



REPUBLIC OF MALAWI

Department of Climate Change and Meteorological Services

10-day Weather and Agrometeorological Bulletin

In support of national early warning systems



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HIGHLIGHTS

- Above average rainfall performance experienced...
- Major agricultural activities included and planting of crops...
- Good rains expected to persist during 21 to 31 December 2012...

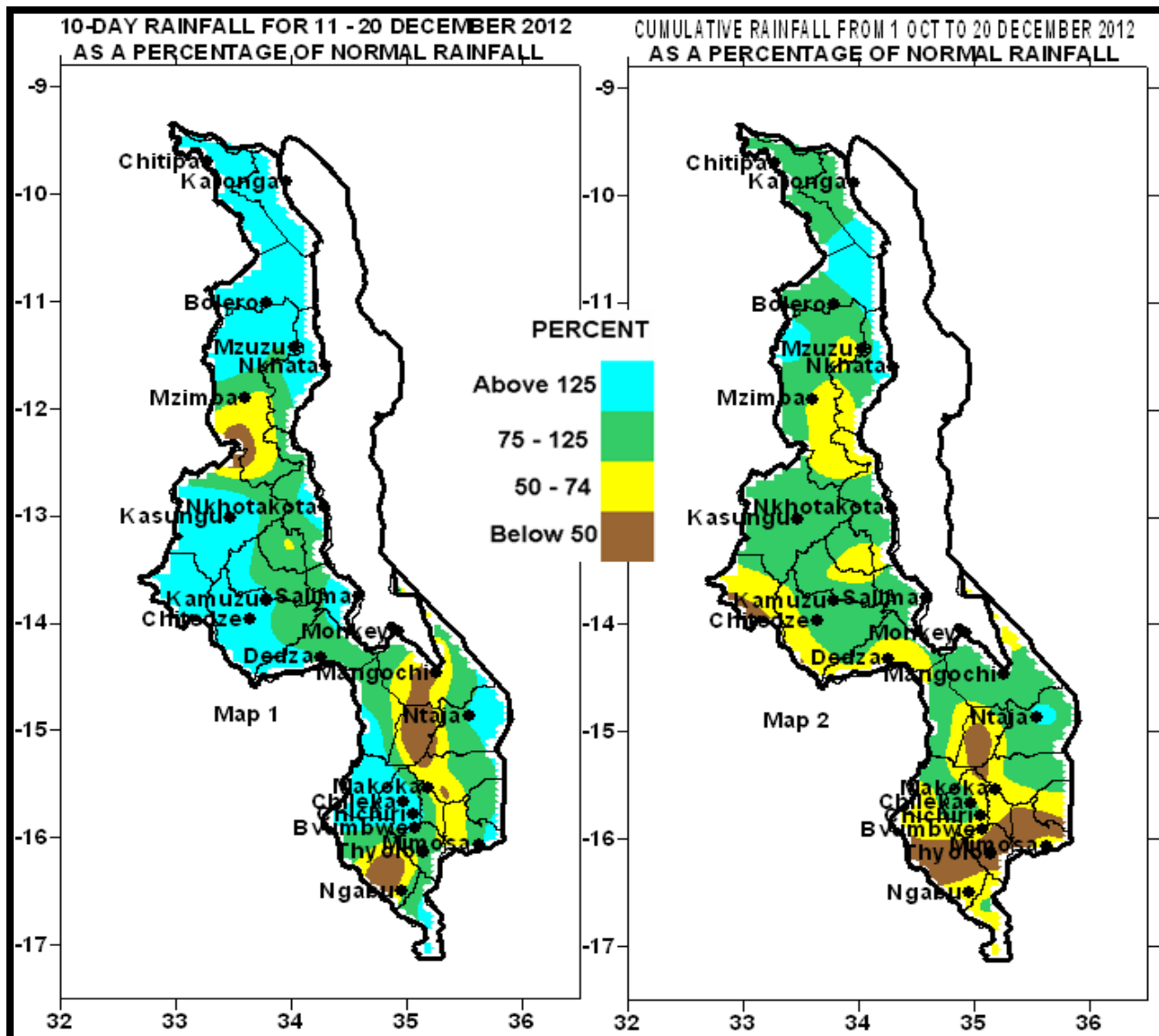


Figure 1: Rainfall Maps for Malawi for 11-20 December 2012

1.0 WEATHER SUMMARY AND IMPACTS

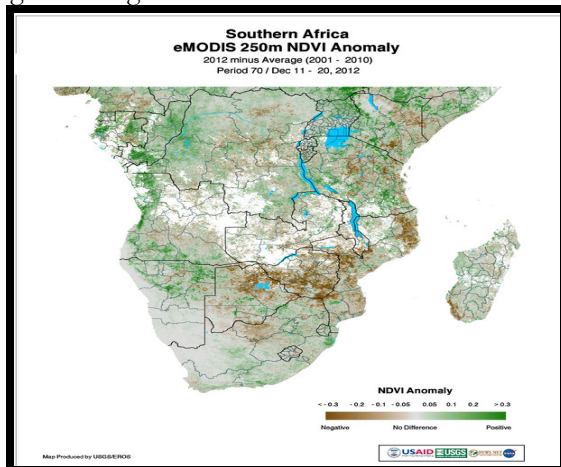
1.1 RAINFALL SITUATION

During the first second days of December 2012, both main rain bearing systems - Congo Air mass and Inter Tropical Convergence Zone were active over Malawi. This had resulted in widespread moderate to locally heavy rains to be experienced over the country throughout the period. Many areas registered above long term average cumulative rainfall amounts (light blue Colours on Map 1) with an average of six rainy days. Some areas had registered up to nine rainy days. Stations that recorded more than 140mm of rainfall amounts in the south included Chichiri Met in Blantyre, Mimosa Met in Mulanje and Neno Agric in Neno district. In central Malawi such high rainfall amounts were reported at Kasungu, Nkhotakota and Salima meteorological stations and in the north high rainfall was reported at Chintheche, Nkhata Bay and Vinthukutu Agric.

Map 2 gives an idea of cumulative rainfall performance for the country since 1 October 2012. From the map, it is clear that there is an improvement in rainfall performance over most areas (green and light blue colours on Map 2) in Malawi except for a few pockets where rainfall performance is still far below average (less than 75% of the expected cumulative rainfall amounts. For more details refer to Table 1.

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 11 to 20 December 2012 shows 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 start of the rainy season. Vegetation condition anomaly over Malawi shows no

major differences over most areas except for the extreme southern parts of Malawi where negative vegetation anomaly have persisted as a result of delayed onset of the rainy season compared to climatology.

1.3 AIR TEMPERATURE

Hot temperatures were experienced over the country during the second ten days of December 2012. Mean maximum temperatures had ranged from around 23°C at Dedza to around 34°C at Ngabu while mean minimum temperatures ranged from around 16°C at Bvumbwe and Dedza to 25°C at Nkhotakota (Table 2). The highest absolute maximum temperature for the period was around 38°C which was observed at Ngabu in Shire Valley on 16 and 17th December 2012.

