# 10-Day Rainfall & Agromet Bulletin

## Department of Meteorological Services

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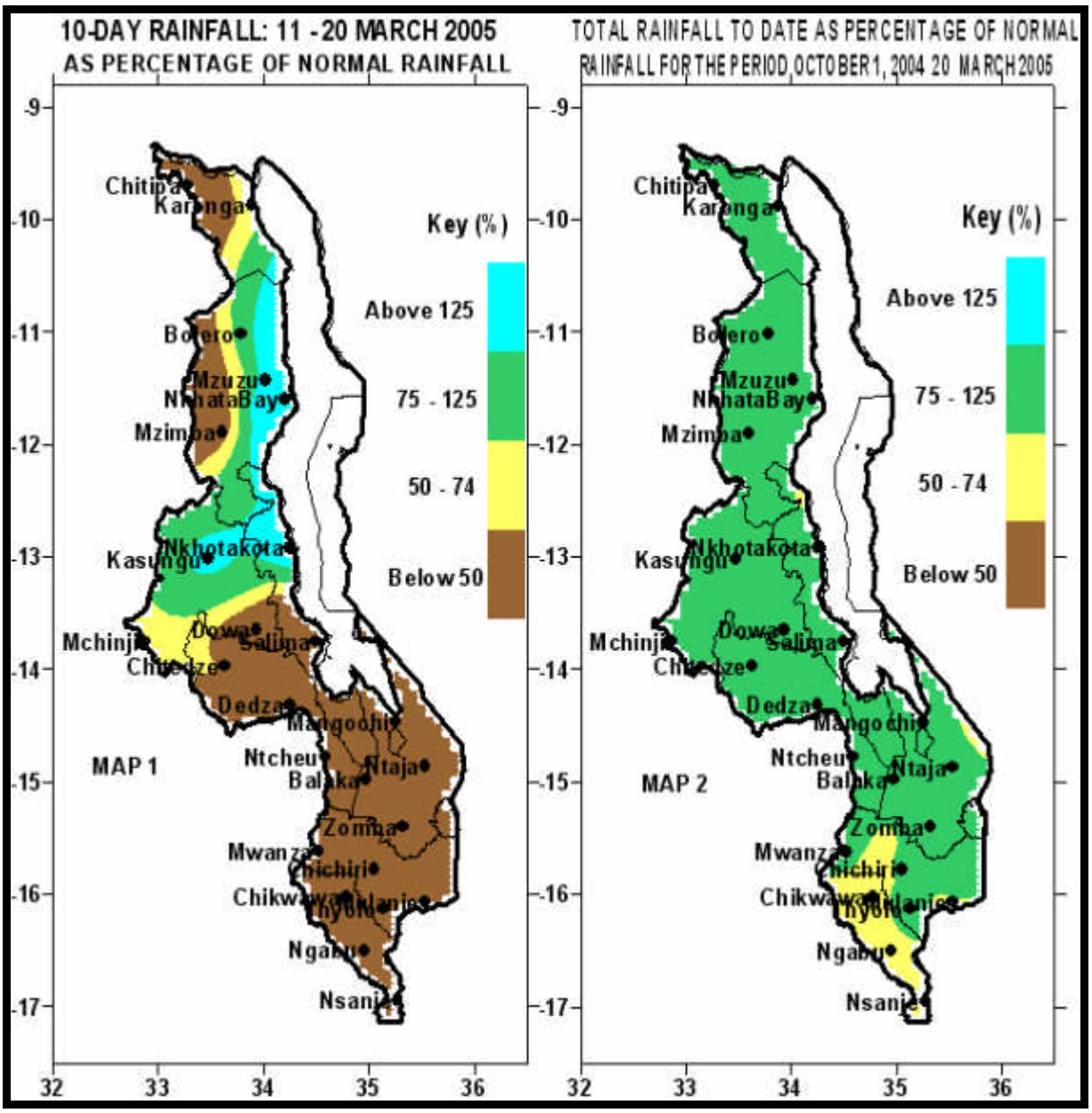
## HIGHLIGHTS

- **Dry conditions in south; significant rains over some lakeshore areas…**
- **February dry spell affects production maize and other crops…**
- **Dry weather to continue in most parts during 21 - 31 March 2005…**

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## . WEATHER SUMMARY

### 1.1 RAINFALL

During the period 11 to 20 March 2005, Malawi was under the influence of Easterly Waves. As a result rains were mostly confined to lakeshore areas and some highlands particularly over the centre and north while the south registered below average rainfall with some areas being completely dry. Good rainfall amounts with better distribution were experienced over Nkhotakota and Nkhata Bay along the lakeshore. This was the wettest 10-day period for Nkhata Bay and Nkhotakota Met stations since the season started in October 2004. Mkhata Bay reported 269.3mm (539%) in 9 days while Nkhotakota received 259.3mm (196%) in 7 days.

10-day rainfall totals as a percentage of normal indicates that significant rains were only received at Nkhata Bay (539%), Nkhotakota (196%), Kasungu (148%), Dwangwa (135%) and Mzuzu (133%). See Map 1 and Table 1.

Total seasonal rainfall from 1st October 2004 up to 20 March 2005 showed that most areas in Malawi have received normal rainfall despite the prolonged dry spell that has been experienced. This is due to the abundant rains that were received in November, December and early January. Pockets of below normal rainfall exist in Chikwawa and Nsanje districts in lower Shire Valley and some parts of Blantyre district in the south. **Map 2 and Table 1.**

*[Note: Normal = 75 – 125%, above normal = ? 125%, below normal = ? 75%, extremely below normal = ? 50%]*

## . MEAN AIR TEMPERATURE

Mean maximum temperatures demonstrate that unusually hot weather continued over most pasts of Malawi during the second 10-days of March 2005. The highest absolute maximum air temperature was recorded at Ngabu (39.6°C) while the lowest absolute minimum temperature during the period was reported at Bvumbwe, 13.3°C. High daytime temperatures were due to clear skies which resulted in longer sunshine hours.

