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HIGHLIGHTS

- **Incessant heavy rains caused floods in Phalombe, Mangochi and Salima …**
- **Maize crop reported doing well mostly at vegetative stage…**
- **Widespread locally heavy rains to continue during 11 to 20 January 2013…**

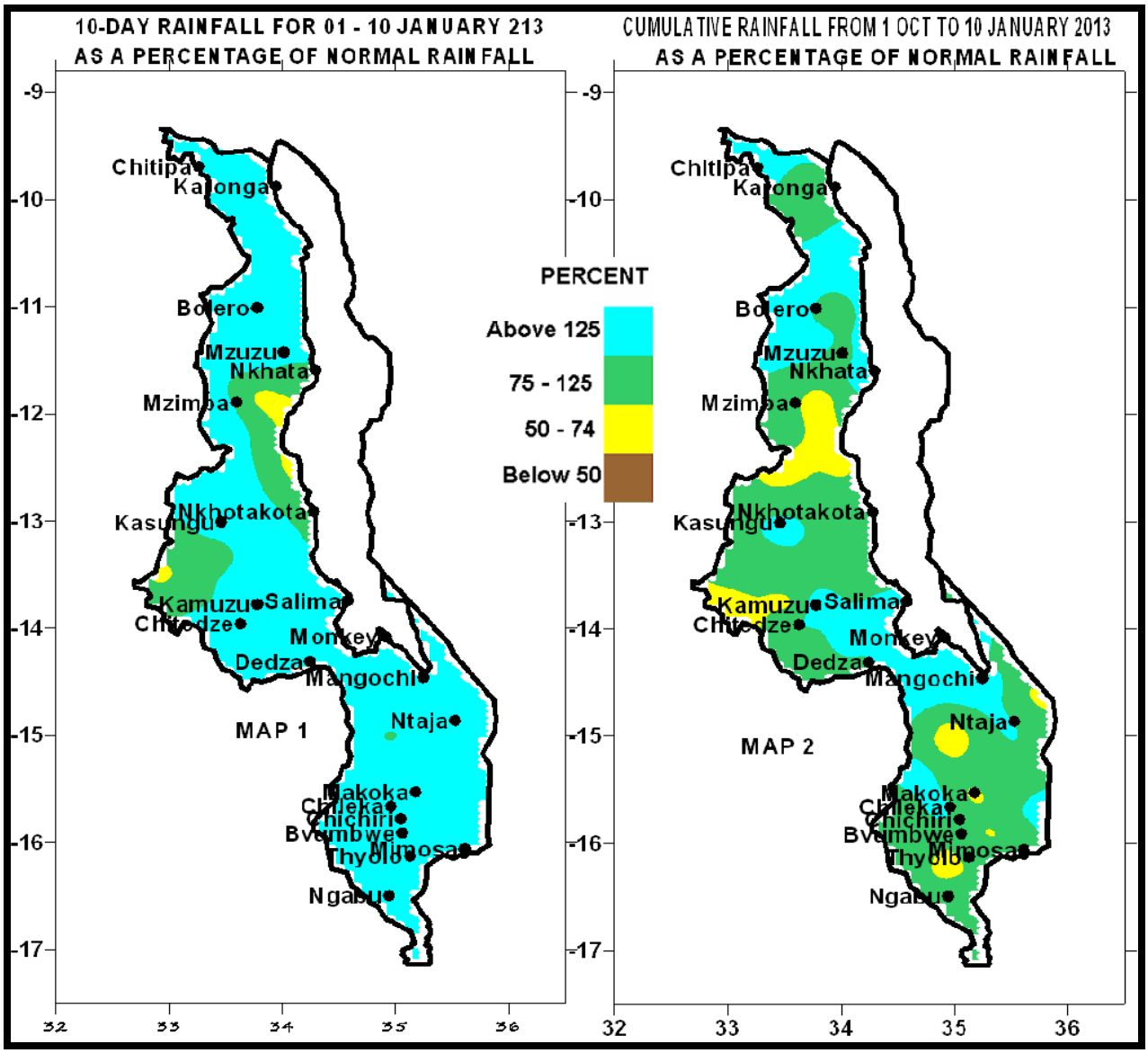

Figure 1: Rainfall Maps for Malawi for 01 – 10 January 2013

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1.0 WEATHER SUMMARY AND IMPACTS