1.4 WIND SPEEDS

Mean wind speeds at a height of two metres above the ground level ranged from 0.7 to 2.3 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 second ten days of December 2012, moist air mass prevailed over Malawi. Mean daily relative humidity values ranged from 66% at Ngabu in Chikhwawa district to 84% at Mkondezi (Nkhata Bay Met) in Nkhata Bay district. For more details refer to Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

During the second ten days of December 2012, there was a great improvement in rainfall performance over Malawi. Good rains for agricultural production were experienced. These rains satisfied crop water requirements, supported crop establishment, growth and development, planting, replanting and germination of various crops and as well as basal fertilizer application. The Maize crop was reported doing well. The crop generally ranged from plating to vegetative stages. The rains had also supported growth and development of pasture and regeneration of the natural vegetation. The following is an agrometeorological assessment by Agriculture Development Division (ADD):

2.1 SHIRE VALLEY ADD

Moderate rains covered most parts of the ADD. These rains supported germination and planting of various crops. The main agricultural activities in the ADD included land preparation and planting of rain-fed crops.

2.2 BLANTYRE ADD

Good rains for agricultural production were experienced in the entire ADD. These rains satisfied crop water requirements, supported crop establishment, growth and development, planting, replanting and germination of various crops and as well as basal fertilizer application. The Maize crop was reported doing well. Reports from the districts indicated that the major agricultural activities during the period under review included 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 germination to vegetative stages

2.4 LILONGWE ADD

Most parts of the ADD had recorded good rains for agriculture production. These rains had supported crop establishment, growth and development, planting, replanting and germination of various crops and as well as basal fertilizer application. 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

During the period under review rains were well distributed in Salima ADD. Reports indicated that planting of crops was progressing well in most areas of the ADD. The major agricultural activities included land preparation and planting of crops.

