



REPUBLIC OF MALAWI

Department of Climate Change and Meteorological Services

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In support of national early warning systems



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HIGHLIGHTS

- Slight improvement in rainfall performance over Lakeshore ...
- Maize crop ranges from flowering and maturity to drying stages...
- Good rains expected over the northern half and light in the south ...

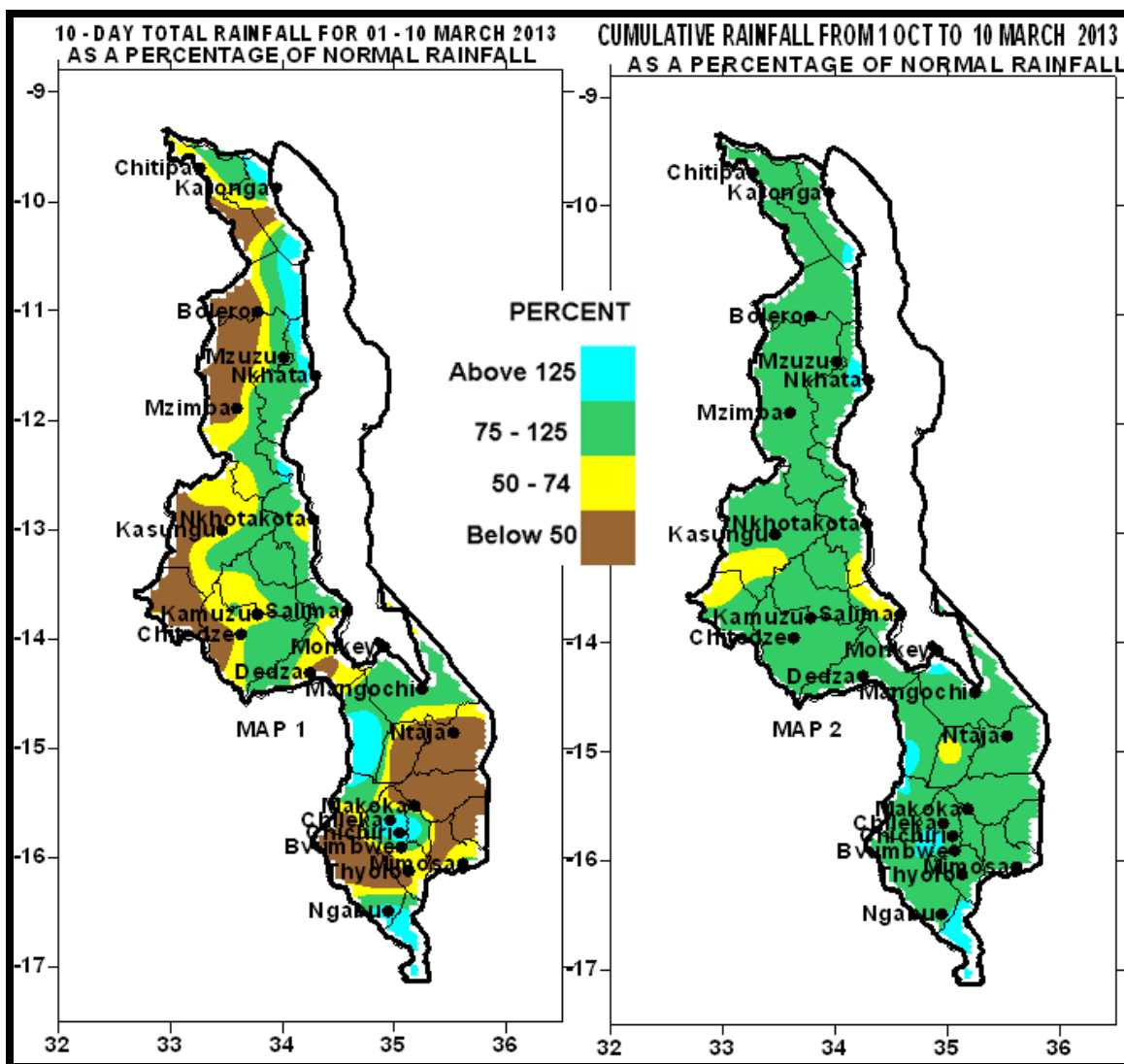


Figure 1: Rainfall Maps for Malawi for 01 – 10 March 2013

1.0 WEATHER SUMMARY AND IMPACTS

1.1 RAINFALL SITUATION

During the period 1 to 10 March 2013 the main rain-belt was active along the shores of Lake Malawi while the rest of the country was under relatively dry air mass. As a result during the period under review higher rainfall amounts were mostly confined to lakeshore areas and a few areas mostly the highlands. During the period under review very few areas had reported rainfall amounts in excess of 100mm and such areas included Chichiri Met (115mm) and Mulanje Boma (129mm) in the south, Ntcheu-Nkhanda (137mm), Dzonzi Forest (292mm), Lifuwu Research (138mm) and Dwangwa (164mm) in the centre while in the north such heavy rainfall amounts were reported at Chintheche Agric, Nkhata Bay Met, Vinthukutu Agric, Karonga Met and Baka Agric. See more details in Table 1 and Map 1.

