



Malawi 10-Day Rainfall & Agrometeorological Bulletin

Department of Climate Change and Meteorological Services



Period: 11 – 20 December 2009

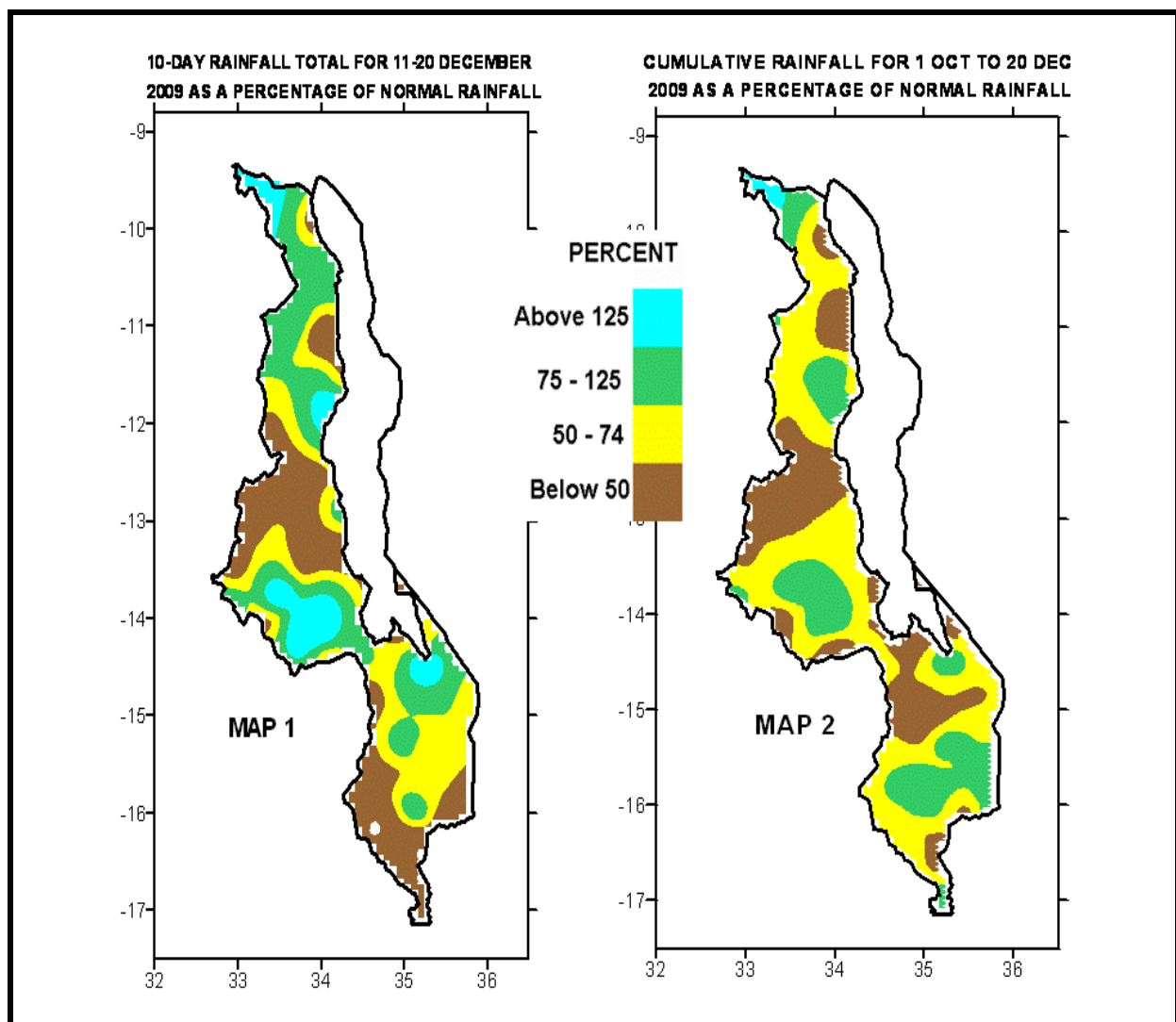
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HIGHLIGHTS

- Erratic rainfall distribution continued over Malawi...
- Crops experienced water stress in many parts...
- Widespread rainfall expected over Malawi during 21 to 31 December 2009...



1. WEATHER SUMMARY

1.1 RAINFALL SITUATION

Rainfall distribution continued to be erratic during the period under review. Most areas received below average rains. However, few areas received higher rainfall amounts, some of which include: Satemwa (130 mm), Mangochi (100 mm), Chikweo (71 mm) and Zomba (68 mm) in the southern region; Nathenje (185 mm), Kasiya (144 mm) Ntakataka (101 mm), Nkhotakota (88 mm), Mchinji (83 mm), Dedza (79 mm), KIA (68 mm) and Chitedze (62 mm) in the centre; and Chintheche (197 mm), Chitipa (135 mm), Vinthukutu (103 mm) and Mzuzu (59 mm) in the north. The amounts received in most areas were not significant compared to the crop water requirement. Lower Shire Valley areas in the south, Kasungu, Dowa and Mchinji areas in the centre were worst affected by the dry spell. But a slight improvement in distribution was experienced over the north compared to the previous ten-day period (Refer to Table 1 and Map 1). Cumulatively, from 1 October to 20 December 2009, most areas have received percentages of rainfall below the expected over this period (Refer to Table 2 and Map 2). The maximum number of rainy days was five to six mainly in the south and centre. Refer to Table 1.

