REPUBLIC OF MALAWI

Department of Climate Change and Meteorological Services

10-day Weather and Agrometeorological Bulletin

In support of national early warning systems

Period: 21 – 28 February 2013 | Season: 2012/2013 | Issue No.15

Release date: 5th March 2013

HIGHLIGHTS

- **Good rains in the north, reduced in the south and central Malawi …**
- **Maize crop still doing well mostly between flowering and maturity stages…**
- **Rains to persist over Malawi during 01 – 10 March 2013…**

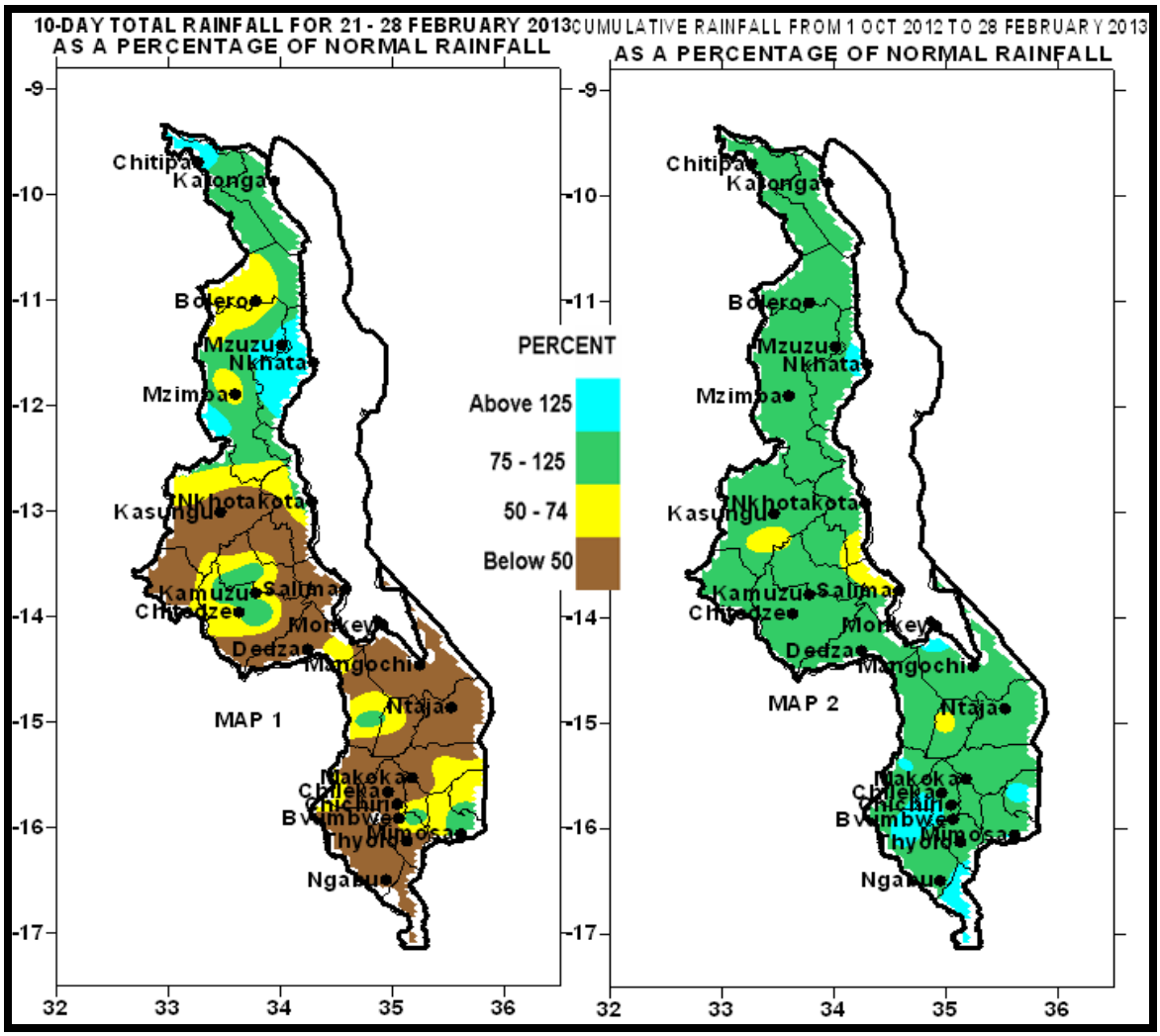

Figure 1: Rainfall Maps for Malawi for 21 – 28 February 2013

All inquiries should be addressed to: The Director of Climate Change and Meteorological Services, P.O. Box 1808, Blantyre, MALAWI
Tel: (265) 1 822 014/106 Fax: (265) 1 822 215 E-mail: metdept@metmalawi.com Homepage: www.metmalawi.com

