



# Malawi 10-Day Rainfall & Agrometeorological Bulletin

Department of Climate Change and Meteorological Services



Period: 1 – 10 October 2011

Season: 2011/2012

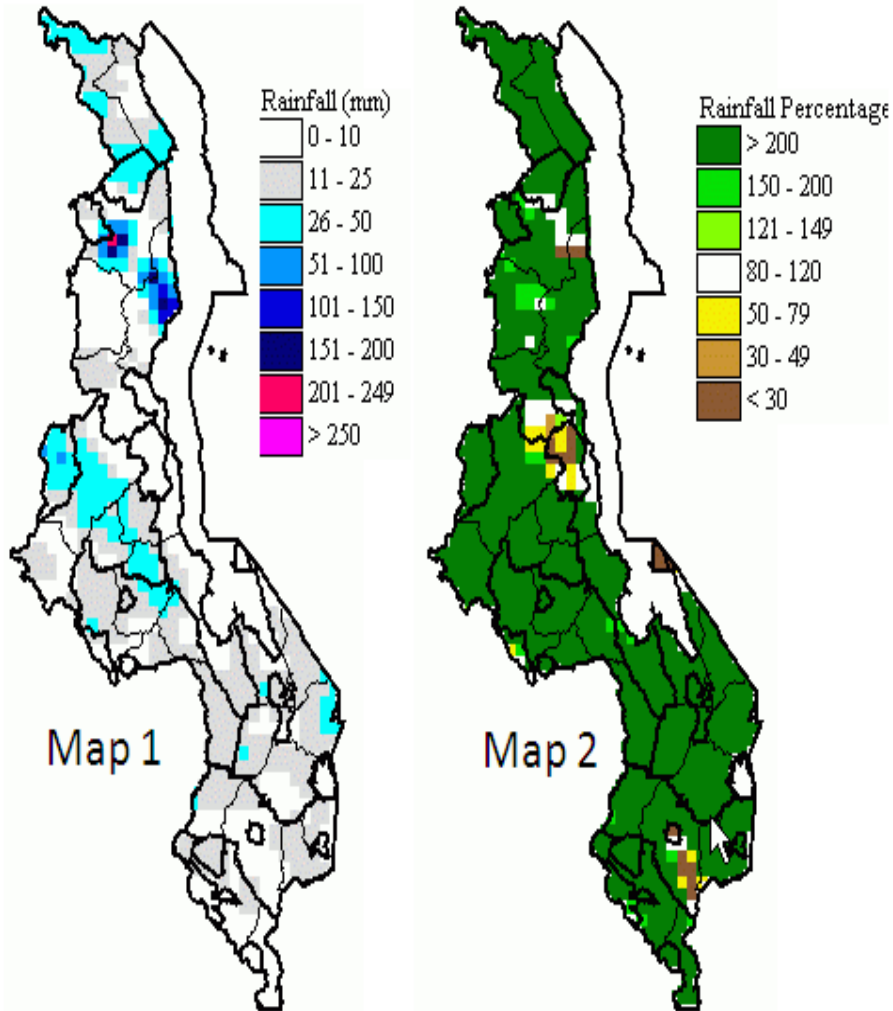
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## HIGHLIGHTS

- Pre-rains were received over most areas in Malawi...
- Major on-farm agricultural activity has been land preparation ...
- Pre-rains expected to continue over Malawi during 11 – 20 October 2011...

## Malawi Total Rainfall for 1 – 10 October 2011



### 1.1 RAINFALL SITUATION

During the first ten days of October 2011 most areas in Malawi received pre-rains that are locally referred to as Chizimalupsya. These rains can occur as early as August and can extend into October. Pre-rains normally affect southern highlands but what is unique this season is that they have extended to other parts of the country. The cumulative rainfall amounts for the period under review have been above average with most areas registered over 200 percent of the expected rainfall amounts (Map 2). Significantly heavy rainfall amounts above 25mm were recorded over southern and northern highlands. Such areas included Mzuzu 163mm, Dedza 57mm, Makoka 55mm, Mimosa and Chingale Agric 46mm, Chichiri 45mm, Nkhata Bay 41mm, Zomba RTC 28mm and Mulanje Boma 27mm. On the other hand a few areas remained generally dry with little or no rain at all throughout the period.

### 1.2 MEAN AIR TEMPERATURE

Temperatures were hot in low altitude areas and warm over highlands during the first ten days of October 2011. Over low altitude areas mean maximum air temperatures exceeded 28°C while over highlands the mean maximum temperatures were below 27°C. Overall, mean maximum temperatures ranged from 23°C at Dedza to 33°C at Ngabu while mean minimum temperatures ranged from around 14°C at Dedza to around 22°C at Monkey Bay and Salima. For more details see Table 1.