Map 2 shows the cumulative rainfall performance for the country from 1st October 2012 up to 10th March 2013. The map shows that most areas in Malawi have achieved normal to above normal cumulative rainfall amounts (green and light blue colours on Map 2) with a few pockets of below average rainfall (yellow colours) by 10 March 2013. For more details refer to Table 1 and Map 2.

1.2 VEGETATION CONDITION

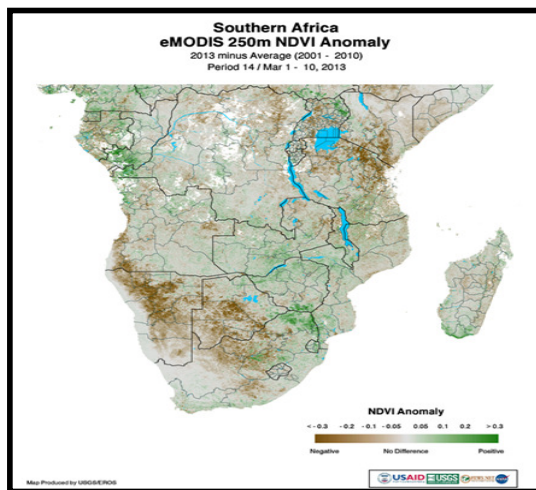


Figure 2: Vegetation Condition over Southern Africa

The vegetation difference from long term average map for Southern Africa for the period 1 to 10 March 2013 showed a mixed pattern over the region. Positive anomalies persisted in areas that had experienced improvement in green biomass while (Figure2) pockets of

negative anomalies were evident in areas where seasonal vegetation and crops had reached senescence period.

1.3 AIR TEMPERATURE

During the period under review generally warm to hot temperatures continued to be experienced over the country. The daily mean maximum temperatures ranged from 24.7°C at Dedza to 33.7°C at Ngabu in Shire Valley. Compared to the previous dekad, generally higher daily mean maximum temperatures were reported during the period under review. Mean absolute minimum temperatures ranged from around 14.6°C at Dedza to 22.2°C at Monkey Bay Met (Table 2). The highest absolute maximum temperature for the period was about 35.7°C, observed at Ngabu in Shire Valley on 8th March 2013.

1.4 WIND SPEEDS

Daily mean wind speeds at a height of two metres above the ground level ranged from 0.7 to 3.8 metres per second. The lowest mean wind speed was reported at Nkhata Bay Met 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 69% to 81%. See more details in Table 2.