1.0 WEATHER SUMMARY AND IMPACTS

1.1 RAINFALL SITUATION

During the last days of February 2013 the main rain-belt had shifted to extreme northern parts of Malawi while the southern half was under a ridge of high pressure from the Indian Ocean. As a result higher rainfall amounts were mostly confined to northern Malawi while the south and central Malawi had experienced a decline in rainfall performance. During the period under review very few areas had report rainfall amounts in excess of 100mm and such areas included Nkhata Bay Met and Chintheche Agric station. Most areas in the south and centre had recorded below long average rainfall (brown and yellow colours on map1) and some areas had reported nil rainfall throughout the period. See more details in Table 1 and Map 1.

Map 2 indicates the cumulative rainfall performance for the country since 1st October 2012. 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 end of February 2013. For more details refer to Table 1 and Map 2.

1.2 VEGETATION CONDITION

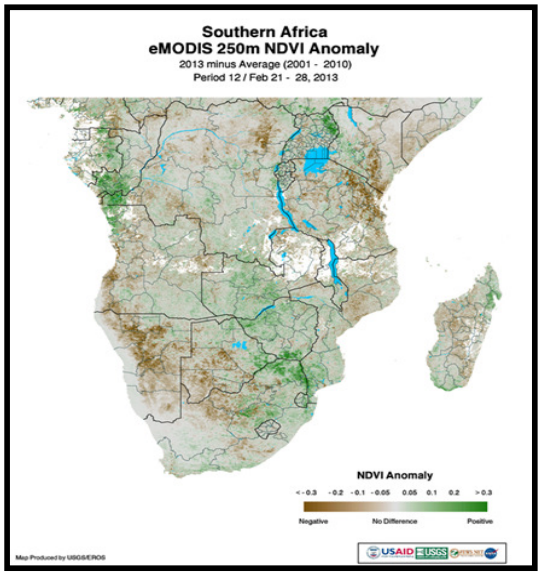

Figure 2: Vegetation Condition over Southern Africa

The vegetation diference from long term average map for Southern Africa for the period 21 to 28 February 2013 showed a mixed pattern over the region. Positive anomalies existed in areas that had experienced improvement in green biomass while (Figure2) pockets of negative anomalies persisted in areas where seasonal vegetation and crops had reached senescence period.

1.3 AIR TEMPERATURE

Generally warm to hot tempratures continued to be experienced over the country during the last days of February 2013. Mean maximum temperatures ranged from 20.8°C at Dedza to 31.8°C at Ngabu in Shire Valley. Compared to the previous dekad, the daily mean maximum temperatures were almost the same. Mean absolute minimum temperatures ranged from around 13.0°C at Dedza to 21.0°C at Salima Met (Table 2). The highest absolute maximum temperature for the period was about 34.4°C, observed at Ngabu in Shire Valley.

1.4 WIND SPEEDS

Mean wind speeds at a height of two metres above the ground level ranged from 0.7 to 3.9 metres per second. The lowest mean wind speed was reported at Nkhata Bay and Chitedze Met Stations 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 63% at Mangochi to 82% at Mzuzu and Nkhata Bay. See more details in Table 2.