### 1.4 MEAN WIND SPEEDS

Mean wind speeds at a height of two metres above the ground level across the country ranged from 0.9 to 4.3 metres per second or 3.2 – 15.5 Km/hr (see table). The highest wind speeds were reported at Ngabu (4.3 m/s).

### 1.5 MEAN RELATIVE HUMIDITY

During the first ten days of October 2011, air over Malawi was fairly moist. Daily average relative humidity values were generally above 50% across the country. Details are on the Table 1.

## 2. AGROMETEOROLOGICAL ASSESSMENT

The significantly heavy rains that were received in the first ten days of October 2011 have encouraged farmers to speed up land preparations, improved water resources and soil moisture reserves. At the same time, some

farmers in some parts of the southern Malawi were prompted to start planting crops. Reports indicate that some farmers in Mulanje and Zomba districts in southern Malawi started planting maize but on a small scale. The decision to plant is usually done by the farmers themselves or in consultation with local Agricultural Extension Officers. Where farmers are not sure when to plant they are encouraged to seek advice from officials of Ministry of Agriculture and Food Security.

The major on-farm agricultural activity during the period was land preparation in readiness for the establishment of the main rain bearing systems for Malawi which climatologically get established around mid-November for the south and some parts of the centre and in December for the north. However, sometimes the country experiences uniform onset of the main rains.

## 3. PROSPECTS FOR 2011/12 RAINFALL SEASON

The summary of the 2011/2012 rainfall forecast is that ***“Normal total rainfall amounts are expected over most parts of Malawi during the 2011/2012 rainfall season”***. The rainfall forecast indicates that from October to December 2011, the northern half of the country will receive normal to above normal total rainfall amounts while the southern half will experience normal to below normal total rainfall amounts. The greater part of the country will experience normal to above normal total rainfall amounts during January to March 2012.

This forecast covers the rainfall season from October 2011 to March 2012 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 and medium range forecasts and the 10-day Rainfall and Agrometeorological bulletin.

## 4. OUTLOOK 11 – 20 OCTOBER 2011

Short and medium range forecasts indicate that fairly moist and unstable Easterly airflow will persist over Malawi. Therefore some parts of Malawi will continue to experience locally heavy rains with good spatial distribution especially over the southern Malawi during the second ten days of October 2011.

**TABLE 1: AGROMETEOROLOGICAL PARAMETERS FOR 1 – 10 OCTOBER 2011**

STATION	MAX TEMP (°C)	MIN TEMP (°C)	ABS MAX (°C)	ABS MIN (°C)	WIND SPEED m/s	RH %	SUN SHINE HOURS	Eo mm per day	Et mm per day	RAD- TION cal cm <sup>-2</sup> p/day
BVUMBWE	24.6	14.6	30.1	10.2	3.0	71	6.2	5.7	4.5	8.2
CHICHIRI	26.3	16.3	32.3	10.6	1.5	69	N/A	N/A	N/A	N/A
CHILEKA	28.5	18.3	32.0	14.6	3.9	64	6.7	6.9	5.6	8.6
CHITEDZE	28.1	15.6	32.2	11.2	1.4	57	7.3	6.3	5.0	9.0
CHITIPA	28.1	18.1	32.5	15.3	3.5	52	5.7	6.9	5.7	8.1
DEDZA	23.2	13.8	26.0	8.7	N/A	N/A	N/A	N/A	N/A	N/A
K I A	26.7	14.6	30.6	9.5	2.4	63	7.9	6.5	5.1	9.4
KARONGA	30.5	21.4	32.1	19.3	2.6	53	6.0	7.1	5.9	8.3
KASUNGU	29.2	17.5	33.4	14.3	3.0	60	N/A	N/A	N/A	N/A
MAKOKA	29.3	15.1	33.2	9.9	1.5	64	N/A	N/A	N/A	N/A
MANGOCHI	31.8	20.3	35.8	16.7	2.7	58	8.0	7.6	6.2	9.5
MIMOSA	28.5	16.1	35.4	11.6	1.3	68	N/A	N/A	N/A	N/A
MONKEY BAY	31.3	21.9	34.7	18.3	3.1	51	8.3	8.1	6.6	9.6
MZIMBA	26.3	17.6	32.3	13.0	2.2	57	6.0	6.2	5.0	8.2
MZUZU	24.1	14.5	30.5	11.3	1.9	71	5.5	5.3	4.2	7.9
NGABU	32.9	20.1	35.0	17.4	4.3	58	N/A	N/A	N/A	N/A
NKHATA BAY	29.4	18.5	34.9	15.8	0.9	65	5.8	5.9	4.7	8.0
NKHOTAKOTA	29.6	21.3	33.0	18.7	3.2	54	8.1	7.8	6.4	9.5
SALIMA	31.0	21.8	34.6	12.9	3.5	55	8.1	7.9	6.5	9.5

**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) = mps x 3.6