2.6 KASUNGU ADD

Effective planting rains had covered almost all areas in Kasungu ADD. These rains had facilitated planting of crops. Maize crop ranged from planting 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 had received effective planting rains during the second ten days of December 2012. Maize crop in the ADD had ranged from planting and germination to early vegetative stages. The main agricultural activities in Mzuzu ADD had included land preparation, planting of crops, acquisition of farm inputs and weeding.

2.8 KARONGA ADD

Most areas in the ADD started receiving good rains for agricultural production during the period under review. Planting of rain-fed crops had just started in most EPAs in the ADD. The main agricultural activities in Karonga ADD included land preparation, planting of crops and acquisition of farm inputs

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 21 – 31 DECEMBER 2012

During the last ten days of December 2012 models for short and medium term weather forecasts suggest that Congo Air is likely to remain active over Malawi.. Therefore, scattered to widespread rains and occasional thunderstorms which will be locally heavy are expected to persist over Malawi during the period 21 to 31 December 2012.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR DEKAD 2 OF DECEMBER 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	7.5	58.2	13	51.0	197.0	26	2
Bvumbwe Met.	92.5	66.6	139	154.7	274.4	56	7
Chancellor College	85.3	94.3	90	319.8	317.3	101	8
Chichiri Met.	145.9	89.9	162	292.0	473.6	62	6
Chikwawa Boma	46.6	51.2	91	97.1	205.2	47	2
Chileka Airport	128.7	50.6	254	246.9	227.0	109	5
Chingale Agric	27.4	73.5	37	122.2	223.6	55	4
Chiradzulu Agric	46.6	63.1	74	150.0	246.4	61	4
Chizunga Factory	62.0	113.0	55	143.0	376.4	38	7
Mpilipili (Makanjila)	24.3	62.5	39	90.6	182.4	50	6
Makhanga Met	80.7	51.5	157	155.2	196.2	79	4
Makoka Met	17.8	60.5	29	83.2	225.1	37	5
Mimosa Met.	141.2	82.5	171	336.9	387.5	87	6
Monkey Bay Met.	63.2	46.3	137	79.1	96.9	82	6
Mpemba Vet	86.7	74.4	117	221.8	292.0	76	5
Mulanje Boma	50.7	92.3	55	256.1	496.9	52	6
Mwanza Boma	113.6	68.4	166	146.0	266.9	55	3
Namiasi Agric	15.9	51.5	31	108.7	141.1	77	2
Naminjiwa Agric	56.5	61.6	92	106.2	224.8	47	6
Namwera Agric	72.2	61.5	117	187.2	222.9	84	7
Nchalo Illovo	7.8	43.5	18	38.6	159.8	24	2
Neno Agric	157.6	66.1	238	212.2	247.3	86	3
Ngabu Met.	20.8	52.8	39	131.3	190.0	69	5
Ntaja Met.	86.0	64.1	134	249.3	189.9	131	4
Phalula Agric	29.1	50.8	57	94.0	215.5	44	4
Thuchila Agric	29.0	53.2	55	65.0	199.6	33	1
Thyolo Boma	99.0	81.2	122	201.8	279.5	72	6
Zomba RTC	64.1	100.5	64	278.9	303.9	92	8
CENTRAL REGION							
Bunda College	116.9	56.6	207	242.4	201.5	120	6
Chitedze Met.	107.9	51.6	209	204.3	181.6	113	7
Dedza Met	81.1	65.2	124	101.1	185.1	55	8
Dowa Agric	73.0	66.7	109	125.5	170.2	74	7
Dwangwa Illovo	81.7	78.7	104	146.3	247.5	59	7
Dzonzi Forest	155.5	78.8	197	276.3	240.7	115	7
Kaluluma DTC	24.3	67.1	36	30.9	175.7	18	3
K.I.A Met	77.4	52.2	148	219.0	150.6	145	4
Kasungu Met	144.9	58.8	246	149.1	157.8	94	5
Lisasadzi	144.8	76.4	190	181.3	177.1	102	4
Malomo Agric	48.8	68.2	72	118.4	134.8	88	4
Madisi Agric	93.0	68.5	136	147.5	160.1	92	5
Mkanda Met	96.8	74.0	131	146.1	202.8	72	7
Mlangeni Njolomole	98.6	74.7	132	170.2	221.0	77	8
Mponela Agric	38.7	43.5	89	92.9	161.1	58	5
Nathenje Agric	53.1	63.0	84	168.1	175.5	96	3
Natural Res. College	68.0	46.3	147	131.0	189.9	69	7
Nkhotakota Met	162.2	88.0	184	290.2	220.1	132	5
Ntcheu - Nkhande	94.6	74.8	126	210.4	231.6	91	6
Ntchisi Boma	75.4	90.9	83	157.3	231.4	68	7
Salima Met	145.3	80.8	180	194.6	185.5	105	6
Dedza RTC	54.6	66.5	82	122.0	199.0	61	6
NORTHERN REGION							
Bolero Met	100.6	45.7	220	123.9	117.2	106	7
Chikangawa forest	39.3	66.6	59	140.2	209.2	67	8
Chitipa Met	127.8	62.3	205	215.6	180.7	119	8
Chintheche Agric	173.0	81.7	212	308.6	286.5	108	8
Ekwendeni Agric.	70.4	73.5	96	76.4	228.0	34	5
Euthini Agric.	103.8	50.3	206	214.6	155.6	138	6
Karonga Met.	129.1	63.3	204	142.2	150.4	95	8
Lupembe	104.1	51.3	203	109.8	116.8	94	4
Mbawa Res. Stn	40.2	71.4	56	150.4	170.9	88	4
Mzimba Met	47.9	63.1	76	118.3	174.3	68	8
Mzuzu Met.	76.2	55.1	138	172.9	208.1	83	8
NkhataBay Met.	238.5	67.9	351	542.4	243.3	223	9
Vinthukutu Agric	162.3	68.0	239	358.7	178.4	201	6
Zombwe Agric	111.5	48.8	228	150.5	139.8	108	4