2.0 AGROMETEOROLOGICAL ASSESSMENT

During the last days of February 2013 there was a decline in rainfall performance over most parts of the central and southern Malawi while the north had generally experienced good rainfall for agricultural production. Most areas in the south and centre had experienced poor rainfall distribution and amounts leading to mostly below average rainfall performance. Most places in lower Shire Valley had stayed dry throughout the period under review. Most crops were reported to have reached advanced stages of development, so light rainfall that was received was still sufficient to satisfy their daily water requirements. The rains also continued to improve water resources and soil moisture reserves and pasture availability for communal grazing of livestock. The general crop stand in the fields was reported in good condition with Maize reported at various stages of development ranging from flowering to maturity and drying stages for the early planted

hybrid crops. In most parts of the country, the maize crop was reported doing well particularly where fertilizer and good crop husbandry practices have been applied. If rainfall continues performing well then most farmers will have bumper harvests this season. An assessment by Agriculture Development Division (ADD) is as follows:

2.1 SHIRE VALLEY ADD

Little or no rainfall was received in the ADD causing far below average rainfall situation during the last days of February 2013. However, since the ADD had been excessively wet during the period ten day period, crops had survived from residual soil moisture. The dryness did not hamper growth and development of crops as well as regeneration of the natural vegetation for communal grazing of livestock. Maize crop ranged from tasseling and maturity stages

2.2 BLANTYRE ADD

Beneficial light rains were experienced in the ADD during the period 21 to 28 February 2013. Most areas had registered below average rainfall situation during the entire period. However the rains were still beneficial as most crops had passed the critical growing period that required more water. The light rains had still facilitated crop growth and development. The Maize crop was reported doing well at varying stages of development ranging from tasseling to maturity and drying for the early planted crops. Green harvests were in progress in most parts of the ADD. This has improved household food availability.

2.3 MACHINGA ADD

Light rains were experienced in the ADD during the period 21 to 28 February 2013. Most areas had registered below average rainfall situation during the entire period. However the rains were still beneficial as most crops had passed the critical growing period that required more water. The light rains had still facilitated crop growth and development. The Maize crop was reported doing well at varying stages of development ranging from tasseling to maturity and drying. Green harvests were in progress in most parts of the ADD. This has positively impacted on household food security.

2.4 LILONGWE ADD

Most parts of the Lilongwe ADD had recorded light rains during the e period 21 to 28 February 2013. The Maize crop was reported doing well at varying stages of development ranging from tasseling to maturity. Harvesting of green maize has started in some parts of the ADD. This will have a positively impacted on household food security.

2.5 SALIMA ADD

Light rains were reported in Salima ADD during the period 21 to 28 February 2013. Most areas had registered below average rainfall situation during the entire period. Reports from the Salima and Nkhotakota districts had indicated that Maize was doing very well especially where good crop husbandry has been applied. The crop had ranged from cobbing to maturity stages.

2.6 KASUNGU ADD

Light rains were experienced in the ADD during the period 21 to 28 February 2013. Most areas in the ADD had registered below average rainfall situation during the entire period. The light rains had still facilitated crop growth and development. The Maize crop was reported doing well at varying stages of development ranging from cobbing to maturity stages. Green harvests have started in some parts of the ADD. This will have a positively impacted on household food security.

2.7 MZUZU ADD

Most areas in Mzuzu ADD had recorded an improvement in rainfall performance except western parts of Rumphi and Mzimba districts which had experienced below average rainfall (yellow colour on map 1). The Maize crop was generally reported doing well at varying stages of development ranging from vegetative and tasseling stages to maturity for the early planted hybrid crops. .

2.8 KARONGA ADD

Most parts of Karonga ADD had experienced good rainfall for agricultural production during the period under review. The rainfall that was received continued to facilitate growth and development of various crops in the ADD. The Maize crop was reported doing well and had ranged from vegetative and tasseling stages to maturity 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 01 – 10 MARCH 2013

Models for short and medium term weather forecasts suggest that the main rain-belt will be oscillating over Malawi. The rain-belt will be moving northwards during the first five days before sliding southwards towards the end of the forecast period. Therefore good rains for agricultural production will be maintained over most parts of Malawi during the first ten days of March 2013.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR DEKAD 3 OF FEBRUARY 2013: PERIOD 21 – 28TH

