# Malawi 10-Day Rainfall & Agrometeorological Bulletin

Department of Climate Change and Meteorological Services

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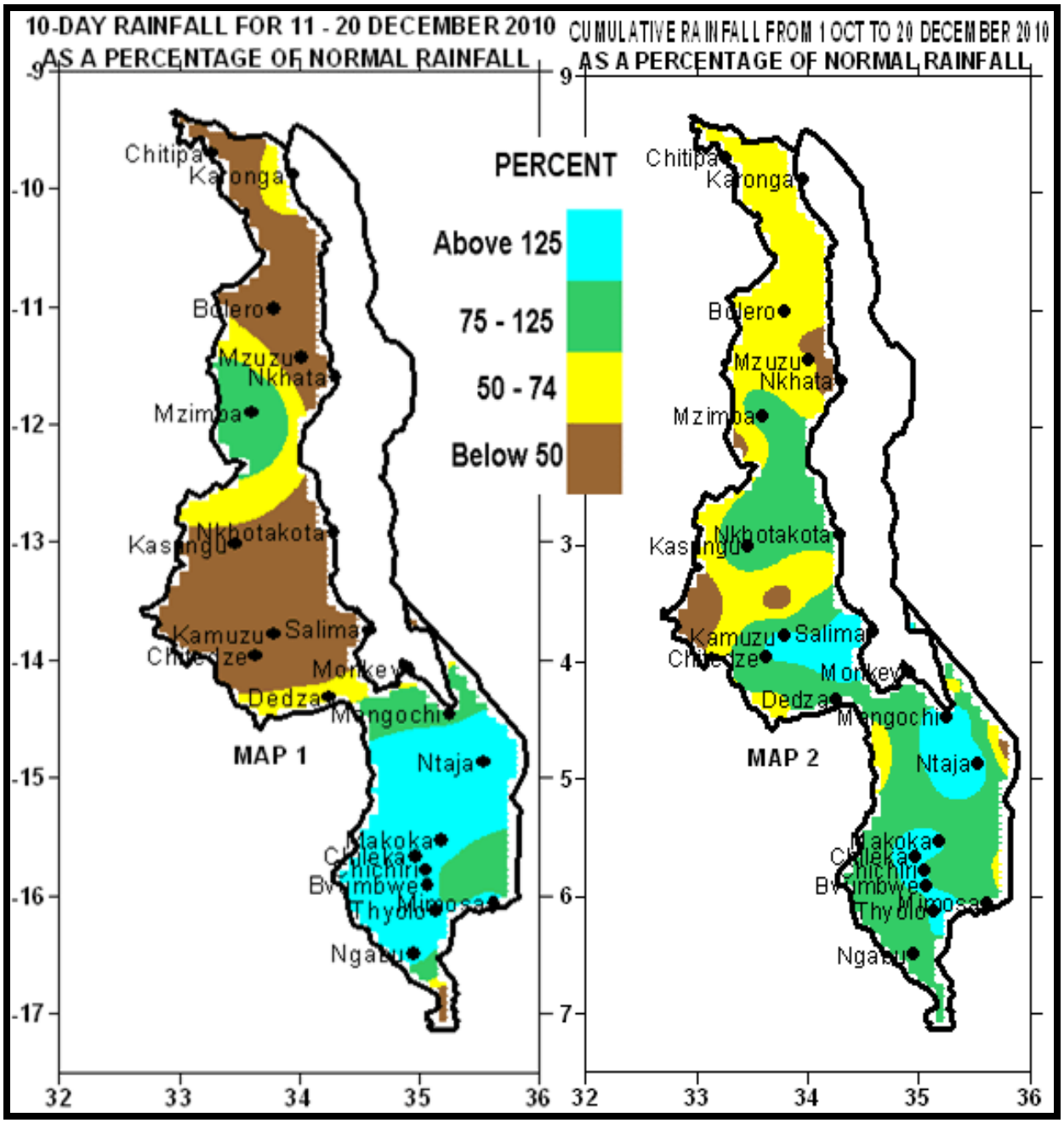
## HIGHLIGHTS

- Good rains in the south, reduced in the centre and north …
- Crops reported encouraging between germination and vegetative stages…
- Widespread rains to persist during 21 – 31 December, 2010…

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## 1. WEATHER SUMMARY

### 1.1 RAINFALL SITUATION

During the second ten days of December 2010, locally heavy rains were confined to southern Malawi. As a result most areas in the south received above average rainfall (*Light Green Colour on Map 1*). Central and northern Malawi registered generally light rainfall which resulted in below average cumulative rainfall amounts. During the period under review places that recorded high cumulative rainfall above 120mm were mostly in the south and included Lujeri Tea Estate (165mm), Bvumbwe Met (150mm), Mimosa Met (141mm), Mulanje Boma (136mm) and Thyolo Met (135mm. Most of Central and northern Malawi had received less than half of the expected rainfall. More details are in Table 1 and Map 1.
Map 2 shows below average rainfall performance in the north and some parts of central Malawi while the south registered average to above average cumulative rainfall amounts during the period 1st October to 10th December 2010.

