and Namiasi Agric 101mm while in the centre Nkhota Kota had 172mm and Dwangwa reported 159mm in the north only Nkhata Bay recorde 139mm. More details are in Table 1.

As at 10th February 2011, the cumulative rainfall performance had shown significant improvement as the greater part of Malawi had received average cumulative rainfall amounts (Green Colour on Map2) with just a few pockets of below average cumulative rainfall amounts (yellow colour on Map 2).

1.2 MEAN AIR TEMPERATURE

Increased cloud cover maintained warm to hot temperatures over Malawi. The average maximum temperatures ranged from 23°C at Dedza to 32°C at Ngabu. The highest absolute daytime temperature was still reported at Ngabu (34°C) in Shire Valley while the lowest absolute night temperature was 13.5°C reported at Kamuzu International Airport in Lilongwe. See more details in Table 2.

1.4 MEAN WIND SPEEDS

Average wind speeds at a height of two metres above the ground were still light. The lowest was 0.6 m/s (2.2 Km/h) recorded at Mkondezi Research in Nkhata Bay and the highest was 3.0 m/s (10.8 Km/h) reported at Chileka. See more details in Table 2.

1.5 MEAN RELATIVE HUMIDITY

During the first ten days of February 2011, air over Malawi remained fairly moist. The lowest daily average relative humidity was 67% reported at Kasungu while the highest daily average relative humidity value was 87% reported at Mzuzu Airport.. More details are in the Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

During the first 10-days of February 2011, good rains were confined to the eastern sector of Malawi while the western side experienced a decline in rainfall performance and dry spells. Seasonal dry conditions have resulted in soil moisture stress and wilting of various crops particularly in Balaka, Neno, some parts of Mwanza, Blantyre and Chikhwawa in the south and Mzimba and Rumphi in the north. So far the impact was reported as mild but if the dry spells continue for the next one week, then the impact could become worse in low altitude areas where most crops have reached flowering stage and need more moisture.

Crops were generally reported doing well except in areas that have been affected by dry spells. Most crops were at flowering stage and more rainfall was needed for proper grain filling and maturity. If good rains continue up to early March, yields of most crops are expected to be higher than last season. No major outbreaks of pests and diseases have been reported over the country.

3. PROSPECTS OF 2010/11 RAINFALL SEASON

Climate model forecasts continue to suggest that during February, March and April 2011, a greater part of Malawi is likely to experience average to above average total rainfall amounts as *La Nina* conditions have become fully established over the eastern equatorial Pacific Ocean.

4. OUTLOOK 11 – 20 FEBRUAYY 2011

Medium range forecast suggest that during the period 11 – 20 of February 2011 good rainfall amounts will still be confined to central and northern areas while a decline in rainfall will persist in most of southern Malawi.

