



REPUBLIC OF MALAWI

Department of Climate Change and Meteorological Services

10-day Weather and Agrometeorological Bulletin

In support of national early warning systems



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Season: 2012/2013

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HIGHLIGHTS

- Light to moderate rainfall received in most areas ...
- Maize crop ranges from mostly maturity to drying and harvesting stages...
- Mostly dry weather expected during the last ten days of March 2013 ...

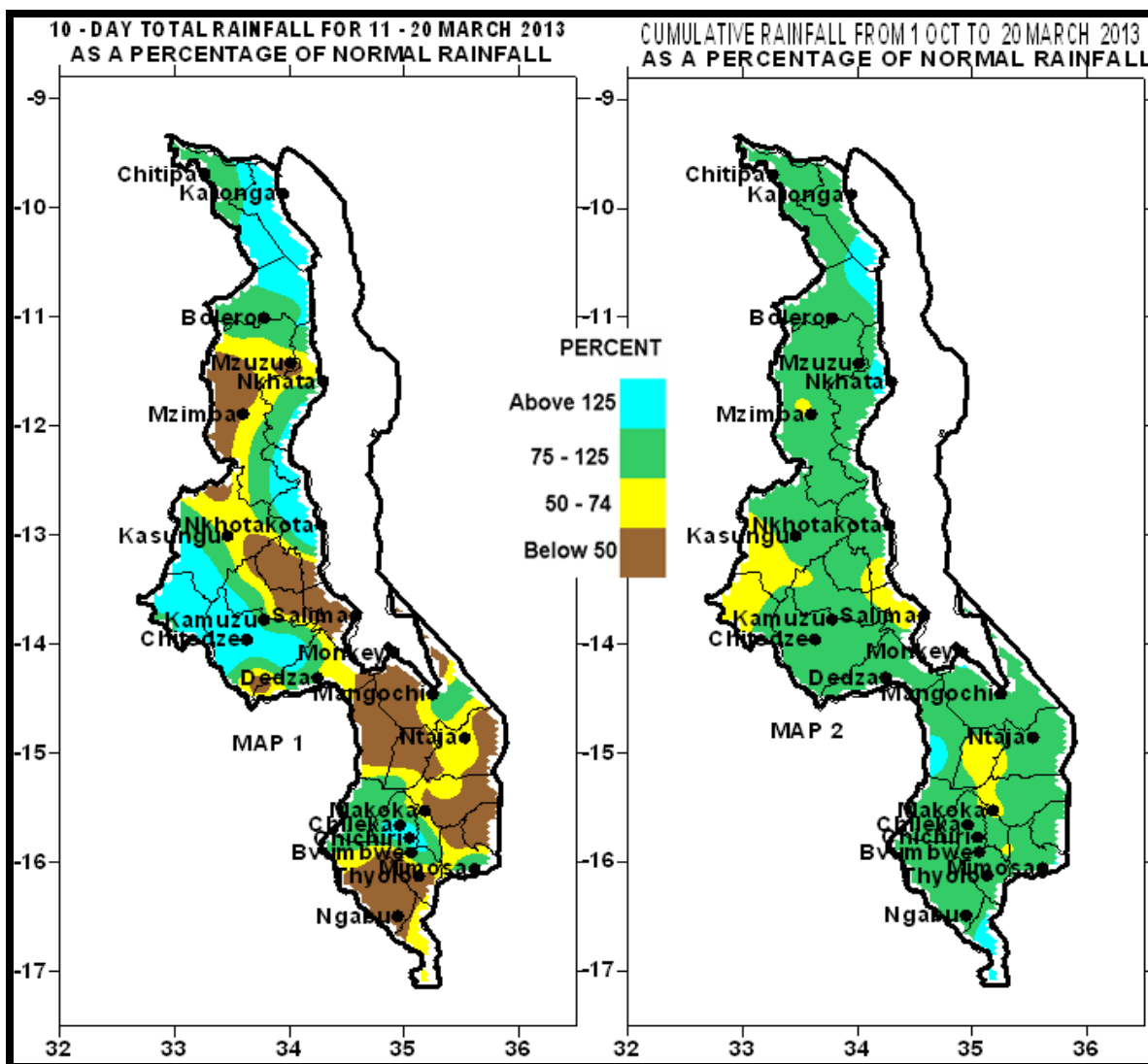


Figure 1: Rainfall Maps for Malawi for 11 – 20 March 2013

1.0 WEATHER SUMMARY AND IMPACTS

1.1 RAINFALL SITUATION

During the period 11 to 20 March 2013 below average cumulative rainfall was experienced over most parts of Malawi while average to above average cumulative rainfall was only confined to some highlands in the south and centre, along the northern lakeshore areas and in Karonga and Chitipa districts in northern Malawi. High cumulative rainfall amounts in excess of 125mm in the south were reported at Lujeri Tea Estate (162mm) and Mulanje Boma (128mm) while in central region such high figures were reported at Chileka-Namitete (133mm), Dwangwa (186mm) and Nkhatakota Met (303mm) and in the north such heavy rainfall amounts were experienced Chintheche (196mm), Vinthukutu Agric (162mm), Lupembe Agric (135mm), Karonga Met (168mm) and Baka Research (188mm). See more details in Table 1 and Map 1.

Map 2 shows the cumulative rainfall performance for the country since the rainfall season started on 1st October 2012 up to 20th March 2013. The map shows that most areas in Malawi have achieved their expected long term average to above average cumulative rainfall amounts (green and light blue colours on Map 2) with a few pockets of below average rainfall (yellow colours) by 20 March 2013. For more details refer to Table 1 and Map 2.