### 1.2 MEAN AIR TEMPERATURE

Cloudy conditions maintained warm to hot average daily maximum temperatures over Malawi during the second ten days of December 2010. The highest absolute maximum temperature was again reported at Ngabu (38℃) and the lowest absolute minimum temperature was 15℃ reported at Mzuzu Airport See more details in Table 2.

### 1.4 MEAN WIND SPEEDS

Average wind speeds at a height of two metres above the ground ranged from 0.6 m/s (2.2 Km/h) at Chichiri to 2.6 m/s (9.4 Km/h) at Chileka. See more details in Table 2.

### 1.5 MEAN RELATIVE HUMIDITY

During the period 11 to 20th December 2010, air over Malawi was still fairly moist. Almost all areas reported daily average relative humidity values of above 65% except at Bolero, Kasungu and Dedza. The highest daily average relative humidity value was 78% reported at Salima and the lowest was 53% registered at Bolero in Rumphi. More details are in the Table 2.

## 2. AGROMETEOROLOGICAL ASSESSMENT

During the second ten days of December both rainfall distribution and intensity were generally good. Higher rainfall amounts persisted in the south while the centre and north experienced reduced rainfall amounts. The rains have improved pasture availability for animal production, water resources, soil moisture reserves and supported seed germination, growth and development of crops. The major farming operations included planting various crops, basal dressing fertilizer application, weeding, top dressing fertilizer application and banking

The general crop stand in the fields particularly for maize was reported encouraging and good harvests are expected if the good rains will continue up to February and March 2011. Maize crop ranged from planting to vegetative stages. So far no major outbreaks of pests and diseases have been reported over the country.

## 3. PROSPECTS OF 2010/11 RAINFALL SEASON

Climate forecast still suggests that during 2010/2011 rainfall season, a greater part of Malawi is likely to experience normal to above normal total rainfall amounts that will result in floods in some areas as *La Nina* conditions have become fully established over the eastern equatorial Pacific Ocean. By 20th December 2010 the rainfall performance in Malawi has been good for agricultural production. Most areas have experienced timely onset with good distribution and intensity, better than last season. This has supported crop germination and establishment. In simple terms the seasonal rainfall so far has been adequate to support both water resources and agricultural production in most parts of Malawi.

## 4. OUTLOOK 21 – 31 DECEMBER 2010

Medium range forecast indicate that Inter Tropical Convergence Zone and Congo Air mass will still be active over Malawi during the last ten days of December 2010. As a result most areas in Malawi are expected to continue experiencing good rainfall distribution and amounts. These rains will support growth and development of most crops.

