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In support of national early warning systems

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HIGHLIGHTS

- **Few rain showers and thunderstorms experienced over Malawi…**
- **Land preparation was still major on-farm agricultural activity…**
- **Isolated thunderstorms will persist during 21-30 November 2012…**

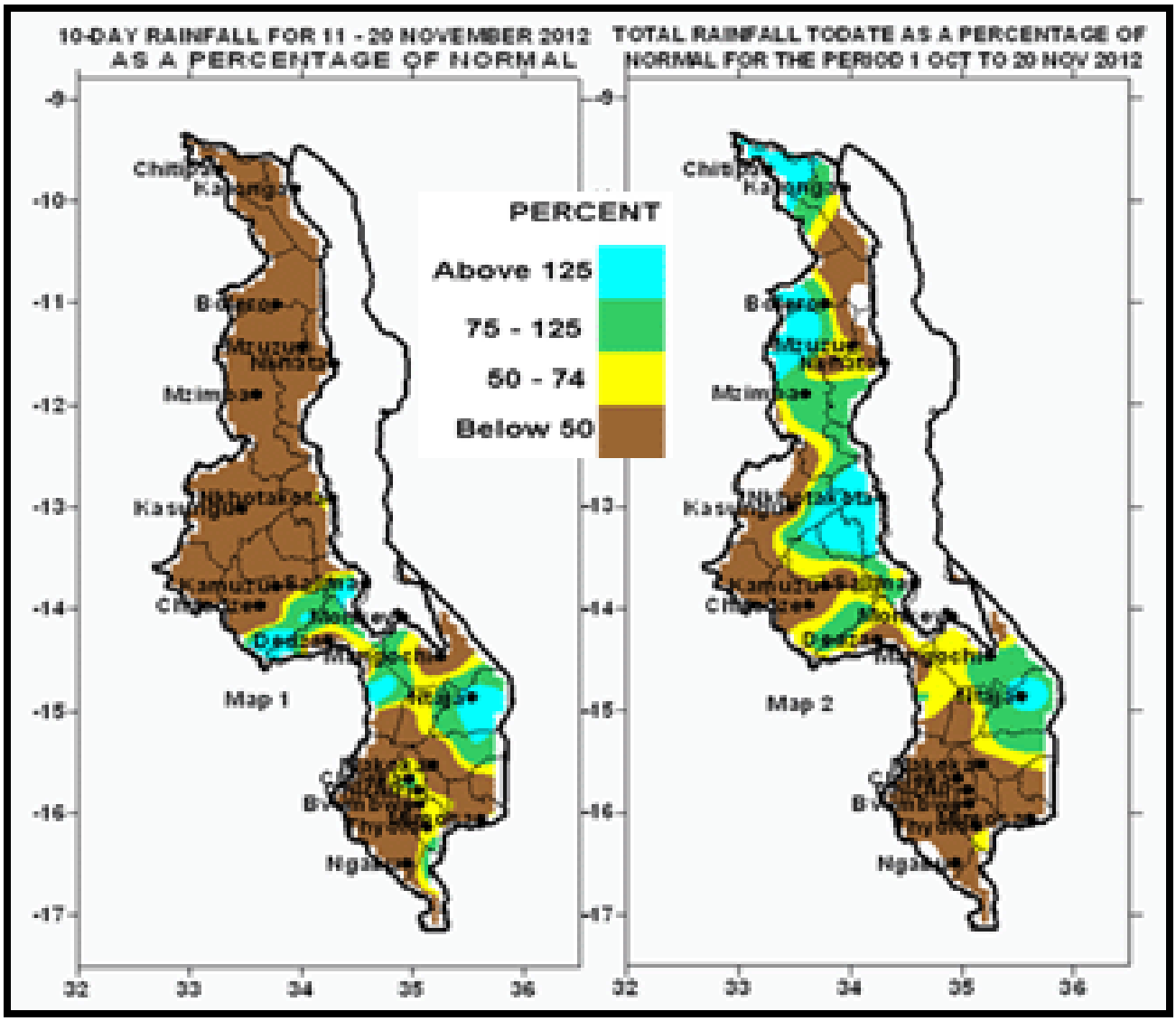

Figure 1: Rainfall Maps for Malawi for 11-20 November 2012

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1.0 WEATHER SUMMARY AND IMPACTS

