Malawi 10-Day Rainfall & Agrometeorological Bulletin

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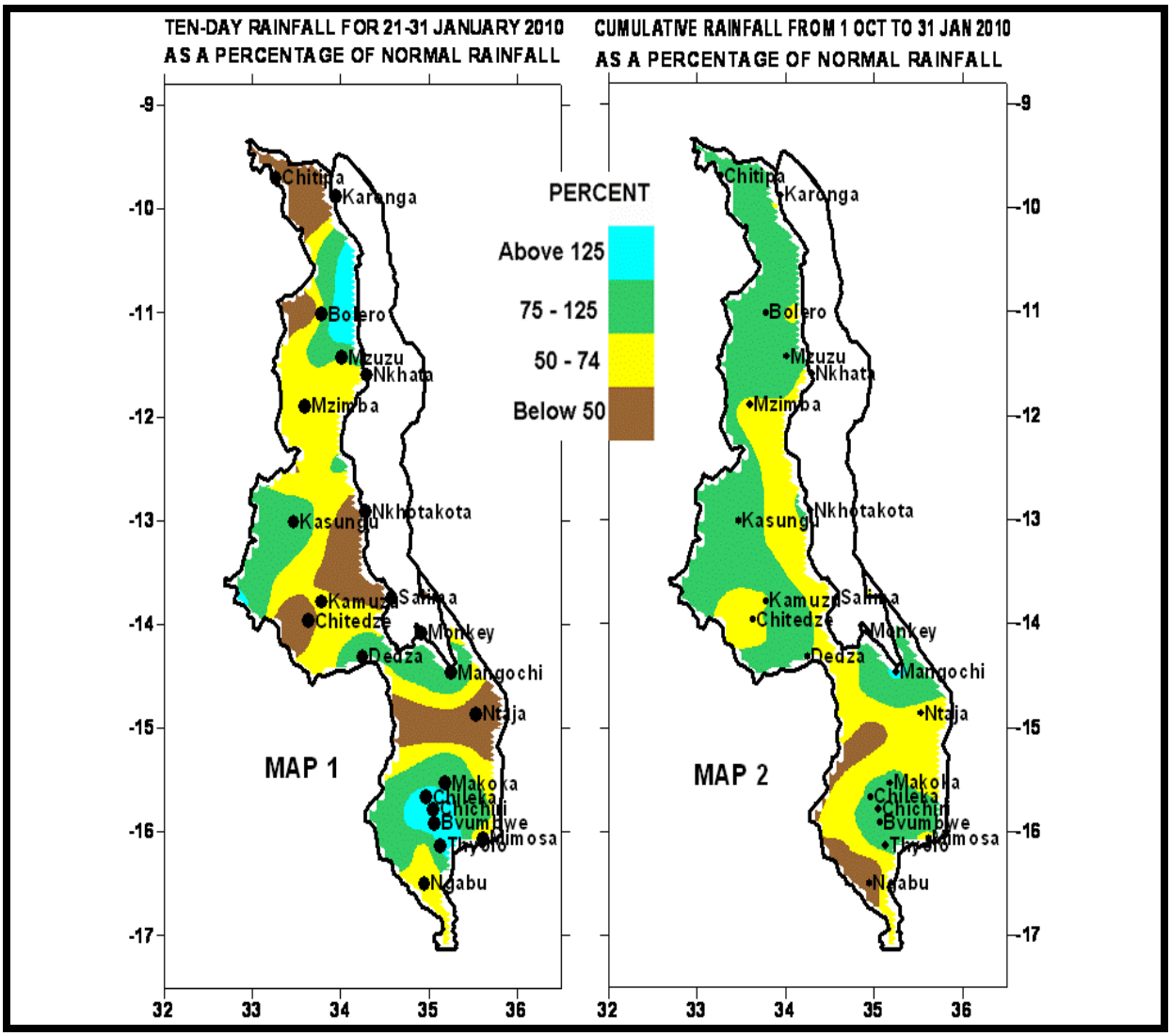
HIGHLIGHTS

- **Improved rainfall distribution over southern Malawi during the period under review…**
- **Prolonged dry spells over the south likely to negatively affect production…**
- **Favorable rainfall conditions expected over Malawi during the first dekad of February 2010...**



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1. WEATHER SUMMARY

1.1 RAINFALL SITUATION

During the last ten days of January 2010, two main rain bearing systems namely the Intertropical Convergence Zone (ITCZ) and Congo air mass became established over Malawi. As a result an improvement in the distribution of rainfall was registered mainly over southern areas. Such improvements were clear in Mwanza, Neno, Nsanje and Chikwawa where below average conditions persisted for the past month. Nevertheless below average rainfall was received over some areas in the north and centre. These areas included Bolero, Karonga and Chitipa in the north; and Salima, Nkhotakota, and parts of Lilongwe in the centre. In the south, parts of Machinga, Balaka, Mangochi, Mulanje and Thyolo still remained dry (depicted by yellow and brown colours on Map 1). Refer to Map 1 and Table1 for more details.