1.2 VEGETATION CONDITION

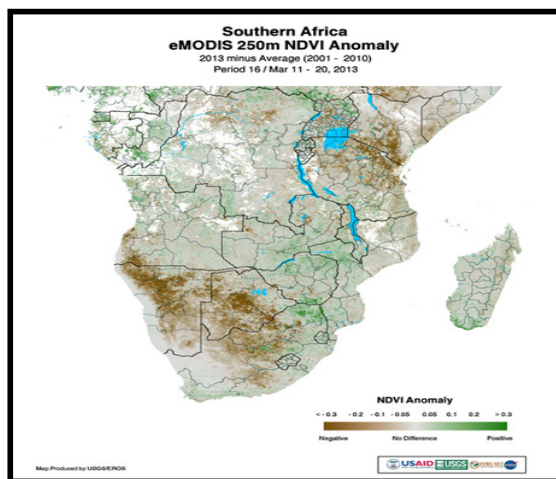


Figure 2: Vegetation Condition over Southern Africa

The vegetation difference from long term average map for Southern Africa for the period 11 to 20 March 2013 showed a mixed pattern over the region. Positive

anomalies persisted in most areas that had experienced good rainfall and improved green biomass (Figure 2) while pockets of negative anomalies were evident in areas where seasonal vegetation and crops had reached maturity and senescence period.

1.3 AIR TEMPERATURE

During the period 11 to 20 March 2013, warm to hot temperatures continued over the country. The daily mean maximum temperatures ranged from 23.3°C at Dedza to 32.2°C at Ngabu in Shire Valley. Compared to the previous dekad, generally lower daily mean maximum temperatures were reported during the period under review. Mean absolute minimum temperatures ranged from around 13.9°C at Dedza to 22.2°C at Monkey Bay Met (Table 2). The highest absolute maximum temperature for the period was about 35.2°C, observed at Ngabu in Shire Valley on 18 and 19th March 2013.

1.4 WIND SPEEDS

Daily mean wind speeds at a height of two metres above the ground level ranged from 0.6 to 3.3 metres per second. The lowest mean wind speed was reported at Nkhata Bay Met which is located at Mkondedzi Research Station while the highest mean wind speed was recorded at Chitipa Met. Refer to Table 2.

1.5 RELATIVE HUMIDITY

During the period under review, air over Malawi was still fairly moist. Mean daily relative humidity values ranged from 68% to 83%. The lowest mean relative humidity value was reported at Ntaja and Kasungu Meteorological stations while the highest relative humidity was experienced at Nkhata Bay Met. See more details in Table 2.