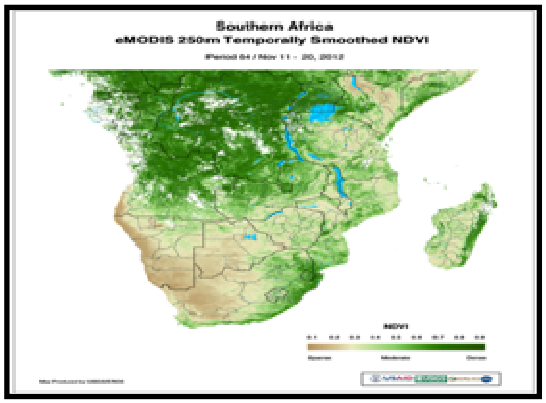
1.1 RAINFALL SITUATION

During the second ten days of November 2012, the effects of the convergence of air masses that started the previous dekads maintain few isolated rains over the country, especially over the southern half. The rainfall was received mostly during the last three days. Stations that recorded more than 30mm of rainfall amounts were mostly confined to the south and included Mimosa. Masambanjati, Ntaja, Chileka Airport, Chancellor College and Chichiri while in central Malawi such high rainfall amounts were reported at Ntcheu-Nkhande and Nathenje Agric. As for the north, generally the region continued to experience dry weather conditions see more details in Table 1. Most areas that had rainfall recorded one to two rainy days. The highest number of rainy days was recorded at Bvumbwe, Satemwa and Phalula Agric in the south and Ntcheu-Nkhande and Nathenje Agric in the centre. It can be seen from Map 1 that some areas in the southern half of Malawi registered above 125% of their long term average rainfall amounts while over the northern half, mainly dry conditions prevailed. The northern half which was relatively wetter during the previous dekad became drier during the period under review and there was an improvement in rainfall distribution and amount in some parts of southern Malawi.

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 some areas particularly over the northern half of the country have received more rains than expected while most areas of the south have received less than expected long term average rainfall amounts' A few stations have so far registered over 200% cumulative rainfall, some of which include: Malomo Agric in Ntchisi, Nkhotakota Met and Ntchisi Agric in the centre and Chitipa Met and Euthini Agric in the north. Refer to Table 1.

1.2 VEGETATION CONDITION

Figure 2: Vegetation Condition over Southern Africa



Vegetation condition map for Southern Africa for the period 11 to 20 November 2012 shows slight improvement compared with the previous dekads (Figure2). This is due to low rainfall received in most parts of the region as a result of slow start of the rainy season. Vegetation condition over Malawi is expected to improve significantly with improvement in rainfall performance.

1.3 AIR TEMPERATURE

Generally hot conditions prevailed over the country during the period 11 to 20 November 2012. Mean maximum temperatures ranged from around 30°C at Mzuzu to about 39°C at Ngabu while mean minimum temperatures ranged from around 16°C at Mzuzu to 26°C at Monkey Bay (Table 2). Both mean maximum and minimum temperatures were generally higher than the previous dekad. This can be attributed to low cloudness during the day which resulted into high daytime temperature and more cloudness during the night maintaining high surface air temperatures.

1.4 WIND SPEEDS

Mean wind speeds at a height of two metres above the ground level were generally lower than the previous dekad except at Chitipa and ranged from 0.8 to 4.5 metres per second. The lowest mean wind speed (0.8 m/s) was reported at Nkhata Bay while the highest mean wind speed (4.5 m/s) was recorded at Chitipa. Refer to Table 2.

1.5 RELATIVE HUMIDITY

During the period 11 to 20 November 2012, air over Malawi was relatively drier compared to the previous dekad. Daily average relative humidity values ranged from 37% at Bolero in the north to 58% at Bvumbwe in in the south. This was due to dominance of fairly dry air mass over the country, and resulted in few isolated rainfall that was experienced mostly in the south during the dekad. For details refer to Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

Land preparation continued in most areas. The rainfall that was received during the previous and in this had stimulated farmers to continue with land preparations while others started to do so in the wake of rains. In some Extension Planning Areas (EPAs) where significant rainfall amounts have been received, farmers were reported to have started planting crops and the

maize crop ranged from planting to vegetative stages. The following is an assessment by ADDs:

2.1 SHIRE VALLEY ADD

Generally ADD has been hot and dry and planting of rain-fed crops has not yet started. Land preparation in readiness of the main rains was reported as the main agricultural activity during the period under review.

2.2 BLANTYRE ADD

Some parts of the ADD particularly in Mimosa and Lujeri Tea Estate in Mulanje, Satemwa inThyolo, some parts Chiradzulu and Blantyre a few farmers had started planting rainfed crops following significant rainfall amounts that were received in the previous dekads as well as during the period under review. However, large portions of the ADD still remain dry.

2.3 MACHINGA ADD

Significant rains have been received in some parts of the ADD and farmers in some areas like Ntaja in Machinga, Songani, Sakata and Govala in Zomba were reported to have started planting of rain-fed crops and maize crop was reported between germination and vegetative stage. Balaka and Mangochi districts were still generally dry by 20 November 2012

2.4 LILONGWE ADD

Some parts of the ADD particularly some EPAs in Ntcheu and Lilongwe districts had recorded significant rainfall amounts which prompted some farmers to begin planting crops. Maize crop was reported between planting and germination stages at Ntcheu – Nkhande, Around Bunda and Kamuzu International Airport.