Cumulatively, by 31st January 2010, Map 2 indicates that most areas in the centre and north had received substantial rainfall amounts with reference to the expected amounts (depicted by green colour on Map 2) with the exception of eastern parts of central region along the lake. On the other hand, most of the districts in southern Malawi had received below average rainfall (yellow and brown colours on Map 2). Only areas in the southern highlands had an improvement in the cumulative rainfall percentage.

1.2 MEAN AIR TEMPERATURE

Mean maximum air temperatures observed in the country ranged from 25.0℃ at Dedza to 37.1℃ at Ngabu in Chikwawa district. The highest mean maximum temperature was still reported at Ngabu (40.7℃). On the other hand, mean minimum temperatures ranged from 16.8℃ at Mzuzu to 25.6℃ at Ngabu. The lowest observed temperature during this period was 13.8℃, reported at Dedza (see Table 2).

1.4 MEAN WIND SPEEDS

Low average wind speeds (measured at a height of 2 m above the ground) persisted over most areas in the country during the third dekad of January 2010 such that the lowest wind speed was 0.4m/s (1.4 Km/h) reported at Chichiri (compared to 0.5 m/s at Chitedze during the previous dekad); while the highest wind speed was 2.5 m/s (8.0 Km/h) recorded at Chileka, compared to the previous dekad's highest of 2.9 m/s recorded at Ngabu in Chikwawa (Refer to Table 2).

1.5 MEAN RELATIVE HUMIDITY

The average daily relative humidity values for the last ten days of January 2010 ranged from 63% at Ngabu to 79% at Bvumbwe, a slight drop compared to the previous dekad's lowest and highest values respectively. Refer to Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

Favourable rains that were received over some parts of the south reduced moisture stress that was being experienced by crops. In areas where crops had reached permanent wilting point some farmers were replanting early maturing crop varieties as well as tuber crops such as sweet potatoes. Over the north and centre, though there was a reduction in rains, farm activities such as basal and top dressing fertilizer applications continued. Soil moisture that was still available encouraged continued crop growth and development.

Crops over Malawi were reported to be at various developmental stages. The early planted crop had reached flowering stage while the late planted crop was still at vegetative stage. The variation in crop developmental stages was mostly due to erratic and late start of rains in some parts of the country.

Despite the dry spells that have hit some parts of the country particularly southern Malawi, preliminary results from our Crop Water Requirement Satisfaction Index (WRSI) model suggest that it is still possible for Malawi to produce surplus maize at national level this season if favourable rains continue up to March 2010 particularly in Kasungu, Lilongwe, Machinga and Mzuzu Agricultural Development Divisions (ADDs). But ooverall crop production this season will be negatively affected by the prolonged dry spells that have been experienced in December into January.

3. PROSPECTS FOR JANUARY TO MARCH 2010 RAINFALL

Most dynamical and statistical model forecasts from advanced climate prediction centers indicate a continuation of the El Nino conditions into the middle of 2010. El Niño conditions are usually associated with below average and erratic rainfall over a greater part of Southern Africa, including Malawi; and above normal rainfall over Eastern Africa. However, most climate models still project that Malawi will receive normal to above normal rainfall amounts during January to March 2010.

4. OUTLOOK FOR 01 – 10 FEBRUARY 2010

Model projections for the first ten-day period of February 2010 indicate that the two main rain bearing systems (the ITCZ and Congo airmass) will be active over Malawi. As such favourable rainfall distribution should be expected over most areas.

