REPUBLIC OF MALAWI

Department of Climate Change and Meteorological Services

10-day Weather and Agrometeorological Bulletin

In support of national early warning systems

Period: 01 – 10 December 2012 | Season: 2012/2013 | Issue No.7

Release date: 14 December 2012

HIGHLIGHTS

- **Heavy rains caused flooding in lower Shire Valley…**
- **Land preparation and planting of crops were major activities…**
- **Good rains expected during 11 to 20 December 2012…**

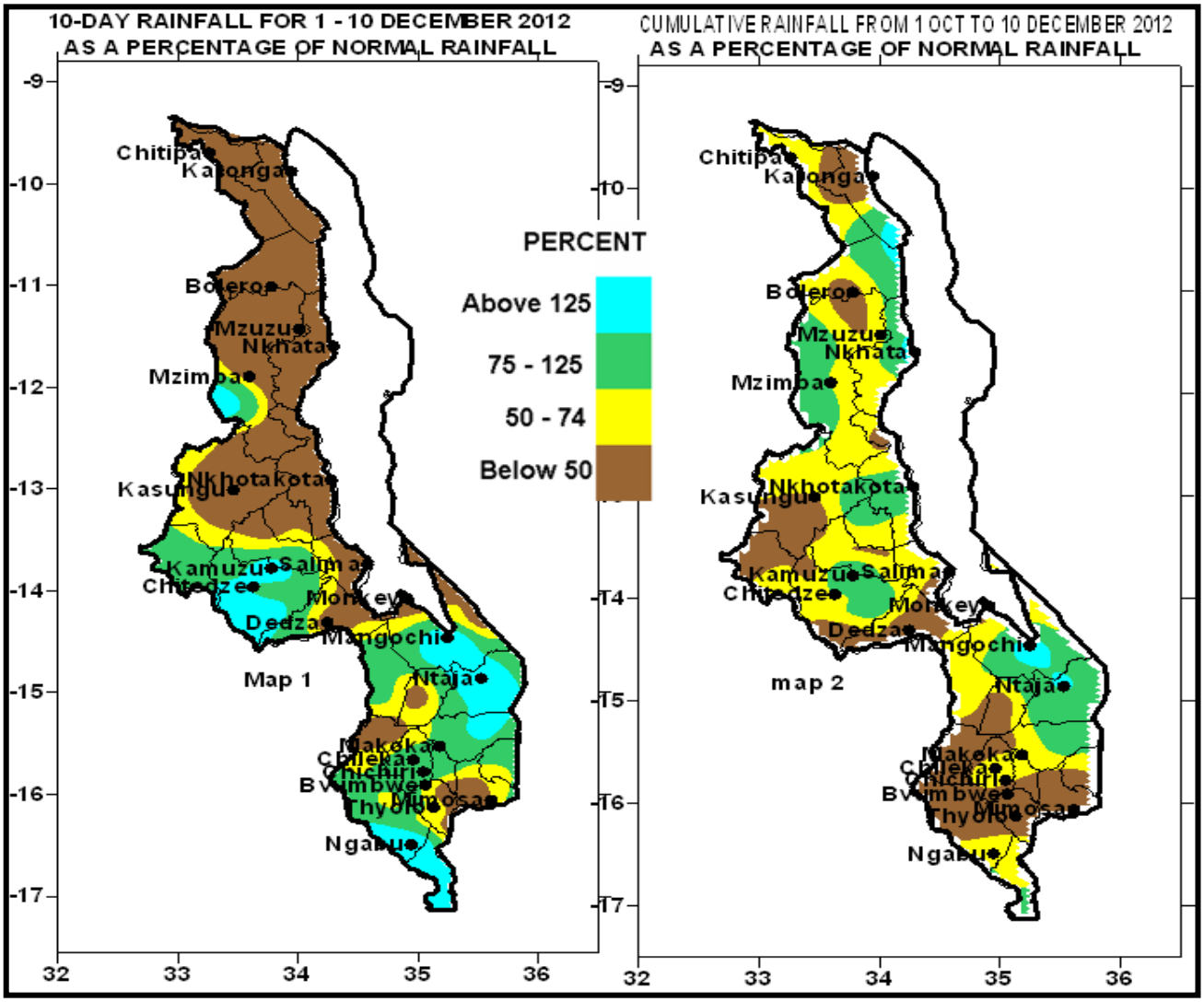

Figure 1: Rainfall Maps for Malawi for 01-10 December 2012

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1.0 WEATHER SUMMARY AND IMPACTS

