# 10-Day Rainfall & Agromet Bulletin

Department of Meteorological Services

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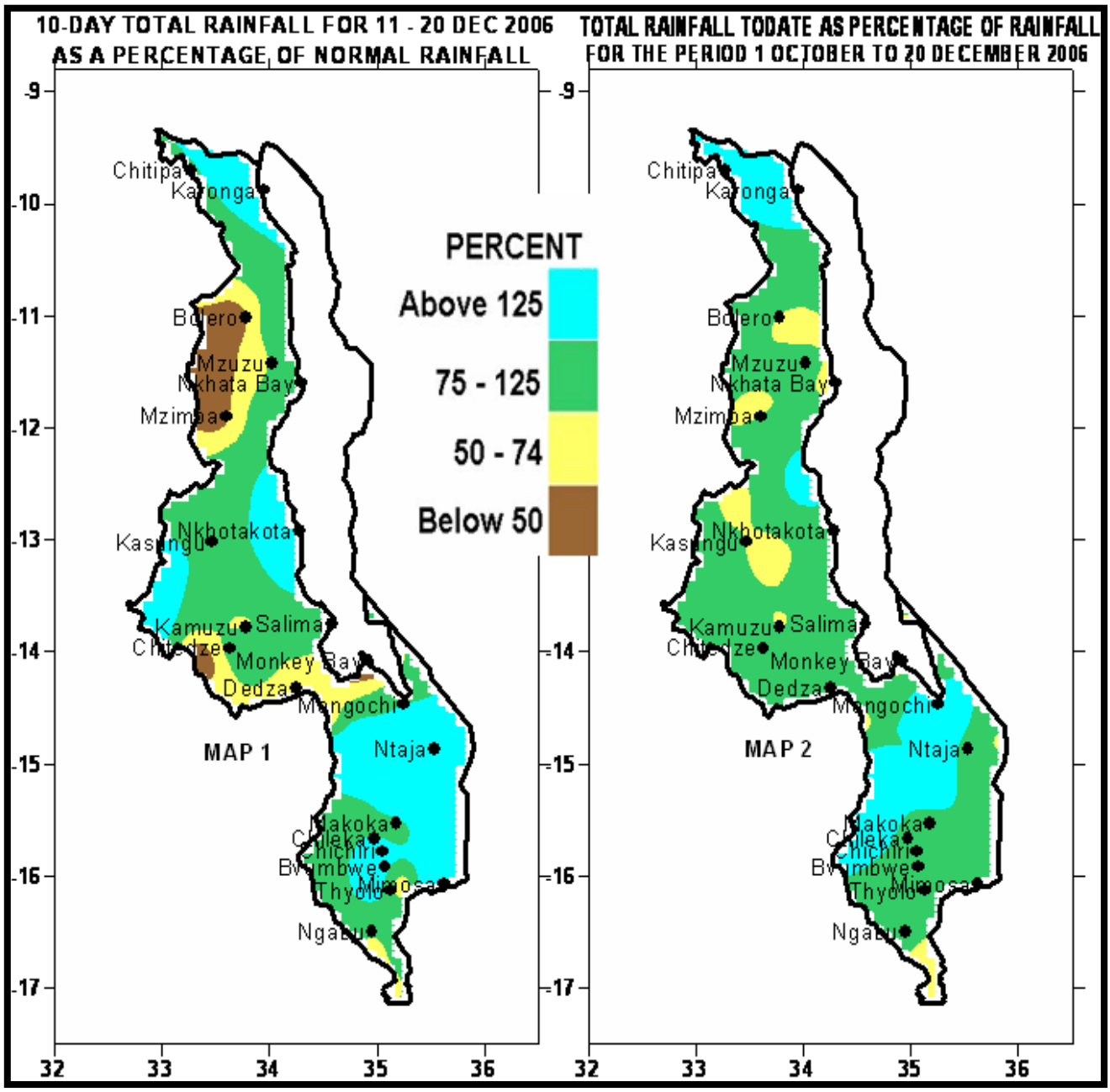
## HIGHLIGHTS