1.2 MEAN AIR TEMPERATURE

Mean maximum air temperatures observed in the country ranged from 26°C at Dedza to 38°C over Ngabu in the lower Shire Valley. The highest mean maximum temperature was reported at Ngabu (42.7°C). On the other hand, mean minimum temperatures reported were in the range of 16°C at Dedza to 25°C at Ngabu. The lowest minimum temperature during this period was 14.3°C, reported at Makoka in Zomba (see Table 2).

1.4 MEAN WIND SPEEDS

Mean wind speeds, measured at two metres above the ground were still low during the period under review. The lowest speed was 0.6 m/s (2.2 Km/h) reported at Nkhata Bay while the highest was 3.2 m/s (11.5 Km/h) recorded at Chileka Airport (Refer to Table 2).

1.5 MEAN RELATIVE HUMIDITY

Relative Humidity values further picked during the second dekad of December 2009 compared to the previous ten days, signifying a pick in moisture levels

over the country. The highest daily average relative humidity was reported at Mzuzu (78%) while the lowest daily average relative humidity was 54%, recorded at Mimosa in Mulanje. These compare to 74% and 47% respectively, during the previous dekad. More details are in the Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

The rainfall amounts received in most areas during the period 11 to 20 December 2009 were not significant for crop development. In some areas over the south and centre, due to dry spells, crops experienced moderate water stress that resulted in crop wilting. However, where significant amounts had been received, crop development improved.

The dry conditions that prevailed during this period hindered progress of the ongoing agricultural activities such as fertilizer application except for weeding which was still going on under these conditions.

3. PROSPECTS OF 2009/10 RAINFALL SEASON

Most climate models continue to indicate that during the first half of the season (October to December 2009); the northern half of Malawi is likely to receive normal to above normal rainfall while the Southern half will receive above normal to normal rainfall. These rains are likely to support planting, germination and growth and development of various crops in Malawi

During January to March 2010 the northern half of Malawi will receive above normal to normal rainfall while the Southern half will receive normal to above normal rainfall. The rains in the second half will be enough to support maturity of most crops.

4. OUTLOOK 21 – 31 DECEMBER 2009

During the period 21 to 31 December 2009, Malawi will be mostly under moist and unstable North-westerly airflow. As a result locally heavy thunderstorms and rain showers should be expected over most areas during the outlook period.