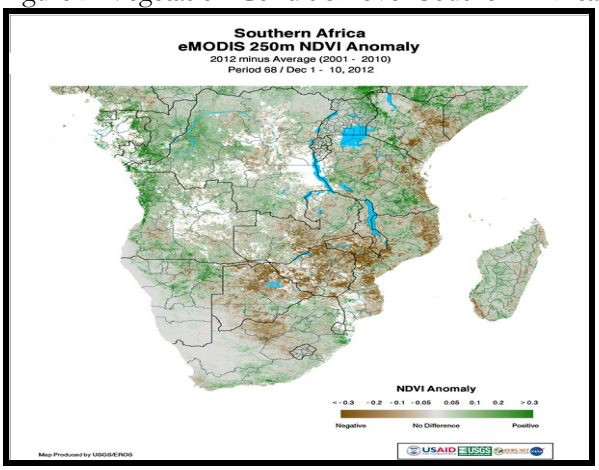
1.1 RAINFALL SITUATION

During the first ten days of December 2012, better rains with good distribution were confined to southern half of Malawi where some areas registered up to five rainy days. The northern half of Malawi stayed largely dry with some areas reporting nil rainfall during the entire period. The cumulative rainfall for the entire ten day period was far below long term average at most places (Brown colour in Map 1) in the north. During the period under review heavy rains caused flooding in lower Shire districts of Nsanje and Chikwawa.

Map 2 on page 1 gives an idea of the performance of rainfall for the country since 1 October 2012. From the map, it is clear that most areas in Malawi have received below average (less than 75% of the expected) cumulative rainfall amounts and pockets of average to above average cumulative rainfall amounts have been confined to localised areas. A few stations that so far had registered at least 100% of long term average cumulative rainfall amounts include: Chancellor College, Mangochi Met, Namiasi Agric, Ntaja and Zomba RTC in the south, KIA Met, Malomo Agric and Nathenje Agric in the centre and in the north included Nkhata Bay Met, Euthini Agric, Mbawa Research and Vinthukutu Agric. For more details refer to Table 1.

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 1 to 10 December 2012 shows some improvement compared with the previous dekads (Figure2). Negative anomalies still exist in most parts of the region. This has been attributed to low rainfall received as a result of slow and poor start of the rainy season. Vegetation condition anomaly over Malawi shows negative vegetation anomaly persisted in the south as a result of delayed onset of the rainy season compared to climatology and positive anomaly existed in the north as a result of early onset of the rainfall season.

1.3 AIR TEMPERATURE

Hot to locally very hot temperatures prevailed over the country during the first ten days of December 2012. Mean maximum temperatures had ranged from around 26°C at Dedza to about 35°C at Ngabu while mean minimum temperatures ranged from around 17°C at Mzuzu to 25°C at Salima (Table 2). The highest absolute maximum temperature for the period was 41.8°C which was observed at Ngabu in Shire Valley on 4th December 2012.

1.4 WIND SPEEDS

Mean wind speeds at a height of two metres above the ground level ranged from 0.7 to 4.4 metres per second. The lowest mean wind speed was reported at Nkhata Bay while the highest mean wind speed was recorded at Chitipa. Refer to Table 2.

1.5 RELATIVE HUMIDITY

During the first ten days of December 2012, the air mass over Malawi had remained fairly moist. Mean daily relative humidity values ranged from 44% at Bolero in Rumphi district to 70% at Mimosa in Mulanje district. For more details refer to Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

The rainfall that was received during the previous and in the period under review had facilitated land preparations and planting of rain-fed crops in Extension Planning Areas (EPAs) where significant rainfall amounts have been received. The rains have also supported growth and development of pasture and regeneration of the natural vegetation. Poor and erratic rains received so far have resulted poor establishment and wide variation of crop development stages. Maize crop ranged from planting to vegetative stages.