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

STATION	MAX TEMP (°C)	MIN TEMP (°C)	ABS MAX (°C)	ABS MIN (°C)	WIND SPEED (m/s)	RH (%)	EVAP (mm)
KARONGA ADD							
Chitipa	27.4	18.6	29.3	17.0	2.0	76	N/A
Karonga	30.2	21.7	31.7	19.8	1.6	72	N/A
MZUZU ADD							
Bolero	29.6	19.3	31.8	18.4	N/A	68	N/A
Mzuzu	26.1	17.7	27.9	16.2	2.1	67	N/A
Mzimba	27.2	17.8	29.3	16.6	0.8	75	N/A
Nkhata Bay	30.4	21.6	31.2	20.9	0.7	84	N/A
LILONGWE ADD							
Kasungu	26.7	19.1	31.0	17.3	1.8	74	N/A
LILONGWE ADD							
KIA	25.7	18.2	27.5	17.5	1.4	78	4.9
Chitedze	26.6	18.8	28.9	17.9	0.7	82	N/A
DEDZA	23.2	16.0	24.3	14.9	1.5	75	N/A
SALIMA ADD							
Salima	29.8	22.1	31.6	19.5	2.6	76	N/A
Nkhotakota	28.4	25.1	29.8	20.5	2.1	80	N/A
MACHINGA ADD							
Makoka	26.1	18.4	28.9	17.0	1.9	73	N/A
Ntaja	28.7	21.0	31.6	19.8	2.1	77	N/A
Mangochi	30.9	22.6	34.5	21.1	1.5	74	N/A
Monkey Bay	29.9	22.9	31.8	21.3	2.1	71	N/A
BLANTYRE ADD							
Chileka	28.9	20.1	32.0	19.1	2.3	70	N/A
Chichiri	25.4	17.7	25.5	14.2	2.0	77	N/A
Bvumbwe	25.8	15.7	32.0	14.2	2.3	78	N/A
Mimosa	29.7	19.7	35.2	18.3	1.2	78	4.7
SHIRE VALLEY ADD							
Ngabu	33.5	18.3	37.7	16.6	1.5	66	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) = mpsx3.6