2.0 AGROMETEOROLOGICAL ASSESSMENT

Dry weather conditions existed in most parts of Malawi during the period under review. The prevailing dry weather had facilitated harvesting and drying of matured crops while moderate to heavy rains that fell in some parts of the country were supportive to growth and development of roots and tubers as well as the late planted crops. The rains had also assisted in replenishing soil moisture reserves. On the negative note the wet weather had hampered harvesting of matured crops. Maize crop had ranged from flowering to maturity and drying stages. Crops that had reached

physiological maturity and drying stages required more sunshine hours for drying. The following is an assessment by Agriculture Development Division (ADD) in Malawi:

2.1 SHIRE VALLEY ADD

Mostly dry weather had been experienced in the ADD resulting in below average rainfall situation to persist during the period under review. The dry weather that existed in the ADD had facilitated harvesting and drying of crops that had reached physiological maturity stage. Both water and pasture for livestock were reported readily available and this continued to improve livestock condition in the ADD. Maize crop was reported to be mostly at drying stage. Harvesting of matured crops has improved household food security in the ADD.

2.2 BLANTYRE ADD

Rainfall in the ADD was confined to the highlands while low altitude areas were mostly dry during the period under review. Relatively dry weather which was experienced in the ADD had facilitated harvesting and drying of matured crops. The Maize crop was mostly between maturity and drying and harvesting stages. Green harvests were in progress in most parts of the ADD. This has greatly improved household food security.

2.3 MACHINGA ADD

The ADD had stayed largely dry during the period 11 to 20th March 2013. Most areas had registered below average rainfall situation during the entire period. The dry weather had facilitated harvesting and drying of matured crops. The Maize crop was reported ranging from maturity to harvesting and drying stages. Green harvests were in progress in most parts of the ADD.

2.4 LILONGWE ADD

Most Extension Planning Areas (EPAs) in Lilongwe ADD had experienced below average rainfall situation leading to wilting and premature drying of crops. A few areas in Bunda, Mitundu and Dzalanyama area had received light to moderate rainfall which was good for growth and development of horticultural crops. The Maize crop was reported at various stages of development ranging from maturity to drying and harvesting stages. Harvesting of greens was in progress in the ADD. This has positively contributed to household food security.

2.5 SALIMA ADD

Salima ADD had experienced dry weather during the period 11 to 20th March 2013. Most areas had registered far below average rainfall amounts which had resulted into wilting and premature drying of some crops. The Maize crop was reported at various stages of development ranging from maturity to drying for early planted hybrid crops. Harvesting of greens was in

progress in the ADD and this has improved household food security.

2.6 KASUNGU ADD

Light to moderate rains have been experienced in parts of the ADD during the second ten days of March 2013. Kasungu north continued to register below average rainfall situation leading to localised wilting of late crops during the period. The rains that were received in other parts of the ADD had supported growth and development roots and tubers. The Maize crop was reported to be at various stages of development ranging from maturity and drying stages. Green harvests were in progress in the ADD. This has positively impacted on household food security.

2.7 MZUZU ADD

Some parts of Mzuzu ADD had experiencing dry weather leading to localised dry spells and wilting of late planted crops and local maize particularly in western Rumphi and Mzimba districts. The seasonal cumulative rainfall performance shows that some parts Mzimba and Rumphi have experienced localised dry spells of more than three weeks. Crops were reported wilting and drying prematurely in Rumphi and Mzimba districts. The Maize crop was reported at various stages of development ranging from tasseling to maturity and drying and harvesting stages.

2.8 KARONGA ADD

Most parts of Karonga ADD continued to experience good rainfall for agricultural production during the period under review. Most of the rice growing fields in Kaporo north were flooded with water. These rains had continued to facilitate growth and development of various crops in the ADD. The Maize crop was reported doing well and had ranged from maturity and drying stages.

3. PROSPECTS FOR 2012/13 RAINFALL SEASON

The summary of the 2012/2013 seasonal rainfall outlook is that ***“Normal total rainfall amounts are expected over most parts of Malawi during the 2012/2013 rainfall season”***. The forecast which was reviewed and updated in December 2012 still had maintained that the greater part of the country will still experience normal to above normal total rainfall amounts by end of the summer rainfall season.