2.5 SALIMA ADD

Up to the period under review Salima ADD had been largely dry except for a few areas in Dwangwa where reports indicated that some farmers had started planting. The major on farm agricultural activity was land preparation in readiness of the main planting rains which in the ADD are normally experienced in December.

2.6 KASUNGU ADD

Some parts of the ADD particularly some EPAs in Mchinji and Dowa districts had received significant rainfall amounts which prompted some farmers in Mikundi and Chiotcha in Mchinji and around Mponela to begin planting crops. Maize crop in a few areas was reported between planting and germination stages.

2.7 MZUZU ADD

Most areas in the ADD had been generally dry except for some EPAs in Mzimba district which had received significant rainfall amounts which prompted some farmers in areas like Mbawa, Euthini, Mzuzu and Zombwe to start planting crops. Maize crop in these areas was reported between germination and early vegetative stages. Land preparation in readiness for main planting rains was in progress in most EPAs in the ADD.

2.8 KARONGA ADD

Most areas in the ADD have been dry and planting of rain-fed crops has not yet started. Land preparation in readiness of the main rains was reported as the main agricultural activity 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 21 – 30 NOVEMBER 2012

Models for short and medium range forecasts indicate that air over Malawi will remain fairly moist and unstable due to the occasional converging of south-easterly and north-easterly air masses particularly towards the last days of the month. This will result in few isolated thunderstorms and rain showers over the country starting from the south progressing northwards.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR DEKAD 2 OF NOVEMBER 2012: 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	9.5	20.2	**47**	18.5	66.4	**28**	1
Bvumbwe Met.	15.1	34.0	**44**	30.8	84.9	**36**	3
Chancellor College	33.6	27.5	**122**	59.6	75.5	**79**	2
Chichiri Met.	30.6	59.2	**52**	66.6	225.7	**30**	2
Chikwawa Boma	0.4	21.9	**2**	18.1	55.5	**33**	1
Chileka Airport	33.5	30.7	**109**	47.2	79.1	**60**	1
Chingale Agric	5.5	20.8	**26**	32.9	52.5	**63**	2
Chiradzulu Agric	1.8	23.5	**8**	29.7	80.8	**37**	1
Lujeri Tea Estate	48.0	90.5	**53**	118.6	248.4	**48**	1
Makhanga Met	29.9	20.9	**143**	29.9	64.2	**47**	1
Makoka Met	3.7	18.1	**20**	14.5	57.9	**25**	1
Mangochi Met.	0.0	7.3	**0**	31.1	28.5	**109**	0
Masambanjati Agric	34.4	39.5	**87**	99.1	105.0	**94**	2
Mimosa Met.	68.3	49.4	**138**	94.8	145.1	**65**	2
Monkey Bay Met.	3.9	3.9	**100**	12.2	13.9	**88**	2
Mpemba Vet	14.3	33.0	**43**	39.7	96.6	**41**	2
Mwanza Boma	0.0	21.7	**0**	17.2	91.2	**19**	0
Namiasi Agric	1.9	10.6	**18**	4.0	22.9	**17**	1
Naminjiwa Agric	1.3	17.0	**8**	10.7	60.9	**18**	1
Namwera Agric	9.1	27.1	**34**	49.9	61.4	**81**	1
Nchalo Sucoma	0.0	19.4	**0**	5.1	50.1	**10**	0
Neno Agric	1.2	23.0	**5**	5.2	76.8	**7**	1
Ngabu Met.	0.0	15.5	**0**	0.2	55.5	**0**	0
Nsanje Boma	4.5	34.3	**13**	10.4	119.2	**9**	1
Ntaja Met.	35.6	22.0	**162**	63.2	44.2	**143**	1
Phalula Agric	13.9	32.4	**43**	26.6	73.4	**36**	3
Satemwa	22.9	26.4	**87**	44.2	90.9	**49**	3
Thuchila Agric	16.0	17.6	**91**	22.0	66.7	**33**	2
Thyolo Boma	1.1	26.7	**4**	28.1	92.1	**31**	1
Zomba RTC	10.0	20.2	**50**	29.0	64.0	**45**	2
CENTRAL REGION							
Bunda College	8.5	28.4	**30**	44.0	63.7	**69**	1
Chileka Namitete	0.0	29.1	**0**	15.5	60.3	**26**	0
Chitedze Met.	1.4	32.6	**4**	21.6	53.5	**40**	1
Dowa Agric	0.0	17.5	**0**	5.2	33.8	**15**	0
Dwangwa	1.0	30.3	**3**	56.6	52.4	**108**	1
Kaluluma DTC	0.0	21.0	**0**	0.0	28.0	**0**	0
K.I.A Met	0.4	26.3	**2**	24.3	46.6	**52**	1
Kasiya Agric	14.2	26.9	**53**	32.1	77.9	**41**	1
Kasungu Met	0.0	14.8	**0**	3.8	27.6	**14**	0
Lisasadzi	0.0	12.8	**0**	28.3	22.8	**124**	0
Malomo Agric	0.0	16.2	**0**	56.5	22.5	**251**	0
Madisi Agric	0.0	16.7	**0**	28.0	30.0	**93**	0
Mchinji Boma	4.0	28.6	**14**	32.5	73.4	**44**	1
Mlangeni Njolomole	2.1	16.5	**13**	5.1	59.9	**9**	1
Mponela Agric	0.0	16.8	**0**	24.7	34.5	**72**	0
Mtakataka Airwing	28.1	8.0	**351**	28.1	30.0	**94**	2
Nathenje Agric	38.0	22.5	**169**	53.5	44.6	**120**	3
Nkhotakota Met	10.9	14.0	**78**	85.1	30.4	**280**	1
Ntcheu - Nkhande	60.5	17.4	**348**	60.5	57.9	**104**	3
Ntchisi Boma	0.0	15.5	**0**	61.5	29.2	**211**	0
Salima Met	29.6	11.9	**249**	30.0	25.9	**116**	2
Dedza RTC	6.3	24.8	**25**	26.8	60.6	**44**	2
NORTHERN REGION							
Baka Res. Stn.	0.0	6.6	**0**	8.0	11.2	**71**	0
Bolero Met	0.0	13.5	**0**	22.6	23.4	**97**	0
Chikangawa forest	0.0	27.2	**0**	56.5	55.7	**101**	0
Chitipa Met	0.0	16.8	**0**	63.8	31.1	**205**	0
Ekwendeni Agric.	0.0	52.3	**0**	0.0	90.8	**0**	0
Euthini Agric.	0.0	19.4	**0**	110.8	33.8	**328**	0
Karonga Met.	2.7	15.6	**17**	12.7	20.8	**61**	1
Lupembe	0.0	11.6	**0**	5.7	17.2	**33**	0
Mbawa Res. Stn	2.2	24.8	**9**	31.2	44.8	**70**	1
Mzimba Met	0.0	24.1	**0**	54.6	39.1	**140**	0
Mzuzu Met.	0.0	28.1	**0**	73.1	76.9	**95**	0
NkhataBay Met.	0.0	33.1	**0**	22.2	63.9	**35**	0
Zombwe Agric	0.0	26.4	**0**	39.0	40.7	**96**	0