- **Good rainfall experienced over Malawi…**
- **Agricultural activities were enhanced in most parts of Malawi…**
- **Widespread rains expected to continue during 21 – 31 December, 2006…**
- **El Nino conditions likely to continue until early 2007…**

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# 1. WEATHER SUMMARY

## 1.1 RAINFALL SITUATION

During the second ten days of December 2006, the Inter Tropical Convergence Zone (ITCZ) was active over Malawi. As such moderate to heavy rains were experienced in most parts of the country. The spatial distribution as well as amounts was better than during the previous ten day period. Above average 10-day rainfall amounts (Map 1 light blue colour) were reported in Thyolo, Mulanje, Zomba and Balaka districts in the south, Ntcheu, Mchinji and Nkhotakota in central region and Karonga district in the north. However, in some areas such as parts of western Mzimba and around Namitete in central Malawi the rain that fell during the period was significantly below normal (brown Colour). Reports of 10-day rainfall amounts higher than 150mm during the period were mostly confined to the south where Lujeri reported 238mm, Mulanje Boma 197mm, Zomba RTC 181mm, Chancellor College 178mm, Mimosa 173mm and Satemwa 151mm (Table 1).

Cumulative rainfall performance from 1st October to 20th December 2006 suggest that most areas of the country have received normal to above normal rainfall amounts (green and light blue colours) with just pockets of below normal rainfall (Map 2 yellow colour).

## 1.2 MEAN AIR TEMPERATURE

During the period under review over Malawi mean daily maximum temperatures ranged between 26.1°C and 34.5°C at Bvumbwe and Ngabu respectively. At the same time, mean daily minimum temperatures ranged from 17.2°C at Bvumbwe in Thyolo to 25.2°C at Ngabu in Chikwawa district (Table 2).

## 1.3 MEAN DAILY WIND SPEEDS

Mean daily wind speeds, measured at a height of two meters above the ground were generally light. The highest wind speed was reported at Ngabu (2.5 m/s or 7.56 Km/hr) while the lowest wind speed was recorded at Mzimba and Chichiri (0.5m/s or 1.8 Km/hr). See Table 2.

## 1.4 MEAN RELATIVE HUMIDITY

High mean daily relative humidity values continued over most areas. The highest was still reported at Mzuzu (85%) while the lowest was registered at Mimosa (69%). See Table 2.

# 2. AGROMETEOROLOGICAL ASSESSMENT

Most areas in the country continued to receive good rains for agricultural production during the period under review. As such field activities over Malawi ranged from planting of crops to weeding and basal fertiliser application. The good rains apart from supporting seed germination, growth and development of crops continued to improve water resources and soil moisture reserves.

Maize crop across the country was reported in good state at various stages of development ranging from germination to early vegetative stage. However, overall crop performance during 2006/07 growing season could be negatively affected by lack of fertiliser or poor timing of fertiliser application. The biggest problem so far, according to media reports, is that farmers in most parts of the country are facing problems to access government subsidized fertilizer due to shortage of coupons. Most smallholder farmers in Malawi can not afford to buy commercial fertiliser such that they depend on government subsidy programme for farm inputs.

# 3. PROSPECTS OF 2006/07 SEASON

**EL NIÑO WATCH:** An El Niño condition was detected in September 2006, and is likely to continue until at least early 2007. El Niño is **sometimes** associated with reduced rainfall in parts of southern Africa including southern Angola, Botswana, Lesotho, southern Madagascar, southern Malawi, Mozambique, Namibia, South Africa, Swaziland, southern Zambia and Zimbabwe. Although there are still chances for normal rains, these areas however need to be on alert, and should be closely monitored for the remainder of the season. At the same time over East Africa El Niño has been associated with good and high rainfall. However, the effects of El Niño on Malawi rainfall have been mixed. During some El Nino seasons such as 1997/98, most parts of the country experienced normal to above normal rainfall. In some El Niño seasons like 1982/83, 1991/92 and 1994/95 Malawi experienced localised droughts. Therefore, every El Niño event is likely to affect the quantity and distribution of rainfall in Malawi differently.