1.1 RAINFALL SITUATION

Widespread rains were experienced over Malawi during the period 01-10 January 2013 due to the combined effect of the two main rain-bearing systems namely Congo Air mass and Inter Tropical Convergence Zone. Very high rainfall amounts over 150mm were reported in most areas during this period under review. These high amounts exceeded by far rainfall amounts expected in most parts of the country (see Table 1) and this represented above normal rainfall situation in most areas (represented by greenish and light blue colours on Map 1). Average number of rainy days was also higher than seven compared with about four during the previous dekad. These high rainfall amounts resulted in flooding in some districts such as Salima, Mangochi, Nsanje and Phalombe.

Map 2 depicts the situation of cumulative rainfall performance for the country since 1 October 2012. From the map, the spatial distribution of areas that have achieved normal to above normal cumulative rainfall up to 10 January 2013 (green and light blue colours on Map 2) has improved significantly. Just a few pockets still had received less than average (less than 75% of the expected cumulative rainfall amounts). For more details also refer to Table 1.

1.2 VEGETATION CONDITION

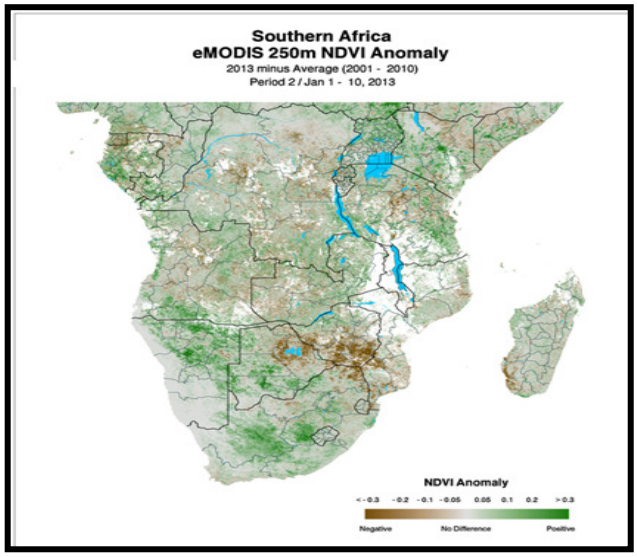

Figure 2: Vegetation Condition over Southern Africa

The vegetation diference from long term average map for Southern Africa for the period 01 to 10 January 2013 showed improvement in most areas. (Figure2). Negative anomalies still exist in some parts of the region. This has been attributed to low rainfall received as a result of slow and delayed onset of the rainy season. Vegetation condition anomaly over Malawi showed no major differences over most areas. Even areas that showed negative deviations during the previous dekad showed improvement in the vegetation condition as a result of the grdual improvement in the performance of the rainfall season.

1.3 AIR TEMPERATURE

Generally warm to hot tempratures were experienced over the country during the first ten days of January 2013. Mean maximum temperatures ranged from around 22.0°C at Dedza to around 32.5°C at Ngabu. Compared to the previous dekad, maximum temperatures this time were lower due to the rainfall that was being received. Mean minimum temperatures ranged from around 16.7°C at Dedza to 23.1°C at Monkey Bay Met (Table 2). These were slightly higher compared to the previous dekad. The highest absolute maximum temperature for the period was about 37°C, observed at Ngabu in Shire Valley on 04 January 2013.

1.4 WIND SPEEDS

Mean wind speeds at a height of two metres above the ground level ranged from 0.6 to 2.0 metres per second. The lowest mean wind speed was reported at Nkhata Bay and Chitedze while the highest mean wind speed was recorded at Salima. Refer to Table 2.