TABLE 1: DEKADAL RAINFALL SUMMARY FOR 01 – 10 FEBRUARY 2011 AT SELECTED STATION

STATION NAME	DEKADAL TOTAL RAINFALL	DEKADAL NORMAL	DEKADAL TOTAL AS %	TOTAL TO DATE	NORMAL TO DATE	TOTAL TODATE AS %	RAINY DAYS
SOUTHERN REGION	mm	mm	NORMAL	mm	mm	NORMAL	≥ 0.3 mm
Balaka Township	8.0	79.3	10	172.0	585.2	29	1
Bvumbwe Met.	42.6	90.3	47	782.8	697.5	112	6
Chichiri Met.	48.6	72.9	67	743.9	867.7	86	5
Chikwawa Boma	23.0	66.7	34	332.6	529.1	63	4
Chileka Airport	29.9	88.5	34	621.1	586.5	106	5
Chingale Agric	1.0	83.6	1	520.6	601.3	87	1
Kasinthula Res. Stn.	26.6	54.2	49	464.8	441.5	105	3
Liwonde Township	18.6	79.5	23	222.7	506.0	44	3
Lujeri Tea Estate	206.2	126.3	163	1043.8	1202.4	87	7
Makhanga Met	86.8	58.5	148	460.1	478.7	96	4
Makoka Met	11.9	91.7	13	803.6	640.1	126	3
Mangochi Met.	85.4	72.4	118	499.6	418.4	119	4
Masambanjati Agric	31.2	87.8	36	462.7	777.8	59	1
Mimosa Met.	126.2	95.2	133	692.1	867.8	80	7
Monkey Bay Met.	145.6	71.7	203	350.7	399.1	88	3
Mpemba Vet	25.6	84.8	30	738.4	725.9	102	4
Mulanje Boma	147.9	109.5	135	786.6	1067.0	74	6
Mwanza Boma	17.4	91.2	19	544.0	657.1	83	3
Namiasi Agric	101.9	92.2	111	404.4	515.2	78	2
Namwera Agric	46.7	83.2	56	359.7	655.3	55	2
Nchalo Sucoma	32.6	70.2	46	305.3	434.9	70	4
Neno Agric	30.4	107.8	28	683.7	721.7	95	4
Ngabu Met.	30.8	69.1	45	427.3	498.4	86	6
Ntaja Met.	124.2	65.8	189	606.4	561.8	108	3
Satemwa Tea Est. No.1	70.3	87.3	81	453.9	656.5	69	7
Thuchila Agric	62.6	80.2	78	453.6	563.2	81	4
Thyolo Boma	83.3	96.3	87	745.2	702.6	106	7
Thyolo Met	99.3	90.3	110	911.5	711.9	128	6
CENTRAL REGION							
Chitedze Met.	51.3	65.2	79	502.5	544.9	92	5
Dedza Met	18.2	74.9	24	374.4	582.5	64	4
Dwangwa Sugar Corp.	158.5	76.7	207	692.0	661.9	105	8
Kaluluma DTC	59.2	57.6	103	302.1	517.3	58	5
K.I.A Met	98.3	72.1	136	523.3	524.2	100	8
Kasungu Met	62.6	72.0	87	345.7	486.2	71	6
Lisasadzi	69.9	77.8	90	512.7	547.5	94	6
Mwimba Research	64.7	75.8	85	725.5	552.6	131	5
Mtakataka Airwing	39.3	86.1	46	262.1	489.9	54	3
Nkhotakota Met	171.6	84.2	204	527.1	710.9	74	9
Salima Met	56.1	102.3	55	587.0	683.0	86	3
NORTHERN REGION							
Bolero Met	12.1	51.2	24	225.3	394.7	57	4
Karonga Met.	49.6	48.7	102	379.7	436.4	87	0
Mbawa Res. Stn	54.0	66.5	81	457.1	507.3	90	5
Mzimba Met	68.2	67.2	101	415.7	543.5	76	8
Mzuzu Met.	62.7	51.9	121	382.8	527.9	73	9
NkhataBay Met.	139.2	65.3	213	349.3	604.3	58	10

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 01 – 10 FEBRUARY 2011

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	27.1	18.4	29.5	17.2	1.0	80.0	4.0	5.1	4.1	7.2
BVUMBWE	24.8	15.8	25.1	13.8	2.4	78.0	6.5	5.9	4.6	8.7
CHICHIRI	25.5	17.3	26.5	15.4	1.0	72.0	N/A	N/A	N/A	N/A
CHILEKA	27.8	19.7	28.8	18.8	3.0	76.0	8.0	7.1	5.6	9.7
CHITEDZE	27.2	17.1	28.8	16.0	0.9	75.0	7.1	6.2	4.8	9.1
DEDZA	23.2	14.5	23.2	13.7	0.9	78.0	N/A	N/A	N/A	N/A
K I A	25.9	16.1	28.0	13.5	1.4	75.0	N/A	N/A	N/A	N/A
KARONGA	29.4	21.7	30.2	19.8	1.0	80.0	4.6	5.7	4.5	7.6
KASUNGU	29.0	18.2	30.0	17.0	1.2	67.0	N/A	N/A	N/A	N/A
MANGOCHI	N/A	21.9	N/A	20.9	1.6	76.0	N/A	N/A	N/A	N/A
MIMOSA	28.9	19.2	30.3	16.8	1.2	78.0	N/A	N/A	N/A	N/A
MONKEY BAY	30.4	22.6	32.1	21.0	1.9	69.0	8.8	7.8	6.3	10.3
MZIMBA	24.9	16.2	27.1	14.0	0.8	84.0	2.6	4.3	3.4	6.2
MZUZU	23.5	16.6	24.6	15.6	1.4	87.0	2.8	4.3	3.4	6.4
NGABU	32.0	21.4	33.7	20.1	1.3	73.0	N/A	N/A	N/A	N/A
NKHATA BAY	28.5	20.5	30.2	19.3	0.6	87.0	3.9	5.1	4.0	7.1
NKHOTAKOTA	28.4	21.8	29.7	19.8	2.1	77.0	5.9	6.4	5.1	8.4
NTAJA	28.6	20.4	30.6	19.5	1.4	77.0	7.5	6.7	5.3	9.4
SALIMA	29.4	22.1	31.2	17.5	2.1	71.0	9.1	7.7	6.1	10.5

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