2.0 AGROMETEOROLOGICAL ASSESSMENT

Most parts of Malawi had received light to moderate rainfall during the first ten days of March 2013. These rains were supportive to crop growth and development particularly in the late planted fields. Heavy rains that were received in isolated areas had helped to replenish soil moisture reserves and facilitated growth and development of roots and tuber crops. Maize crop mostly ranged from flowering to maturity and drying stages. More rains are still required to support crops that that were planted late while other crops that have reached physiological maturity and drying stages required more sunshine hours for drying. An assessment by Agriculture Development Division (ADD) is as follows:

2.1 SHIRE VALLEY ADD

Light to moderate rains were received in the ADD causing above average rainfall performance during the

period under review. These rains had helped to replenish soil moisture reserves and facilitated growth and development of roots and tuber crops as well as regeneration of the natural vegetation which was good for communal grazing of livestock. Maize crop ranged from cobbing to maturity and drying stages.

2.2 BLANTYRE ADD

Generally light rainfall was received in the ADD except for the highlands where moderate to heavy rains were experienced. Relatively dry weather which was experienced in the ADD had facilitated harvesting and drying of matured crops. The Maize crop was reported doing well at varying stages of development ranging from tasseling and maturity to drying stages for the early planted crops. Green harvests were in progress in most parts of the ADD. This has improved household food security.

2.3 MACHINGA ADD

The ADD had received light rainfall during the first ten days of March 2013. Most areas had registered below average rainfall situation during the entire period. However the light rains were still beneficial to crops that had already passed the critical crop growing stage that required more water. The light rains had facilitated growth and development of roots and tuber crops. The Maize crop was reported doing well at various stages of development ranging from maturity and drying. Green harvests were in progress in most parts of the ADD. This has positively contributed to household food security.

2.4 LILONGWE ADD

Most parts of the Lilongwe ADD had recorded favourable rainfall for agriculture production during the period under discussion. However, extension planning areas in the ADD had experienced below average rainfall situation leading to wilting and premature drying of crops. The Maize crop was reported at various stages of development ranging from cobbing and maturity to drying for early planted crops. Harvesting of greens was in progress in the ADD. This is positively contributing to household food security.

2.5 SALIMA ADD

Salima ADD had generally received good rains for agricultural production during the first ten days of March 2013. Most areas had registered normal rainfall amounts during the entire period. The Maize crop was reported at various stages of development ranging from vegetative to maturity to drying for early planted hybrid crops. Harvesting of greens has started in the ADD and this is positively contributing to household food security.

2.6 KASUNGU ADD

Light to moderate rains have been experienced in the ADD during the first ten days of March 2013. Western

Kasungu and Mchinji districts had registered below average rainfall situation leading to wilting of some crops during the entire period. The rains that were received in other parts of the ADD had supported growth and development crops such as roots and tubers. The Maize crop was reported to be at various stages of development ranging from tasseling and cobbing to maturity. Green harvests were in progress in the ADD. This will have a positive impact on household food security.

2.7 MZUZU ADD

Most areas in Mzuzu ADD had recorded favourable rainfall for agricultural production except the western areas of Rumphu and Mzimba districts which had reported below average rainfall and dry spells of more than two weeks (yellow colour on map 1). Crops were reported wilting in some EPAs like Bolero in Rumphu and Euthini in Mzimba. The Maize crop was reported at various stages of development ranging from flowering and tasseling to maturity and drying for the early planted hybrid crops. .

2.8 KARONGA ADD

Most parts of Karonga ADD had experienced good rainfall for agricultural production except for southern parts of Karonga district during the period under review. The rainfall that was received continued to facilitate growth and development of various crops in the ADD. Heavy rains caused flooding in Kaporo north. The Maize crop was reported doing well and had ranged from vegetative to maturity and drying for the early planted hybrid crops.

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 11 – 20 MARCH 2013

Models for short and medium term weather forecasts suggest that the main rain-belt will still affect most districts in northern Malawi while the south and centre will be under cool and moist air from the Indian Ocean. Therefore favourable rains for agricultural production will persist over northern half of the country and generally occasional light rainfall is expected over southern half of Malawi.