TABLE 1: DEKADAL RAINFALL SUMMARY FOR 21 – 31 JANUARY 2010 AT SELECTED STATIONS

STATION NAME	DEKADAL TOTAL RAINFALL (mm)	DEKADAL NORMAL RAINFALL (mm)	RAINFALL DEKADAL TOTAL (%)	TOTAL TO DATE (mm)	NORMAL TO DATE (mm)	RAINFALL TOTAL TODATE (%)	RAINY DAYS
SOUTHERN REGION							
Balaka Township	28.5	102.2	28	225	505.9	44	2
Bvumbwe Met.	157	106.7	147	552.1	607.2	91	7
Chancellor College	78.3	103.4	76	462.7	704.9	66	7
Chichiri Met.	108.7	53.8	202	506.5	794.8	64	8
Chikwawa Boma	78.9	74.5	106	270.7	462.4	59	5
Chikweo Agric.	29	98.7	29	428.8	595.3	72	3
Chileka Airport	116.1	81.3	143	456	498	92	6
Chingale Agric	98	90.7	108	376.5	517.7	73	4
Kasinthula Res. Stn.	94.7	62.5	152	352.2	387.3	91	4
Liwonde Township	22.5	71.4	32	228	426.5	53	2
Lujeri Tea Estate	99.3	134.8	74	850.2	1076.1	79	6
Makanjira (Mpilipili)	11.6	78.9	15	279.2	491.5	57	1
Makoka Met	100.1	89.6	112	436.7	548.4	80	5
Mangochi Met.	82.6	70.7	117	465.5	346	135	5
Masambanjati Agric	33.6	93.9	36	365	690	53	4
Mimosa Met.	32.6	117.1	28	518.4	772.6	67	6
Monkey Bay Met.	39.9	74	54	326.5	327.4	100	6
Mpemba Vet	182.2	95.8	190	651.8	641.1	102	5
Mwanza Boma	81.1	94.4	86	275.7	565.9	49	4
Nankumba Agric	78	78	100	313.1	473.7	66	5
Nchalo Sucoma	45.2	50.7	89	180.9	364.7	50	4
Neno Agric	67.1	103	65	277.2	613.9	45	6
Ngabu Met.	32.1	61.2	52	206.7	429.3	48	3
Nsanje Boma	55.9	84.8	66	330.9	613.5	54	5
Ntaja Met.	30.3	91.4	33	320.5	496	65	5
Phalula Agric	52.5	74.1	71	228.7	481.1	48	4
Satemwa Tea Estate	72.9	90.3	81	630.5	569.2	111	6
Thyolo Met	238.2	103.9	229	571.9	621.6	92	6
CENTRAL REGION							
Bunda College	49.8	78.7	63	305.9	498.7	61	4
Chileka Namitete	10	86.9	12	292.3	532.8	55	1
Chitedze Met.	36.6	79.2	46	319	479.7	66	5
Dedza Met	113.6	102.1	111	385.9	507.6	76	5
Dwangwa Sugar Corp.	69.6	84.7	82	331.7	585.2	57	6
Kaluluma DTC	34.1	75.7	45	452.2	459.7	98	3
K.I.A Met	38.1	69.5	55	330	452.1	73	7
Kasungu Met	80.1	70	114	427.4	414.2	103	4
Malomo Agric	27.8	55.1	50	300.8	434.8	69	4
Mchinji Boma	123.2	79.2	156	648.4	586.7	111	6
Mkanda Met	64	71	90	421.2	503.5	84	4
Mponela Agric	36	77.2	47	357	427.4	84	5
Mtakataka Airwing	35	60.2	58	366.3	403.8	91	5
Nathenje Agric	46.5	90.8	51	492.5	459.7	107	4
Nkhotakota Met	19.9	97.8	20	613.7	626.7	98	3
Ntcheu - Nkhande	28.1	84.6	33	444.1	587.7	76	8
Ntchisi Boma	42	103.3	41	315.2	636	50	7
Salima Met	33.3	99.2	34	324.3	580.7	56	6
Dedza RTC	84.9	116.3	73	353.7	550.4	64	6
NORTHERN REGION							
Bolero Met	23.1	53.3	43	351.5	343.5	102	6
Bwengu Agric.	142.5	74	193	276.5	406.9	68	3
Chitipa Met	17.8	75.3	24	571.2	473.5	121	1
Emfeni Agric	45.1	74.1	61	376.3	448.4	84	5
Karonga Met.	10.9	56	19	264	387.7	68	3
Kavuzi Rosefalls	75	82.1	91	882.5	697.5	127	7
Mzimba Met	45.5	68.6	66	310.6	476.3	65	6
Mzuzu Met.	49.4	68.9	72	570.1	476	120	5
NkhataBay Met.	36.6	64.2	57	255.4	539	47	4
Vinthukutu Agric	103	58.8	175	412	441.2	93	3
Zombwe Agric	57.1	54.2	105	439	373.4	118	7

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 21 – 31 JANUARY2010

STATION	MAX TEMP (℃)	MIN TEMP (℃)	ABS MAX (℃)	ABS MIN (℃)	WIND SPEED (m/s)	RELATIVE HUMIDITY (%)
BOLERO	30.4	17.1	32.2	14.9	N/A	76
BVUMBWE	27.2	18.8	30.0	17.2	1.3	79
CHICHIRI	28.0	19.5	30.6	18.0	0.4	78
CHILEKA	30.4	21.7	33.7	19.4	2.5	73
CHITEDZE	28.5	18.7	31.1	17.4	0.5	78
CHITIPA	28.2	18.1	30.1	17.2	0.7	74
DEDZA	25.0	16.9	26.3	13.8	1.0	77
K I A	27.8	17.7	29.6	15.5	1.0	75
KARONGA	32.4	23.3	35.2	21.5	1.2	70
KASUNGU	29.6	19.7	31.4	18.5	1.3	76
MAKOKA	28.9	19.2	30.6	17.8	1.2	77
MANGOCHI	N/A	22.9	N/A	21.0	1.2	74
MIMOSA	33.6	22.2	35.0	19.0	1.2	76
MONKEY BAY	30.7	23.8	31.7	21.8	1.6	76
MZIMBA	28.4	17.9	30.5	15.2	0.9	73
MZUZU	28.0	16.8	30.5	14.6	1.3	77
NGABU	37.1	25.6	40.7	23.8	2.1	63
NKHATA BAY	32.2	21.3	34.6	19.7	0.7	76
NKHOTAKOTA	29.4	22.8	31.2	21.6	N/A	74
NTAJA	31.7	22.0	33.6	21.0	1.3	73
SALIMA	30.1	22.9	31.6	22.5	1.5	74

Glossary of some terms on this table

- 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 (m/s) to Kilometers per hour (Km/h) = m/s x 3.6