The major agricultural activities during the period under review included land preparation, planting of crops, weeding and fertilizer acquisition and application except where dry conditions have persisted. The following is an agrometeorological assessment by Agriculture Development Division (ADD):

2.1 SHIRE VALLEY ADD

Heavy rains that were received the ADD had resulted in above average cumulative rainfall and floods that destroyed a bridge on the main road between Chikwawa and Nsanje districts, rendering the road impassable. The main agricultural activities in the ADD included land preparation and planting of rain-fed crops.

2.2 BLANTYRE ADD

Generally planting rains had covered most parts of ADD by the end of the reporting period. Reports from the districts indicated that the major agricultural activities during the period under review included land preparation and planting of crops, weeding, fertilizer acquisition and basal fertilizer application. Maize crop was reported ranging from planting and germination to vegetative stages

2.3 MACHINGA ADD

Significant rainfall has been received in most parts of Machinga ADD. Farmers in most EPAs were reported planting and replanting rain-fed crops. The major agricultural activities in the ADD included land preparation and planting and replanting of crops, weeding, fertilizer acquisition and basal fertilizer application. Maize crop was reported ranging from planting and germination to vegetative stages

2.4 LILONGWE ADD

Some parts of the ADD particularly some EPAs in Dedza, Ntcheu and Lilongwe districts had recorded significant rainfall amounts which facilitated planting of rain-fed crops. The major agricultural activities in the ADD included land preparation, planting of crops, weeding, fertilizer acquisition and basal fertilizer application. Maize crop was reported between planting and vegetative stages.

2.5 SALIMA ADD

Up to the period under review rains were not well distributed in Salima ADD. Reports indicated that planting of crops had started in very few localised areas. The major agricultural activity was still land preparation in readiness of the main planting rains which in the ADD are normally experienced in December.

2.6 KASUNGU ADD

Effective planting rains had not yet started in some parts of the ADD particularly around Kasungu Boma. Other EPAs in the ADD particularly in Mchinji, Ntchisi and Dowa districts had received significant rainfall amounts which facilitated planting of crops. Maize crop in a few areas ranged from planting and germination to vegetative stages. The main agricultural activities in the ADD included land preparation and planting of rain-fed crops.

2.7 MZUZU ADD

Most areas in the Mzuzu ADD were generally dry except for a few EPAs in Mzimba and Nkhata Bay districts that had received significant rainfall amounts which prompted farmers in areas like Mbawa, Euthini, Mzuzu and Zombwe to continue planting crops. Maize crop in these areas had ranged from planting and germination to early vegetative stages. The main agricultural activities in the ADD included land preparation, acquisition of farm inputs and planting of rain-fed crops.

2.8 KARONGA ADD

Most areas in the ADD have been dry and planting of rain-fed crops has not yet started except for a few places in Karonga south around Vinthukutu Agric and around Chitipa Boma where planting of crops had started. Land preparation in readiness of the main rains and acquisition of farm inputs were reported as the main agricultural activities during the period under review.

3. PROSPECTS FOR 2012/13 RAINFALL SEASON

The summary of the 2012/2013 rainfall outlook is that ***"Normal total rainfall amounts are expected over most parts of Malawi during the 2012/2013 rainfall season***". The rainfall outlook indicates that the greater part of the country will experience normal to above normal total rainfall amounts during the period from October 2012 to March 2013.

This forecast covers the rainfall season from October 2012 to March 2013 and is relevant only to seasonal time-scales and relatively large areas. It does not fully account for local and month to month variations in distribution of rainfall such as localised dry spells and flash floods.

The seasonal forecast is issued to users as a planning tool. For day to day operations, users are advised to make use of the available short to medium range forecasts and the 10-day Rainfall and Agrometeorological bulletin issued by the Department.