The current rainfall pattern seems to suggest that the main rains are tailing off particularly over southern Malawi.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR DEKAD 1 OF MARCH 2013: PERIOD 01 – 10TH

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	19.0	57.5	33	420.2	736.5	57	2
Bvumbwe Met.	24.0	70.3	34	1057.9	904.0	117	4
Chancellor College	31.4	88.4	36	1198.2	1042.2	115	3
Chichiri Met.	115.0	24.6	467	1237.4	997.1	124	6
Chikwawa Boma	5.2	43.8	12	824.4	647.2	127	2
Chikweo Agric.	28.3	71.6	40	751.2	878.0	86	3
Chileka Airport	65.1	51.8	126	875.1	736.6	119	5
Chingale Agric	7.1	57.6	12	786.3	781.1	101	2
Chiradzulu Agric	72.3	73.1	99	767.1	836.9	92	2
Chizunga Factory	53.4	89.1	60	983.6	1047.3	94	3
Kasinthula Res. Stn.	17.1	87.2	20	659.0	616.4	107	4
Mpilipili (Makanjila)	21.0	61.5	34	621.3	770.9	81	4
Makhanga Met	61.5	48.4	127	952.5	612.5	156	5
Makoka Met	20.4	65.7	31	708.6	825.1	86	4
Mangochi Met.	53.0	55.1	96	683.4	586.0	117	4
Mimosa Met.	72.5	95.1	76	1405.9	1097.7	128	8
Monkey Bay Met.	34.2	42.4	81	789.0	521.9	151	2
Mpemba Vet	66.8	77.9	86	1184.2	926.5	128	5
Mulanje Boma	128.7	119.1	108	1449.7	1328.9	109	6
Mwanza Boma	22.1	65.8	34	901.8	846.3	107	4
Namiasi Agric	43.5	44.0	99	657.1	659.8	100	2
Naminjiwa Agric	23.6	66.3	36	1013.8	829.3	122	2
Namwera Agric	92.0	71.1	129	895.0	851.2	105	2
Nchalo Sucoma	11.2	41.0	27	551.0	559.5	98	2
Neno Agric	84.5	79.9	106	1177.9	921.6	128	3
Ngabu Met.	68.5	41.8	164	702.8	632.4	111	3
Ntaja Met.	13.5	58.0	23	814.9	734.0	111	2
Phalula Agric	21.8	57.2	38	659.7	720.6	92	2
Satemwa	43.5	73.0	60	644.2	854.1	75	4
Thuchila Agric	13.1	68.6	19	505.5	737.0	69	4
Thyolo Boma	64.9	84.4	77	1030.9	918.3	112	5
Thyolo Met	18.2	70.3	26	792.2	992.2	80	3
Zomba RTC	29.1	76.0	38	1190.1	979.7	121	2
CENTRAL REGION							
Chileka Namitete	3.7	44.7	8	674.7	782.4	86	1
Chitedze Met.	41.2	67.5	61	758.6	737.0	103	3
Dedza Met	32.8	68.6	48	728.0	799.9	91	2
Dowa Agric	70.0	74.8	94	651.4	748.7	87	4
Dwangwa	164.1	108.4	151	767.2	900.5	85	8
Dzalanyama Forest	0.0	59.2	0	0.0	798.2	0	0
Dzonzi Forest	292.0	82.9	352	1202.6	836.3	144	3
Kaluluma DTC	64.1	69.5	92	638.3	686.6	93	4
K.I.A Met	37.9	69.1	55	822.1	721.7	114	3
Kasiya Agric	68.1	83.5	82	825.0	834.1	99	4
Kasungu Met	18.3	64.3	28	562.4	673.4	84	3
Lifuwu	138.3	98.7	140	596.1	978.5	61	5
Lisasadzi	72.7	52.9	137	489.7	719.1	68	4
Malomo Agric	96.1	84.3	114	710.2	714.6	99	2
Madisi Agric	41.5	66.7	62	586.6	735.3	80	4
Mchinji Boma	34.8	57.8	60	660.6	851.3	78	4
Mkanda Met	8.4	60.2	14	524.6	742.4	71	1
Mlangeni Njolomole	79.7	78.3	102	763.8	816.9	93	4
Mponela Agric	42.8	61.2	70	634.4	704.4	90	4
Nathenje Agric	77.1	62.7	123	833.1	718.7	116	2
Natural Res. College	45.9	47.2	97	715.8	717.9	100	3
Nkhotakota Met	49.7	118.2	42	870.5	988.4	88	5
Ntcheu - Nkhande	136.9	79.3	173	957.0	896.6	107	4
Ntchisi Boma	81.0	86.3	94	661.9	991.7	67	2
Salima Met	35.1	98.7	36	679.4	966.2	70	2
NORTHERN REGION							
Baka Res. Stn.	137.7	115.8	119	567.8	731.3	78	7
Bolero Met	15.6	47.9	33	630.1	538.4	117	1
Bwengu Agric.	41.4	38.1	109	557.0	615.4	91	3
Chikangawa forest	85.4	76.1	112	751.5	810.4	93	8
Chitipa Met	40.0	64.3	62	701.7	761.6	92	3
Chintcheche Agric	128.8	136.1	95	999.6	1011.4	99	5
Emfeni Agric	24.3	66.0	37	619.6	679.7	91	3
Ekweneni Agric.	29.0	46.3	63	502.6	660.4	76	1
Karonga Met.	136.3	73.4	186	705.8	614.8	115	7
Lupembe	5.0	65.6	8	542.7	558.6	97	1
Mbawa Res. Stn	46.2	68.8	67	735.2	688.9	107	4
Mzimba Met	22.8	71.7	32	510.5	748.9	68	6
Mzuzu Met.	82.3	81.0	102	801.6	717.1	112	9
Nkhata Bay Met.	146.2	97.5	150	1288.4	819.2	157	6
Rumpho Boma	32.0	61.4	52	549.4	600.7	91	2
Vinthukutu Agric	185.1	76.7	241	944.0	679.0	139	4
Zombwe Agric	32.9	56.5	58	640.8	588.7	109	4