# 4. OUTLOOK FOR 21 – 31 DECEMBER 2006

Meanwhile, models for medium range forecasts indicate that Tropical Cyclone Bondo is expected to move from the northern tip Madagascar into Mozambique Channel. Therefore scattered to widespread rains and locally heavy thunderstorms are expected to continue over the country during most of the period 21 – 31 December 2006.

## TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR DEKAD 2 OF DECEMBER 2006: PERIOD 11 - 20

| STATION NAME | DEKADAL TOTAL RAINFALL | DEKADAL NORMAL | DEKADAL TOTAL AS % NORMAL | TOTAL TO DATE | NORMAL TO DATE | TOTAL TO DATE AS % NORMAL | RAINY DAYS |
|---|---|---|---|---|---|---|---|
| **SOUTHERN REGION** | **mm** | **mm** | | **mm** | **mm** | | **[3] 0.3 mm** |
| Balaka Township | 115.9 | 52.8 | **220** | 333.8 | 224.0 | **149** | 5 |
| Bvumbwe Met. | 87.9 | 59.5 | **148** | 287.9 | 274.1 | **105** | 6 |
| Chancellor College | 178.2 | 90.0 | **198** | 424.2 | 335.4 | **126** | 7 |
| Chichiri Met. | 82.4 | 57.2 | **144** | 344.2 | 279.4 | **123** | 8 |
| Chileka Airport | 75.0 | 57.3 | **131** | 236.8 | 237.1 | **100** | 7 |
| Kasinthula Res. Stn. | 9.3 | 46.3 | **20** | 156.3 | 175.6 | **89** | 4 |
| Liwonde Township | 74.2 | 57.6 | **129** | 277.8 | 181.6 | **153** | 7 |
| Lujeri Tea Estate | 238.0 | 126.8 | **188** | 527.0 | 552.9 | **95** | 9 |
| Makoka Met | 50.7 | 57.1 | **89** | 222.6 | 247.1 | **90** | 6 |
| Mangochi Met. | 65.1 | 52.3 | **124** | 442.1 | 183.9 | **240** | 5 |
| Mimosa Met. | 172.8 | 78.4 | **220** | 294.5 | 378.7 | **78** | 7 |
| Monkey Bay Met. | 11.7 | 83.7 | **14** | 93.4 | 197.7 | **47** | 4 |
| Mulanje Boma | 197.3 | 87.3 | **226** | 445.4 | 428.4 | **104** | 7 |
| Neno Agric | 55.2 | 61.8 | **89** | 460.2 | 254.8 | **181** | 4 |
| Ngabu Met. | 35.7 | 48.0 | **74** | 168.4 | 200.6 | **84** | 3 |
| Nsanje Agric | 39.7 | 51.9 | **76** | 125.0 | 223.6 | **56** | 5 |
| Satemwa Tea Est. | 151.0 | 87.8 | **172** | 351.9 | 354.8 | **99** | 7 |
| Zomba RTC | 181.4 | 95.0 | **191** | 444.4 | 316.5 | **140** | 7 |
| **CENTRAL REGION** | | | | | | | |
| Chileka Namitete | 0.0 | 77.2 | **0** | 114.1 | 237.5 | **48** | 0 |
| Chitedze Met. | 82.1 | 66.9 | **123** | 256.5 | 220.7 | **116** | 4 |
| Dwangwa Sugar Corp. | 101.9 | 70.2 | **145** | 456.3 | 251.7 | **181** | 8 |
| K.I.A Met | 38.3 | 58.0 | **66** | 127.0 | 175.4 | **72** | 7 |
| Mchinji Boma | 148.3 | 74.3 | **200** | 289.4 | 245.1 | **118** | 9 |
| Mlangeni Njolomole | 36.0 | 69.0 | **52** | 114.0 | 217.7 | **52** | 4 |
| Nathenje Agric | 47.3 | 54.2 | **87** | 182.3 | 182.2 | **100** | 3 |
| Nkhotakota Met | 108.1 | 84.7 | **128** | 173.2 | 223.9 | **77** | 7 |
| Ntcheu - Nkhande | 134.8 | 74.7 | **180** | 268.6 | 237.5 | **113** | 7 |
| Ntchisi Boma | 96.9 | 67.5 | **144** | 187.6 | 166.4 | **113** | 6 |
| Salima Met | 91.8 | 84.5 | **109** | 174.7 | 208.8 | **84** | 6 |
| **NORTHERN REGION** | | | | | | | |
| Bolero Met | 20.0 | 49.6 | **40** | 131.9 | 178.3 | **74** | 5 |
| Bwengu Agric. | 60.6 | 72.5 | **84** | 114.8 | 177.9 | **65** | 5 |
| Chikangawa forest | 44.6 | 56.3 | **79** | 171.7 | 219.0 | **78** | 9 |
| Chitipa Met | 82.1 | 67.7 | **121** | 266.3 | 200.8 | **133** | 9 |
| Karonga Met. | 136.8 | 85.8 | **159** | 261.3 | 171.7 | **152** | 7 |
| Mzimba Met | 22.7 | 68.5 | **33** | 138.1 | 187.9 | **73** | 6 |
| Mzuzu Met. | 62.6 | 82.6 | **76** | 244.1 | 279.7 | **87** | 9 |
| NkhataBay Met. | 130.0 | 98.8 | **132** | 282.7 | 457.5 | **62** | 8 |

## TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR DEKAD 2 OF DECEMBER 2006

| STATION | MAX TEMP (°C) | MIN TEMP (°C) | ABS MAX (°C) | ABS MIN (°C) | WIND SPEED m/s | RH % |
|---|---|---|---|---|---|---|
| BVUMBWE | 26.1 | 17.2 | 27.2 | 15.5 | 1.5 | 84 |
| BOLERO | 28.2 | 18.3 | 30.8 | 18.3 | 0.7 | 78 |
| CHICHIRI | 26.8 | 19.4 | 28.9 | 17.8 | 0.5 | 80 |
| CHILEKA | 28.7 | 21.2 | 31.1 | 18.8 | 2.3 | 80 |
| CHITEDZE | 27.9 | 19.3 | 28.9 | 18.6 | 0.8 | 77 |
| CHITIPA | 26.4 | 18.1 | 28.1 | 17.1 | 1.4 | 78 |
| KARONGA | 29.6 | 22.3 | 31.2 | 22.5 | 1.5 | 76 |
| K I A | 26.6 | 18.6 | 27.7 | 17.6 | 1.6 | 81 |
| MAKOKA | 27.7 | 19.9 | 29.4 | 18.2 | 1.1 | 83 |
| MANGOCHI | 31.5 | 23.0 | 33.5 | 21.8 | 1.3 | 76 |
| MIMOSA | 27.5 | 20.3 | 32.2 | 19.6 | 1.0 | 69 |
| MONKEY BAY | 31.5 | 24.0 | 33.0 | 22.9 | 2.0 | 70 |
| MZIMBA | 26.8 | 18.0 | 29.2 | 16.5 | 0.5 | 78 |
| MZUZU | 25.5 | 17.8 | 26.9 | 16.5 | 1.3 | 85 |
| NGABU | 34.5 | 25.2 | 36.6 | 23.3 | 2.5 | 71 |
| NKHATA BAY | 30.2 | 21.4 | 32.1 | 20.6 | 0.7 | 82 |
| NKHOTAKOTA | 29.1 | 22.3 | 31.4 | 21.1 | 1.9 | 71 |
| SALIMA | 30.1 | 23.0 | 31.8 | 22.0 | 2.1 | 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