TABLE 1: DEKADAL RAINFALL SUMMARY FOR 11 – 20 DECEMBER 2009 AT SELECTED STATIONS

	DEKADAL	DEKADAL	RAINFALL	TOTAL	NORMAL	RAINFALL	RAINY
STATION NAME	TOTAL	NORMAL	DEKADAL	TO	TO	TOTAL	DAYS
	RAINFALL	RAINFALL	TOTAL	DATE	DATE	TODATE	
	(mm)	(mm)	(%)	(mm)	(mm)	(%)	
SOUTH							
Balaka Township	37.0	52.8	70	53.5	224	24	1
Bvumbwe Met.	51.3	59.5	86	273.6	274.1	100	4
Chichiri Met.	55.0	57.2	96	272	279.4	97	4
Chikwawa Boma	0.0	56.2	0	130.7	178	73	0
Chikweo Agric.	70.8	110.7	64	151	300.9	50	2
Chileka Airport	18.7	57.3	33	211.3	237.1	89	3
Chingale Agric	34.5	60.7	57	205	210.6	97	3
Chiradzulu Agric	45.0	77.0	58	224.1	251.2	89	3
Chizunga Factory	57.0	113.0	50	403	376.4	107	5
Liwonde Township	39.1	57.6	68	73.1	181.6	40	2
Lujeri Tea Estate	31.4	126.8	25	567	552.9	103	6
Mpilipili (Makanjila)	85.3			113.9			3
Makoka Met	42.6	57.1	75	150.1	247.1	61	4
Mangochi Met.	99.5	52.3	190	193.4	183.9	105	4
Masambanjati	1.6	88.4	2	272.9	316.2	86	1
Mimosa Met.	8.3	78.4	11	338.3	378.7	89	3
Monkey Bay Met.	10.2	83.7	12	22.4	197.7	11	3
Mpemba Vet	57.0	67.6	84	354	293	121	4
Mulanje Boma	4.5	87.3	5	183	428.4	43	2
Namiasi Agric	43.7	47.0	93	86.3	156.6	55	3
Naminjiwa Agric	30.1	70.5	43	191.8	249.4	77	4
Nchalo Sucoma	0.0	45.3	0	69.5	180.2	39	0
Neno Agric	25.2	61.8	41	149.2	254.8	59	2
Ngabu Met.	0.0	48.0	0	140.8	200.6	70	0
Nsanje Boma	0.0	51.9	0	222.4	223.6	99	0
Ntaja Met.	51.3	62.8	82	91	212.2	43	3
Phalula Agric	59.8	55.1	109	88	232.1	38	3
Satemwa	130.0	87.8	148	297.9	354.8	84	2
Thyolo Met	49.5	78.7	63	184.6	302.3	61	3
Zomba RTC	67.5	95.0	71	299.5	316.5	95	2
CENTRE							
Chileka Namitete	18.9	77.2	24	63.1	237.5	27	5
Chitedze Met.	61.8	66.9	92	136.3	220.7	62	4
Dedza Met	54.1	71.4	76	106.5	204.5	52	5
Dwangwa	27.7	70.2	39	72.3	251.7	29	4
Kaluluma DTC	3.4	67.1	5	73.5	175.7	42	1
K.I.A Met	68.1	58.0	117	143.5	175.4	82	5
Kasiya Agric	144.0	69.3	208	245.6	234	105	5
Kasungu Met	44.1	84.7	52	82.6	215.5	38	5
Mchinji Boma	82.8	74.3	111	237.5	245.1	97	6
Mkanda Met	19.0	77.5	25	115.5	256.6	45	3
Mponela Agric	19.0	52.4	36	129	156.4	82	3
Mtakataka Airwing	101.3	53.3	190	131.1	178.8	73	5
Nathenje Agric	184.5	54.2	340	250	182.2	137	6
Nkhotakota Met	88.3	84.7	104	145.7	223.9	65	2
Ntcheu - Nkhande	14.3	74.7	19	124.5	237.5	52	3
Ntchisi Boma	10.9	67.5	16	100.1	166.4	60	3
Salima Met	33.1	84.5	39	53.5	208.8	26	4
Dedza RTC	78.5	66.5	118	124.5	199	63	3

NORTH							
Baka Res. Stn.	13.7	85.0	16	36.2	182.3	20	2
Bolero Met	47.9	49.6	97	99.3	178.3	56	4
Bwengu Agric.	0.0	72.5	0	18.5	177.9	10	0
Chitipa Met	135.3	67.7	200	302.7	200.8	151	6
Chintheche Agric	197.4	86.7	228	409.3	377.4	108	2
Karonga Met.	19.0	85.8	22	79.6	171.7	46	0
Mzimba Met.	37.8	68.5	55	92.7	187.9	49	2
Mzuzu Met.	59.0	82.6	71	299.5	279.7	107	4
NkhataBay Met.	40.1	98.8	41	107.5	457.5	23	4
Vinthukutu Agric	103.1	75.8	136	127.5	202.7	63	1

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 11 – 20 December 2009

STATION	MAX TEMP (°C)	MIN TEMP (°C)	ABS MAX (°C)	ABS MIN (°C)	WIND SPEED (m/s)	RELATIVE HUMIDITY (%)
BOLERO	30.9	17.7	34.7	15.6	N/A	66
BVUMBWE	27.0	18.6	31.7	14.5	1.9	72
CHICHIRI	27.3	17.0	32.5	15.2	0.7	75
CHILEKA	30.3	21.2	34.6	18.3	3.2	71
CHITEDZE	29.6	19.0	32.4	16.9	0.9	60
CHITIPA	28.1	18.0	30.8	16.2	1.5	76
DEDZA	25.9	16.4	29.0	14.4	1.1	67
K I A	28.1	17.8	31.0	15.5	1.4	69
KARONGA	31.8	21.4	34.0	22.0	1.9	68
KASUNGU	29.9	19.6	33.5	18.0	2.0	66
MAKOKA	29.0	18.8	32.9	14.3	1.5	71
MANGOCHI	N/A	22.9	N/A	21.1	2.0	66
MIMOSA	32.0	20.1	37.0	18.0	1.1	54
MONKEY BAY	33.0	24.4	36.0	22.8	3.1	60
MZIMBA	28.9	18.5	36.2	17.2	1.1	64
MZUZU	26.5	17.1	29.5	15.5	1.6	78
NGABU	37.5	25.0	42.7	21.8	2.6	60
NKHATA BAY	32.4	21.2	37.0	20.4	0.6	73
NKHOTAKOTA	30.4	22.7	32.9	20.1	N/A	66
NTAJA	32.1	22.0	35.9	19.2	2.2	61
SALIMA	31.4	23.4	35.7	21.2	2.7	64

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 (mps) to Kilometers per hour (Km/hr) = mps x 3.6