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR THE PERIOD 01 TO 10 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	28.2	18.8	30.3	17.7	3.8	76	N/A
Karonga	30.7	21.8	31.8	20.5	0.9	75	N/A
MZUZU ADD							
Bolero	29.6	18.2	30.3	17.1	N/A	70	N/A
Mzuzu	26.3	17.8	28.3	15.5	1.3	80	N/A
Mzimba	28.2	18.1	30.0	16.7	1.2	72	N/A
Nkhata Bay	31.7	21.1	32.9	20.3	0.7	81	N/A
KASUNGU ADD							
Kasungu	29.4	18.3	31.6	17.6	1.1	75	N/A
LILONGWE ADD							
KIA	27.4	17.8	28.3	16.8	1.6	75	6.5
Chitedze	28.0	18.6	28.9	17.2	0.8	80	N/A
Dedza	24.7	16.5	25.8	14.6	2.1	78	N/A
SALIMA ADD							
Salima	31.9	23.6	33.0	22.1	2.1	70	N/A
Nkhotakota	30.0	20.4	30.6	21.6	1.9	73	N/A
MACHINGA ADD							
Makoka	28.2	18.8	29.3	17.7	1.1	81	N/A
Ntaja	30.2	21.4	31.1	20.6	1.1	69	N/A
Mangochi							N/A
Monkey Bay	32.1	23.2	32.8	22.2	1.5	70	N/A
BLANTYRE ADD							
Chileka	29.1	20.6	30.5	18.8	2.5	78	N/A
Chichiri	27.3	18.8	29.5	18.0	1.4	78	N/A
Bvumbwe	26.3	16.1	27.9	15.4	2.1	81	N/A
Mimosa	30.9	19.8	33.0	18.7	1.2	79	4.9
SHIRE VALLEY ADD							
Ngabu	33.7	N/A	35.7	N/A	1.2	72	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