4. OUTLOOK FOR 11 – 20 DECEMBER 2012

Models for short and medium range forecasts indicate that the main rain belts are likely to be more active over Malawi during the period 11 to 20 December 2012. Therefore expect a significant improvement in rainfall performance over Malawi during the second ten days of December 2012.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR DEKAD 1 OF DECEMBER 2012: 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	8.0	38.1	**21**	43.5	138.8	**31**	2
Bvumbwe Met.	29.8	79.2	**38**	62.2	207.8	**30**	3
Chancellor College	144.2	99.5	**145**	234.5	223.0	**105**	5
Chichiri Met.	78.4	82.1	**95**	146.1	383.7	**38**	4
Chikwawa Boma	32.4	56.3	**58**	50.5	154.0	**33**	2
Chileka Airport	65.6	53.4	**123**	118.2	176.4	**67**	3
Chingale Agric	50.9	61.4	**83**	94.8	150.1	**63**	5
Chiradzulu Agric	73.7	60.4	**122**	103.4	183.3	**56**	4
Chizunga Factory	72.0	105.8	**68**	81.0	263.4	**31**	5
Kasinthula Res. Stn.	18.3	48.9	**37**	24.3	129.3	**19**	2
Lujeri Tea Estate	0.0	109.9	**0**	187.8	426.1	**44**	0
Mpilipili (Makanjila)	23.9	55.8	**43**	66.3	119.9	**55**	3
Makhanga Met	35.1	52.0	**68**	74.5	144.7	**51**	2
Makoka Met	26.4	71.7	**37**	65.4	164.6	**40**	2
Mangochi Met.	68.5	30.7	**223**	118.1	76.1	**155**	5
Masambanjati Agric	33.6	77.4	**43**	149.8	227.8	**66**	3
Mimosa Met.	73.4	101.3	**72**	195.7	305.0	**64**	6
Monkey Bay Met.	2.6	28.6	**9**	15.9	50.6	**31**	2
Mpemba Vet	95.4	71.7	**133**	135.1	217.6	**62**	3
Mulanje Boma	22.2	110.7	**20**	205.4	404.6	**51**	3
Namiasi Agric	55.2	50.0	**110**	92.8	89.6	**104**	3
Naminjiwa Agric	39.0	67.7	**58**	49.7	163.2	**30**	2
Namwera Agric	31.2	67.2	**46**	115.0	161.4	**71**	3
Nchalo Sucoma	23.5	38.2	**62**	30.8	116.3	**26**	3
Neno Agric	9.0	63.7	**14**	54.6	181.2	**30**	1
Ngabu Met.	110.1	48.9	**225**	110.5	137.2	**81**	4
Nsanje Boma	134.5	59.3	**227**	172.7	213.6	**81**	2
Ntaja Met.	79.9	52.0	**154**	163.3	125.8	**130**	5
Phalula Agric	31.8	50.6	**63**	64.9	164.7	**39**	3
Satemwa Tea Est. No.1	85.4	65.6	**130**	139.4	200.0	**70**	5
Thuchila Agric	14.0	51.3	**27**	36.0	146.4	**25**	1
Thyolo Boma	65.0	76.0	**86**	102.8	198.3	**52**	5
Zomba RTC	157.5	92.9	**170**	214.8	203.4	**106**	5
CENTRAL REGION							
Bunda College	81.5	53.2	**153**	125.5	144.9	**87**	2
Chileka Namitete	81.4	60.4	**135**	124.1	160.3	**77**	3
Chitedze Met.	62.6	44.0	**142**	96.4	130.0	**74**	1
Dedza Met	15.2	48.0	**32**	20.0	119.9	**17**	1
Dowa Agric	47.3	45.7	**104**	52.5	103.5	**51**	2
Dwangwa	7.5	76.6	**10**	64.6	168.8	**38**	2
Dzonzi Forest	74.0	68.0	**109**	120.8	161.9	**75**	3
Kaluluma DTC	6.6	68.3	**10**	6.6	108.6	**N/A**	1
K.I.A Met	56.0	32.7	**171**	141.6	98.4	**144**	3
Kasiya Agric	57.9	53.3	**109**	90.0	163.0	**55**	2
Kasungu Met	0.4	46.1	**1**	4.2	99.0	**4**	0
Lisasadzi	8.2	55.3	**15**	36.5	100.7	**36**	2
Malomo Agric	13.1	22.9	**57**	69.6	66.6	**105**	2
Madisi Agric	0.0	42.3	**0**	54.5	91.6	**59**	0
Mchinji Boma	56.1	69.3	**81**	91.5	182.7	**50**	3
Mkanda Met	37.0	42.9	**86**	49.3	128.8	**38**	3
Mlangeni Njolomole	61.6	56.5	**109**	71.6	146.3	**49**	3
Mponela Agric	25.5	54.2	**47**	54.2	117.6	**46**	2
Nathenje Agric	47.0	38.9	**121**	115.0	112.5	**102**	1
Natural Res. College	49.3	59.1	**83**	63.0	143.6	**44**	3
Nkhotakota Met	32.3	76.2	**42**	128.0	132.1	**97**	3
Ntcheu - Nkhande	46.7	64.8	**72**	115.8	156.8	**74**	3
Ntchisi Boma	20.4	78.3	**26**	81.9	140.5	**58**	2
Salima Met	14.9	62.0	**24**	49.3	104.7	**47**	2
Dedza RTC	23.3	49.8	**47**	67.4	132.5	**51**	2
NORTHERN REGION							
Baka Res. Stn.	0.0	54.4	**0**	8.0	97.3	**8**	0
Bolero Met	0.7	27.5	**3**	23.3	71.5	**33**	1
Chikangawa forest	18.0	54.7	**33**	100.9	142.6	**71**	1
Chitipa Met	9.2	42.5	**22**	87.8	118.4	**74**	1
Chintheche Agric	23.4	73.1	**32**	135.6	204.8	**66**	2
Ekwendeni Agric.	0.0	51.6	**0**	6.0	154.5	**4**	0
Euthini Agric.	0.0	45.1	**0**	110.8	105.3	**105**	0
Karonga Met.	0.4	37.6	**1**	13.1	87.1	**15**	1
Lupembe	0.0	26.1	**0**	5.7	65.5	**9**	0
Mbawa Res. Stn	58.3	29.3	**199**	110.2	99.5	**111**	3
Mzimba Met	0.8	47.9	**2**	70.4	111.2	**63**	1
Mzuzu Met.	8.8	45.6	**19**	96.7	153.0	**63**	3
NkhataBay Met.	34.6	79.8	**43**	303.9	175.4	**173**	3
Rumphi Boma	0.0	26.5	**0**	2.8	69.9	**N/A**	0
Vinthukutu Agric	0.0	44.7	**0**	196.4	110.4	**178**	0
Zombwe Agric	0.0	30.8	**0**	39.0	91.0	**43**	0