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR THE PERIOD 11 TO 20 NOVEMBER 2012

STATION	MAX TEMP (°C)	MIN TEMP (°C)	ABS MAX (ºC)	ABS MIN (°C)	WIND SPEED (m/s)	RH (%)	EVAP (mm)
KARONGA ADD							
Chitipa	32.5	20.5	33.5	19.3	4.5	45	N/A
Karonga	34.6	23.7	36.4	22.4	1.9	51	N/A
MZUZU ADD							
Bolero	33.9	22.4	35.1	20.1	N/A	37	N/A
Mzuzu	29.7	16.0	31.2	13.2	1.7	55	N/A
Mzimba	31.4	19.5	33.4	18	1.5	46	N/A
Nkhata Bay	36.1	19.9	31.0	17.5	0.8	53	N/A
KASUNGU ADD							
Kasungu	30.2	18.3	34.6	14.9	2.3	52	N/A
LILONGWE ADD							
KIA	31.2	19.2	32.7	17.9	2.1	50	11.9
Chitedze	32.8	19.6	34.4	18.3	1.3	53	N/A
SALIMA ADD							
Salima	35.1	24.6	36.7	27.5	2.4	43	N/A
Nkhotakota	32.8	23.9	34.4	22.3	2.1	53	N/A
MACHINGA ADD							
Makoka	32.3	19.5	34.1	16.7	1.7	46	N/A
Ntaja	34.6	22.2	36.7	20.4	2.4	47	N/A
Mangochi	36.7	24.7	38.0	23.5	1.8	50	N/A
Monkey Bay	35.2	25.9	36.9	23.2	2.4	50	N/A
BLANTYRE ADD							
Chileka	33.5	21.8	36.1	18.7	3.3	57	N/A
Chichiri	31.3	19.4	35.2	16.7	1.7	51	N/A
Bvumbwe	30.1	17.2	33.9	14.9	2.3	58	N/A
Mimosa	35.9	19.5	39.1	17.6	1.6	53	8.4
SHIRE VALLEY ADD							
Ngabu	38.8	24.0	42.2	22.4	2.4	46	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).
- To convert Meters Per Second (mps) to Kilometers per hour (Km/hr) = mpsx3.6