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	38.0	47.2	**81**	401.2	679.0	**59**	2
Bvumbwe Met.	64.5	62.4	**103**	1033.9	833.7	**124**	3
Chancellor College	35.2	68.0	**52**	1166.8	953.8	**122**	2
Chichiri Met.	51.2	52.5	**98**	1122.4	972.5	**115**	3
Chikwawa Boma	0.8	32.8	**2**	819.2	603.4	**136**	1
Chikweo Agric.	15.9	67.5	**24**	722.9	806.4	**90**	3
Chileka Airport	7.0	47.9	**15**	810.0	684.8	**118**	1
Chingale Agric	7.3	54.0	**14**	779.2	723.5	**108**	1
Chiradzulu Agric	12.5	53.3	**23**	694.8	763.8	**91**	1
Kasinthula Res. Stn.	0.0	41.4	**0**	641.9	529.2	**121**	0
Mpilipili	14.0	58.4	**24**	600.3	709.4	**85**	1
Makhanga Met	2.4	33.4	**7**	891.0	564.1	**158**	1
Makoka Met	27.5	56.8	**48**	688.2	760.0	**91**	3
Mangochi Met.	0.7	47.5	**1**	630.4	530.9	**119**	1
Masambanjati Agric	45.7	75.6	**60**	1048.2	948.7	**110**	2
Mimosa Met.	48.9	62.9	**78**	1333.4	1002.6	**133**	4
Monkey Bay Met.	4.6	33.7	**14**	754.8	479.5	**157**	2
Mpemba Vet	0.0	54.7	**0**	1117.4	848.6	**132**	0
Mulanje Boma	82.7	55.9	**148**	1321.0	1209.8	**109**	2
Mwanza Boma	47.3	57.4	**82**	879.7	780.5	**113**	3
Namiasi Agric	0.0	50.0	**0**	613.6	615.8	**100**	0
Namwera Agric	11.9	63.1	**19**	803.0	780.1	**103**	2
Nchalo Sucoma	15.6	37.2	**42**	539.8	518.5	**104**	1
Neno Agric	0.0	51.2	**0**	1093.4	841.7	**130**	0
Ngabu Met.	0.0	40.9	**0**	634.3	590.6	**107**	0
Ntaja Met.	1.7	57.5	**3**	801.4	676.0	**119**	2
Phalula Agric	7.0	57.6	**12**	637.9	663.4	**96**	1
Satemwa Tea Est. No.1	31.7	48.5	**65**	600.7	781.1	**77**	3
Thyolo Boma	32.6	52.6	**62**	966.0	833.9	**116**	4
Thyolo Met	1.4	136.2	**1**	774.0	921.9	**84**	1
Zomba RTC	21.1	66.1	**32**	1161.0	903.7	**128**	2
CENTRAL REGION							
Chileka Namitete	41.8	60.4	**69**	671.0	737.7	**91**	4
Chitedze Met.	39.6	66.9	**59**	717.4	669.5	**107**	3
Dedza Met	17.1	74.1	**23**	695.2	731.3	**95**	4
Dowa Agric	31.8	64.9	**49**	581.4	673.9	**86**	3
Dwangwa	54.5	70.1	**78**	603.1	792.1	**76**	3
Dzonzi Forest	38.0	46.0	**83**	910.6	753.4	**121**	2
Kaluluma DTC	27.1	40.8	**66**	574.2	617.1	**93**	4
K.I.A Met	40.9	66.5	**62**	784.2	652.6	**120**	3
Kasiya Agric	81.8	81.8	**100**	756.9	750.6	**101**	5
Kasungu Met	23.3	59.6	**39**	544.1	609.1	**89**	5
Lifuwu	0.2	86.4	**0**	457.8	879.8	**52**	0
Lisasadzi	29.3	54.8	**53**	417.0	666.2	**63**	3
Malomo Agric	0.0	48.8	**0**	614.1	630.3	**97**	0
Madisi Agric	34.0	73.7	**46**	545.1	668.6	**82**	3
Mchinji Boma	4.8	70.0	**7**	625.8	793.5	**79**	1
Mkanda Met	6.8	59.0	**12**	516.2	682.2	**76**	2
Mlangeni Njolomole	13.7	57.8	**24**	684.1	738.6	**93**	2
Mponela Agric	61.0	61.3	**100**	591.6	643.2	**92**	3
Mtakataka Airwing	15.5	59.3	**26**	570.2	611.4	**93**	3
Nathenje Agric	32.3	66.5	**49**	756.0	656.0	**115**	2
Natural Res. College	82.9	46.8	**177**	669.9	670.7	**100**	3
Nkhotakota Met	87.8	85.7	**102**	820.8	870.2	**94**	5
Ntcheu - Nkhande	28.8	69.3	**42**	820.1	817.3	**100**	2
Ntchisi Boma	21.2	75.3	**28**	580.9	905.4	**64**	3
Salima Met	5.5	92.8	**6**	644.3	867.5	**74**	2
Dedza RTC	49.0	42.3	**116**	734.2	764.7	**96**	4
NORTHERN REGION							
Baka Res. Stn.	53.0	54.6	**97**	430.1	615.5	70	5
Bolero Met	23.0	35.1	**66**	614.5	490.5	**125**	4
Bwengu Agric.	28.0	45.4	**62**	515.6	577.3	**89**	4
Chikangawa forest	87.8	63.9	**137**	666.1	734.3	**91**	7
Chitipa Met	77.8	58.7	**133**	661.7	697.3	**95**	5
Chintheche Agric	119.6	66.2	**181**	870.8	875.3	**99**	3
Emfeni Agric	37.5	50.8	**74**	595.3	613.7	**97**	3
Ekwendeni Agric.	97.2	47.4	**205**	473.6	614.1	**77**	5
Karonga Met.	49.9	55.9	**89**	569.5	541.4	**105**	5
Lupembe	43.0	52.4	**82**	537.7	493.0	**109**	2
Mbawa Res. Stn	83.0	46.8	**177**	689.0	620.1	**111**	4
Mzimba Met	13.6	54.4	**25**	487.7	677.2	**72**	3
Mzuzu Met.	55.0	42.9	**128**	719.3	636.1	**113**	5
NkhataBay Met.	137.7	55.3	**249**	1142.2	721.7	**158**	5
Rumphi Boma	27.4	44.5	**62**	517.4	539.3	**96**	2
Zombwe Agric	44.8	47.4	**95**	607.9	532.2	**114**	6