1.5 RELATIVE HUMIDITY

During the period under review, air over Malawi was generally moist. Mean daily relative humidity values ranged from 73% at Karonga to 90% at Dedza. See more details in Table 2.

2.0 AGROMETEOROLOGICAL ASSESSMENT

During the first ten days of January 2013, there was a significant pick in rainfall distribution and amounts across the country. These rains were generally favourable for crop and pasture development, as well as regeneration of the natural vegetation. The rains were also good for replenishing ground water levels. Crops were at varying stages of development ranging from emergency mainly in the northern parts to arrowing and tasseling, mainly over the southern areas. On farm activities ranged from weeding to applying basal and top dressing fertilizers. In most parts of the country, the maize crop was reported to be doing well and if good

rainfall performance continues up to February and March then good harvests are inevitable in most parts of Malawi. The following is an agrometeorological assessment by Agriculture Development Division (ADD):

2.1 SHIRE VALLEY ADD

Generally heavy rains were experienced in the ADD. These rains supported crop establishment, growth and development, as well as basal and top dressing fertilizer application. The main agricultural activities in the ADD included application of basal and top dressing fertilizer application. However, the heavy rains hampered some farm activities such as weeding.

2.2 BLANTYRE ADD

Good rains for agricultural production were experienced in the entire ADD. In some cases, the rains were excessive leading to water logging, soil erosion and flooding and wash away in some areas. By and large, these rains satisfied crop water requirements, supported crop growth and development. The Maize crop was reported doing well. Reports from the districts indicated that the major agricultural activities during the period under review included weeding and top dressing fertilizer application. However farm activities such as wedding, basal and top dressing fertilizer application were negatively affected by the continuous rains. Maize crop was reported ranging from advanced vegetative stages to early reproductive stages such as arrowing, tasseling and cobbing stages.

2.3 MACHINGA ADD

Heavy to excessive rainfall were received in most parts of Machinga ADD during the period under review. Flooding was reported in Mangochi district resulting in destruction and washing away of crop fields. Farmers in most EPAs were reported applying top dressing fertilizer to their crops. The major agricultural activities in the ADD included weeding and application of basal and top dressing fertilizer. Maize crop was reported in good condition and ranging from advanced vegetative to tasselling stages.

2.4 LILONGWE ADD

Most parts of the ADD had recorded heavy rainfall during the period 01-10 January 2013, in most cases these rains were good for agriculture production. These rains had supported crop growth and development as well as basal and top dressing fertilizer application. The major agricultural activities in the ADD included weeding, banking, basal and top fertilizer dressing. Maize crop was reported between vegetative and tasselling stages.

2.5 SALIMA ADD

During the period under review moderate to heavy rains were received in Salima ADD. Reports indicated that planting of various crops and basal dressing of fertilizers was in progress in most areas of the ADD. The major agricultural activities included planting of crops and weeding as well as fertilizer application. Maize crop was reported between planting and vegetative stages.

2.6 KASUNGU ADD

Moderate to heavy rainfall was recorded in most parts of Kasungu ADD. These rains supported emergence, establishment and development of crops. Maize crop ranged from vegetative to tasseling stages. Agricultural activities in the ADD included weeding, basal and top dressing.

2.7 MZUZU ADD

Most areas in the Mzuzu ADD received moderate to heavy rains, favourable for agricultural production during the first ten days of January 2013. Maize crop in the ADD ranged from planting to germination to vegetative and tasseling stages. Agricultural activities in Mzuzu ADD included weeding and fertilizer application.

2.8 KARONGA ADD

Moderate to heavy rainfall favourable for agricultural production was experienced in Karonga ADD during the period under review. Weeding and basal fertilizer dressing were in progress in most EPAs in the ADD. The maize crop in Karonga ADD ranged from emergence, establishment to vegetative stages.