4. OUTLOOK FOR 21 – 31 MARCH 2013

Models for short and medium term weather forecasts suggest that the main rains are tailing off particularly over southern and central Malawi while some parts of the north will be occasionally affected by easterly waves. Therefore mainly dry weather is expected over Malawi except for the some parts of the north particularly over highlands and along the lakeshore areas during the last ten days of March 2013.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR DEKAD 2 OF MARCH 2013: PERIOD 11 – 20TH

STATION NAME	DEKADAL TOTAL RAINFALL mm	DEKADAL NORMAL mm	DEKADAL TOTAL AS PERCENTAGE OF NORMAL	TOTAL TO DATE mm	NORMAL TO DATE mm	NORMAL TODATE AS PERCENTAGE OF NORMAL	RAINY DAYS ≥ 0.3 mm
SOUTHERN REGION							
Balaka Township	0.0	40.2	0	390.7	776.7	50	0
Bvumbwe Met.	57.7	54.2	106	955.5	958.2	100	5
Chancellor College	50.4	82.6	61	1025.4	1124.8	91	5
Chichiri Met.	69.8	16.1	434	1237.5	1013.2	122	5
Chikweo Agric.	12.6	67.3	19	636.7	945.3	67	2
Chileka Airport	53.7	45.8	117	823.4	782.4	105	5
Chingale Agric	14.1	52.0	27	638.0	833.1	77	2
Chiradzulu Agric	8.7	38.1	23	754.9	875.0	86	5
Chizunga Factory	45.9	84.5	54	929.2	1131.8	82	6
Kasinthula Res. Stn.	4.2	29.6	14	579.7	646.0	90	2
Lujeri Tea Estate	162.2	146.5	111	2148.4	1612.8	133	10
Mpilipili (Makanjila)	22.1	39.6	56	664.4	810.5	82	2
Makhanga Met	28.3	38.0	74	877.3	650.5	135	3
Makoka Met	24.8	46.7	53	566.3	871.8	65	3
Mangochi Met.	46.2	44.1	105	765.7	630.1	122	4
Mimosa Met.	77.8	89.0	87	1383.9	1186.7	117	8
Monkey Bay Met.	0.1	16.3	1	733.6	538.2	136	0
Mpemba Vet	34.5	61.9	56	1099.9	988.4	111	2
Mulanje Boma	128.3	70.2	183	1550.7	1399.1	111	6
Mwanza Boma	67.1	55.4	121	815.8	901.7	90	5
Namiasi Agric	0.0	49.7	0	652.7	709.5	92	0
Naminjiwa Agric	0.0	44.3	0	903.9	873.6	103	0
Namwera Agric	64.5	69.3	93	941.2	920.5	102	3
Nchalo Sucoma	4.1	19.3	21	529.3	578.8	91	3
Neno Agric	49.9	46.9	106	1119.8	968.5	116	2
Ngabu Met.	8.1	37.3	22	709.0	669.7	106	3
Ntaja Met.	33.2	44.0	74	680.1	778.6	87	4
Phalula Agric	36.0	37.6	97	589.5	757.6	78	2
Satemwa Tea Est. No.1	45.0	63.1	71	552.4	917.2	60	5
Thyolo Boma	44.1	78.0	57	956.6	996.3	96	6
Thyolo Met	22.4	58.6	38	741.6	1050.8	71	3
Zomba R.T.C	21.8	73.9	29	928.0	1053.6	88	4
CENTRAL REGION							
Bunda College	28.6	37.8	76	821.5	798.4	103	4
Chileka Namitete	133.2	44.6	299	737.1	827.0	89	6
Chitedze Met.	97.4	51.1	191	841.0	788.1	107	7
Dedza Met	28.4	42.7	67	686.2	842.6	81	3
Dowa Agric	7.1	45.4	16	657.1	794.1	83	3
Dwangwa	185.5	91.8	202	1031.3	992.3	104	6
Dzonzi Forest	13.2	57.0	23	1451.1	893.3	162	2
Kaluluma DTC	17.2	50.3	34	595.0	736.9	81	4
K.I.A Met	38.9	41.8	93	793.4	763.5	104	5
Kasungu Met	25.3	38.7	65	553.9	712.1	78	3
Lisasadzi	22.5	33.7	67	584.9	752.8	78	3
Malomo Agric	9.0	46.7	19	730.4	761.3	96	4
Madisi Agric	22.6	33.6	67	560.5	768.9	73	3
Mchinji Boma	21.0	46.7	45	610.1	898.0	68	4
Mkanda Met	115.6	41.3	280	537.1	783.7	69	3
Mlangeni Njolomole	15.4	54.0	29	845.4	870.9	97	3
Mponela Agric	30.5	35.1	87	642.1	739.5	87	6
Mtakataka Airwing	0.9	52.4	2	555.5	727.5	76	1
Nathenje Agric	92.2	39.1	236	881.4	757.8	116	5
Natural Res. College	76.6	51.4	149	743.1	769.3	97	5
Nkhotakota Met	302.6	113.7	266	1139.4	1102.1	103	6
Ntcheu - Nkhande	0.3	50.4	1	1041.6	947.0	110	1
Ntchisi Boma	16.5	82.4	20	690.2	1074.1	64	2
Salima Met	2.9	85.6	3	648.8	1051.8	62	2
Dedza RTC	60.0	49.2	122	757.9	900.7	84	6
NORTHERN REGION							
Baka Res. Stn.	187.7	140.0	134	787.0	871.3	90	10
Bolero Met	36.7	27.9	132	655.0	566.3	116	1
Bwengu Agric.	65.3	47.5	137	636.2	662.9	96	4
Chikangawa forest	41.7	63.1	66	820.2	873.5	94	6
Chitipa Met	58.6	66.1	89	778.9	827.7	94	5
Chintheche Agric	196.3	124.2	158	1240.7	1135.6	109	4
Emfeni Agric	25.5	38.2	67	580.1	717.9	81	3
Ekwendeni Agric.	25.0	31.9	78	480.2	692.3	69	3
Euthini Agric.	15.0	41.2	36	566.5	680.9	83	1
Karonga Met.	168.2	78.9	213	880.9	693.7	127	9
Lupembe	134.5	62.8	214	634.9	621.4	102	6
Mbawa Res. Stn	14.7	40.4	36	702.1	729.3	96	3
Mzimba Met	21.2	41.7	51	542.9	790.6	69	6
Mzuzu Met.	20.8	58.2	36	862.9	775.3	111	6
NkhataBay Met.	76.1	96.7	79	1445.9	915.9	158	4
Rumphu Boma	1.5	37.7	4	536.0	638.4	84	1
Vinthukutu Agric	162.1	79.5	204	1282.0	758.5	169	7
Zombwe Agric	19.1	35.5	54	661.0	624.2	106	3