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR THE PERIOD 21 TO 28 FEBRUARY 2013

STATION	MAX TEMP (°C)	MIN TEMP (°C)	ABS MAX (ºC)	ABS MIN (°C)	WIND SPEED (m/s)	RH (%)	EVAP (mm)
KARONGA ADD							
Chitipa	27.7	18.2	28.7	17.6	3.9	78	N/A
Karonga	30.2	21.5	32.0	20.5	1.0	76	N/A
MZUZU ADD							
Bolero	28.1	18.6	29.6	17.0	N/A	77	N/A
Mzuzu	25.7	17.2	28.3	15.2	1.1	82	N/A
Mzimba	27.5	17.1	29.5	15.8	1.2	75	N/A
Nkhata Bay	29.8	21.0	32.5	19.1	0.7	82	N/A
Kasungu	28.3	17.9	30.5	16.3	1.1	72	N/A
LILONGWE ADD							
KIA	26.4	14.8	28.2	15.5	1.2	75	3.8
Chitedze	27.9	17.8	29.4	15.8	0.7	76	N/A
Dedza	20.8	13.1	25.4	13.0	1.2	73	N/A
SALIMA ADD							
Salima	30.3	22.4	31.0	21.0	2.0	71	N/A
Nkhotakota	28.4	21.8	29.9	20.2	1.6	74	N/A
MACHINGA ADD							
Makoka	27.1	17.3	28.3	14.3	1.1	76	N/A
Ntaja	29.3	20.5	31.2	17.2	1.1	65	N/A
Mangochi	31.5	21.7	33.2	19.6	1.6	63	N/A
Monkey Bay	30.8	22.5	31.4	20.8	1.6	68	N/A
BLANTYRE ADD							
Chileka	28.3	18.8	29.6	16.2	2.5	66	N/A
Chichiri	26.5	15.8	28.5	13.1	1.2	76	N/A
Bvumbwe	24.6	15.5	25.4	13.7	1.6	76	N/A
Mimosa	29.9	18.2	31.8	14.0	1.2	76	5.1
SHIRE VALLEY ADD							
Ngabu	31.8	N/A	34.4	N/A	1.0	70	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 bserved 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) = mpsx3.6