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 updated rainfall outlook indicates that despite the poor start of 2012/2013 rainfall season the greater part of the country will still experience normal to above normal total rainfall amounts by end of 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 JANUARY 2013

During the second ten days of January 2013 models for short and medium term weather forecasts suggest that Congo Air will remain active over Malawi.. Therefore, widespread rains and occasional thunderstorms which will be locally heavy are expected to continue over Malawi. These rains will continue supporting on-farm agricultural activities and growth and development of crops in most parts of Malawi.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR DEKAD 1 OF JANUARY 2013: PERIOD 1 – 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	71.0	84.1	84	129.5	333.5	39	5
Bvumbwe Met.	167.4	80.2	209	414.6	416.5	100	8
Chancellor College	174.8	100.5	174	579.9	512.1	113	8
Chichiri Met.	194.0	88.2	220	631.9	666.2	95	8
Chikwawa Boma	177.3	66.8	265	321.0	326.7	98	7
Chikweo Agric.	250.6	86.1	291	250.6	389.3	64	7
Chileka Airport	104.1	68.1	153	479.7	352.8	136	7
Chingale Agric	214.5	70.4	305	364.1	362.6	100	7
Chiradzulu Agric	136.9	66.4	206	333.5	385.5	87	9
Chizunga Factory	110.7	96.6	115	315.7	573.8	55	7
Kasinthula Res. Stn.	184.4	62.9	293	310.0	291.5	106	8
Mpilipili	217.2	91.9	236	332.1	346.7	96	5
Makhanga Met	151.9	62.2	244	387.8	320.6	121	7
Makoka Met	129.4	76.4	169	230.4	379.4	61	8
Mangochi Met.	231.7	54.2	427	382.6	210.7	182	7
Masambanjati Agric	201.1	96.9	208	384.1	513.9	75	7
Mimosa Met.	180.8	97.7	185	658.9	561.7	117	8
Monkey Bay Met.	374.5	49.1	763	516.8	199.4	259	8
Mpemba Vet	178.9	87.5	204	487.4	456.5	107	6
Mwanza Boma	125.7	73.5	171	385.3	401.6	96	7
Namiasi Agric	217.0	59.0	368	341.6	269.6	127	7
Naminjiwa Agric	318.0	76.2	417	480.7	373.3	129	6
Namwera Agric	100.5	89.6	112	359.9	385.2	93	5
Nchalo Illovo	110.7	53.1	208	157.1	255.9	61	9
Neno Agric	279.4	96.0	291	649.2	415.2	156	9
Ngabu Met.	181.2	61.3	296	333.3	312.3	107	7
Ntaja Met.	134.5	70.1	192	469.8	329.4	143	7
Phalula Agric	168.2	72.7	231	291.3	345.1	84	7
Thyolo Boma	120.2	82.5	146	421.0	458.5	92	10
Thuchila Agric	113.4	67.7	168	207.4	331.5	63	7
Zomba RTC	141.8	81.7	174	484.8	469.0	103	9
CENTRAL REGION							
Chileka Namitete	144.6	86.1	168	327.7	384.6	85	8
Chitedze Met.	124.9	68.9	181	437.1	321.0	136	7
Dedza Met	219.9	82.5	267	402.1	336.2	120	10
Dowa Agric	152.8	70.6	216	351.3	312.0	113	9
Dwangwa	49.9	85.8	58	277.9	418.9	66	7
Kaluluma DTC	75.1	59.1	127	130.3	307.1	42	7
K.I.A Met	159.4	72.7	219	455.8	295.4	154	9
Kasiya Agric	122.8	87.3	141	267.9	419.5	64	8
Kasungu Met	118.6	70.1	169	412.6	281.9	146	9
Lisasadzi	92.2	77.2	119	418.3	321.1	130	8
Malomo Agric	114.7	66.0	174	281.9	254.0	111	10
Madisi Agric	96.9	69.0	140	337.4	290.3	116	8
Mchinji Boma	94.0	83.0	113	248.6	427.8	58	6
Mkanda Met	42.6	67.6	63	285.5	349.2	82	4
Mlangeni Njolomole	218.4	70.8	308	487.2	356.1	137	9
Mponela Agric	194.0	68.0	285	325.6	282.1	115	9
Nathenje Agric	229.4	72.1	318	450.6	311.2	145	7
Natural Res. College	166.2	87.2	191	365.2	343.6	106	7
Nkhotakota Met	94.3	108.8	87	546.7	423.0	129	9
Ntcheu - Nkhande	250.1	86.3	290	555.1	405.5	137	10
Ntchisi Boma	126.4	93.3	135	359.1	434.5	83	8
Salima Met	183	94.8	193	522.9	364.3	144	8
Dedza RTC	222.2	75.4	295	398.8	346.9	115	9
NORTHERN REGION							
Baka Res. Stn.	89.1	66.1	135	97.1	322.3	30	5
Bolero Met	103.7	62.6	166	328.2	238.2	138	8
Chikangawa forest	53.5	82.4	65	233.0	368.8	63	9
Chitipa Met	125.6	71.2	176	469.0	332.3	141	7
Chintheche Agric	81.6	107.7	76	563.2	481.0	117	6
Emfeni Agric	120.3	77.0	156	135.7	313.2	43	7
Euthini Agric.	100.6	72.9	138	419.0	296.6	141	7
Karonga Met.	71.4	63.0	113	342.7	276.4	124	8
Mbawa Res. Stn	179.3	76.3	235	369.9	318.2	116	7
Mzimba Met	93.6	92.7	101	259.8	336.6	77	8
Mzuzu Met.	95.7	66.6	144	344.8	337.8	102	8
NkhataBay Met.	105.2	89.9	117	886.1	409.2	217	8
Rumphi Boma	106.7	64.5	165	187.0	245.6	76	5
Vinthukutu Agric	135.5	72.5	187	656.5	313.4	209	3