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR THE PERIOD 11 TO 20 MARCH 2013

STATION	MAX TEMP (°C)	MIN TEMP (°C)	ABS MAX (°C)	ABS MIN (°C)	WIND SPEED (m/s)	RH (%)	EVAP (mm)
KARONGA ADD							
Chitipa	26.5	18.3	28.5	17.0	3.3	79	N/A
Karonga	29.5	21.1	30.5	20.0	0.9	79	N/A
MZUZU ADD							
Bolero	28.3	18.2	30.0	10.8	N/A	74	N/A
Mzuzu	25.3	17.4	27.4	15.8	1.3	82	N/A
Mzimba	27.7	17.5	30.0	15.2	1.1	74	N/A
Nkhata Bay	30.1	20.9	32.6	19.9	0.6	83	N/A
KASUNGU							
Kasungu	27.3	18.0	30.2	16.8	0.7	68	N/A
LILONGWE ADD							
KIA	25.7	17.3	28.3	16.0	1.6	80	4.3
Chitedze	26.6	17.9	28.9	16.2	0.7	81	N/A
Dedza	23.3	15.6	25.2	13.9	1.7	78	N/A
SALIMA ADD							
Salima	30.3	22.4	32.6	21.5	2.2	74	N/A
Nkhotakota	28.0	21.2	30.4	20.0	1.9	79	N/A
MACHINGA ADD							
Makoka	26.4	17.9	29.3	16.1	1.2	79	N/A
Ntaja	29.0	20.6	31.6	19.6	1.2	68	N/A
Mangochi	31.6	22.0	33.5	21.5	1.3	75	N/A
Monkey Bay	30.8	22.7	33.0	22.2	1.8	70	N/A
BLANTYRE ADD							
Chileka	27.9	19.7	31.0	18.1	2.5	75	N/A
Chichiri	26.0	17.7	29.5	15.5	2.4	77	N/A
Bvumbwe	25.7	15.9	29.9	14.0	1.9	80	N/A
Mimosa	29.7	19.2	32.7	17.3	1.2	79	4.2
SHIRE VALLEY ADD							
Ngabu	32.2	N/A	35.2	N/A	0.6	83	N/A

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).
- convert Meters Per Second (mps) to Kilometers per hour (Km/hr) = mps x 3.6