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR THE PERIOD 01 TO 10 DECEMBER 2012

STATION	MAX TEMP (°C)	MIN TEMP (°C)	ABS MAX (ºC)	ABS MIN (°C)	WIND SPEED (m/s)	RH (%)	EVAP (mm)
KARONGA ADD							
Chitipa	31.1	20.2	32.8	25.3	4.4	56	N/A
Karonga	34.4	24.6	35.0	23.4	2.5	51	N/A
MZUZU ADD							
Bolero	32.8	22.2	34.2	19.4	N/A	44	N/A
Mzuzu	28.3	17.0	29.7	16.1	1.6	64	N/A
Mzimba	29.9	19.7	31.4	17.9	1.4	56	N/A
Nkhata Bay	33.6	21.1	35.2	20.0	0.7	67	N/A
Kasungu	31.5	20.1	33.1	17.7	3.1	57	N/A
LILONGWE ADD							
KIA	27.9	19.5	29.3	17.6	1.8	65	7.9
Chitedze	29.9	19.0	32.1	17.7	1.2	63	N/A
DEDZA	25.8	17.5	27.4	16.7	2.3	71	N/A
SALIMA ADD							
Salima	33.6	25.2	35.5	23.1	2.5	58	N/A
Nkhotakota	32.1	23.7	34.0	22.2	2.6	54	N/A
MACHINGA ADD							
Makoka	29.4	19.2	33.0	16.3	1.5	64	N/A
Ntaja	29.9	19.0	32.1	17.7	1.2	63	N/A
Mangochi	33.9	23.9	36.0	22.5	1.7	61	N/A
Monkey Bay	33.7	25.3	35.4	24.4	2.4	55	N/A
BLANTYRE ADD							
Chileka	31.1	20.9	34.2	18.6	3.4	62	N/A
Chichiri	28.4	19.0	32.0	15.4	1.5	57	N/A
Bvumbwe	27.4	16.6	31.6	14.0	2.0	68	N/A
Mimosa	32.0	19.6	35.3	17.0	1.2	70	5.0
SHIRE VALLEY ADD							
Ngabu	35.2	30.8	41.8	15.4	2.4	61	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