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR THE PERIOD 01 TO 10 JANUARY 2013

STATION	MAX TEMP (°C)	MIN TEMP (°C)	ABS MAX (ºC)	ABS MIN (°C)	WIND SPEED (m/s)	RH (%)	EVAP (mm)
KARONGA ADD							
Chitipa	27.1	18.0	29.6	17.0	1.9	79	N/A
Karonga	30.8	21.8	33.7	20.2	1.4	73	N/A
MZUZU ADD							
Bolero	28.0	19.0	32.6	18.3	N/A	75	N/A
Mzuzu	26.0	17.5	29.0	15.3	1.9	79	N/A
Mzimba	25.4	17.6	28.5	15.7	1.3	82	N/A
Nkhata Bay	30.5	21.6	33.6	20.2	0.6	78	N/A
Kasungu	27.4	19.1	32.6	17.7	1.8	82	N/A
LILONGWE ADD							
KIA	25.5	18.4	29.4	17.3	1.2	84	2.5
Chitedze	26.4	19.4	30.6	18.1	0.6	84	N/A
Dedza	22.0	16.7	27.2	14.7	1.6	90	N/A
SALIMA ADD							
Salima	29.1	22.1	32.6	20.5	2.0	86	N/A
Nkhotakota	28.1	22.4	31.5	21.1	1.7	N/A	N/A
MACHINGA ADD							
Makoka	26.3	18.6	30.7	19.0	1.9	82	N/A
Ntaja	27.9	21.7	23.5	20.4	1.3	76	N/A
Mangochi	30.0	22.8	34.0	21.5	1.2	83	N/A
Monkey Bay	29.1	23.1	32.5	21.8	1.9	80	N/A
BLANTYRE ADD							
Chileka	27.2	20.8	31.1	19.8	1.9	83	N/A
Chichiri	25.4	19.0	29.4	16.1	0.7	85	N/A
Bvumbwe	25.1	17.4	28.1	16.5	1.4	85	N/A
Mimosa	29.7	20.7	33.7	18.3	0.8	83	3.7
SHIRE VALLEY ADD							
Ngabu	32.5	N/A	36.9	N/A	0.7	81	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