## TABLE 1: DEKADAL RAINFALL SUMMARY FOR 11 – 20 DECEMBER 2010 AT SELECTED STATIONS

| STATION NAME | DEKADAL TOTAL RAINFALL | DEKADAL NORMAL | DEKADAL TOTAL AS % | TOTAL TO DATE | NORMAL TO DATE | TOTAL TODATE AS % | RAINY DAYS |
|---|---|---|---|---|---|---|---|
| SOUTHERN REGION | mm | mm | NORMAL | mm | mm | NORMAL | ≥ 0.3 mm |
| Bvumbwe Met. | 149.6 | 66.6 | 225 | 453.5 | 274.4 | 165 | 7 |
| Chichiri Met. | 117.6 | 89.9 | 131 | 413.3 | 473.6 | 87 | 7 |
| Chileka Airport | 108.0 | 50.6 | 213 | 364.0 | 227.0 | 160 | 6 |
| Lujeri Tea Estate | 164.9 | 126.8 | 130 | 447.7 | 552.9 | 81 | 8 |
| Makhanga Met | 52.2 | 51.5 | 101 | 151.4 | 196.2 | 77 | 2 |
| Makoka Met | 101.3 | 60.5 | 167 | 308.5 | 225.1 | 137 | 7 |
| Mangochi Met. | 44.9 | 41.2 | 109 | 225.9 | 117.3 | 193 | 5 |
| Mimosa Met. | 140.8 | 82.5 | 171 | 387.8 | 387.5 | 100 | 8 |
| Monkey Bay Met. | 26.7 | 46.3 | 58 | 84.1 | 96.9 | 87 | 5 |
| Mulanje Boma | 136.3 | 92.3 | 148 | 406.8 | 496.9 | 82 | 7 |
| Naminjiwa Agric | 49.2 | 61.6 | 80 | 165.4 | 224.8 | 74 | 4 |
| Nchalo Sucoma | 63.2 | 43.5 | 145 | 120.7 | 159.8 | 76 | 4 |
| Ngabu Met. | 81.4 | 52.8 | 154 | 251.6 | 190.0 | 132 | 5 |
| Nsanje Boma | 0.0 | 76.6 | 0 | 304.3 | 290.2 | 105 | 0 |
| Ntaja Met. | 124.4 | 64.1 | 194 | 328.6 | 189.9 | 173 | 3 |
| Phalula Agric | 112.1 | 50.8 | 221 | 205.2 | 215.5 | 95 | 2 |
| Satemwa Tea Est. No.1 | 86.4 | 73.8 | 117 | 220.2 | 273.8 | 80 | 7 |
| Thuchila Agric | 39.0 | 53.2 | 73 | 214.2 | 199.6 | 107 | 4 |
| Thyolo Met | 134.5 | 71.6 | 188 | 526.5 | 282.1 | 187 | 7 |
| CENTRAL REGION | | | | | | | |
| Chitedze Met. | 16.2 | 51.6 | 31 | 241.5 | 181.6 | 133 | 1 |
| Dedza Met | 38.7 | 65.2 | 59 | 202.9 | 185.1 | 110 | 6 |
| Dwangwa Sugar Corp. | 36.5 | 78.7 | 46 | 313.5 | 247.5 | 127 | 5 |
| K.I.A Met | 17.3 | 52.2 | 33 | 216.6 | 150.6 | 144 | 4 |
| Kasiya Agric | 47.0 | 95.7 | 49 | 247.0 | 258.7 | 95 | 3 |
| Kasungu Met | 24.9 | 58.8 | 42 | 172.2 | 157.8 | 109 | 3 |
| Mkanda Met | 14.5 | 74.0 | 20 | 37.4 | 202.8 | 18 | 3 |
| Mponela Agric | 3.0 | 43.5 | 7 | 52.0 | 161.1 | 32 | 1 |
| Nkhotakota Met | 17.2 | 88.0 | 20 | 187.0 | 220.1 | 85 | 4 |
| Salima Met | 27.9 | 80.8 | 35 | 368.2 | 185.5 | 198 | 5 |
| NORTHERN REGION | | | | | | | |
| Bolero Met | 12.6 | 45.7 | 28 | 78.8 | 117.2 | 67 | 1 |
| Chitipa Met | 2.3 | 62.3 | 4 | 136.0 | 180.7 | 75 | 1 |
| Karonga Met. | 51.0 | 63.3 | 81 | 100.2 | 150.4 | 67 | 1 |
| Mzimba Met | 79.2 | 63.1 | 126 | 180.0 | 174.3 | 103 | 2 |
| Mzuzu Met. | 14.2 | 55.1 | 26 | 116.7 | 208.1 | 56 | 3 |
| NkhataBay Met. | 0.4 | 67.9 | 1 | 74.8 | 243.3 | 31 | 1 |
| Vinthukutu Agric | 21.1 | 68.0 | 31 | 117.6 | 178.4 | 66 | 2 |
| Zombwe Agric | 20.0 | 48.8 | 41 | 74.5 | 139.8 | 53 | 1 |

## TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 11 – 20 December 2010

| STATION | MAX TEMP (℃) | MIN TEMP (℃) | ABS MAX (℃) | ABS MIN (℃) | WIND SPEED m/s | RH % |
|---|---|---|---|---|---|---|
| **BVUMBWE** | 27.0 | 17.4 | 29.0 | 15.6 | 1.5 | 73 |
| **BOLERO** | 31.3 | 19.0 | 34.3 | 17.5 | N/A | 53 |
| **CHICHIRI** | 28.2 | 18.6 | 29.7 | 17.4 | 0.6 | 67 |
| **CHILEKA** | 30.0 | 21.7 | 31.9 | 19.2 | 2.6 | 70 |
| **CHITEDZE** | 28.4 | 18.8 | 30.1 | 17.7 | 0.8 | 70 |
| **DEDZA** | 24.7 | 16.6 | 26.7 | 15.8 | 1.1 | 57 |
| **KASUNGU** | 28.8 | 19.8 | 32.4 | 19.0 | 2.4 | 54 |
| **K I A** | 27.1 | 16.5 | 29.6 | 17.0 | 1.6 | 68 |
| **KARONGA** | 32.3 | 23.9 | 34.5 | 22.5 | 2.0 | 64 |
| **MIMOSA** | 32.1 | 19.6 | 34.7 | 18.4 | 1.0 | 74 |
| **MZIMBA** | 28.9 | 17.3 | 30.6 | 16.0 | 1.1 | 65 |
| **MZUZU** | 27.7 | 16.7 | 29.9 | 14.9 | 1.9 | 68 |
| **NGABU** | 35.1 | 23.2 | 37.7 | 20.2 | 1.6 | 66 |
| **NKHOTAKOTA** | 30.3 | 22.6 | 32.0 | 21.0 | 1.9 | 65 |
| **SALIMA** | 29.8 | 23.5 | 33.1 | 21.5 | 1.9 | 78 |

**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