## . MEAN DAILY WIND SPEEDS

Mean daily wind speeds at a height of 2 meters above ground were generally light. The values ranged from 0.7m/s (2.5km/hr) at Chitedze to 2.9m/s (10.4km/hr) at Salima. See Table 2 for more details.

## . MEAN RELATIVE HUMIDITY

Mean Relative Humidity values during the period 11 to 20 March 2005 ranged from 65% to 83% countrywide. Higher values were reported over Mzuzu (82%) and Nkhata Bay (83%) Lower values were reported mostly over southern Malawi implying that the south was relatively drier than the others regions.

## . AGROMETEOROLOGICAL ASSESSMENT

During the period 11 to 20 March 2005 average to above average rainfall confined to few areas in the centre and north mainly over highlands and along the lakeshore. The rains that fell in lakeshore areas apart from improving soil moisture reserves supported growth and development of Cassava and Rice. Otherwise elsewhere the rains will not improve summer crop production this season as most crops were scorched by the dry spell that lasted for more than one month in most parts of the country particularly over the south and some parts of the centre. The situation is slightly better in the north though localised areas were also hit by the dry spell. According to field reports, the worst affected districts in the southern region include Balaka, Mangochi, Machinga, Nsanje, Chikwawa and Phalombe. Worst hit among the central districts are Dedza, Ntcheu, Mchinji Salima, Dowa and Nkhotakota. In the northern region Rumphi, Karonga (central part) and the southem part of Nkhata Bay districts are badly affected.

Maize, which is grown and consumed almost everywhere in the country, is one of the worst affected crops. The crop had been doing well until the end of January when the dry spell started. At that point, most of the maize, especially in the south and some parts of central region, was at tasseling and cobbing stages, which require a lot of moisture in the ground. The dry spells, coupled with high temperatures, resulted in crop wilting, and drying up tassels. Maize production is therefore expected to significantly drop this season. Meanwhile, harvesting of maize that survived the dry spell is underway in most parts of the south. However, this is expected to improve food situation at household level for only few months.

The 2004/2005 agricultural season very well, with above average rains in most parts of Malawi through December and most of January. This good start raised hopes for good harvests despite the various problems that farmers experienced in obtaining access to inputs, especially fertilizers. However, the situation drastically turned around at the end of January, when many parts of the country started experiencing dry spells.

## . FORECAST FOR – MARCH

Medium range weather systems for 21 to 31 March 2005 indicate that Malawi will still be under the influence of Easterly Waves which normally mark the end of the main rains in Malawi. Therefore, during the forecast period rains are expected to be confined to a few highlands and lakeshore areas,

## TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR DEKAD 2 OF MARCH 2005: PERIOD 11 – 20

| STATION NAME<br>**SOUTHERN REGION** | DEKADAL TOTAL RAINFALL mm | DEKADAL NORMAL mm | **DEKADAL TOTAL AS % NORMAL** | TOTAL TO DATE mm | NORMAL TO DATE mm | **TOTAL TO DATE AS % NORMAL** | RAINY DAYS [3] **0.3 mm** |
|---|---|---|---|---|---|---|---|
| Bvumbwe Met. | 5.3 | 63.1 | 8 | 727.1 | 937.2 | 78 | 1 |
| Chancellor College | 0.0 | 105.1 | 0 | 1015.7 | 1232.9 | 82 | 0 |
| Chikwawa Boma | 2.9 | 47.7 | 6 | 403.8 | 662.6 | 61 | 1 |
| Chileka Airport | 0.0 | 56.5 | 0 | 494.5 | 793.2 | 62 | 0 |
| Kasinthula Res. Stn. | 1.2 | 29.6 | 4 | 491.2 | 646.0 | 76 | 1 |
| Liwonde Township | 28.0 | 45.6 | 61 | 696.1 | 754.8 | 92 | 1 |
| Lujeri Tea Estate | 65.4 | 146.5 | 45 | 1171.7 | 1612.8 | 73 | 6 |
| Makoka Met | 0.0 | 52.0 | 0 | 803.3 | 905.1 | 89 | 0 |
| Mangochi Met. | 4.4 | 48.2 | 9 | 665.2 | 752.2 | 88 | 3 |
| Mimosa Met. | 39.5 | 99.9 | 40 | 906.6 | 1210.9 | 75 | 5 |
| Monkey Bay Met. | 0.3 | 18.6 | 2 | 810.9 | 870.4 | 93 | 1 |
| Mulanje Boma | 10.2 | 81.6 | 13 | 986.3 | 1333.1 | 74 | 3 |
| Mwanza Boma | 3.5 | 54.5 | 6 | 750.6 | 886.8 | 85 | 1 |
| Nchalo Sucoma | 0.7 | 19.4 | 4 | 394.9 | 608.0 | 65 | 1 |
| Ngabu Met. | 12.3 | 41.2 | 30 | 443.9 | 686.2 | 65 | 3 |
| Ntaja Met. | 4.6 | 45.9 | 10 | 725.8 | 786.8 | 92 | 1 |
| Phalula Agric | 0.0 | 43.8 | 0 | 569.3 | 782.2 | 73 | 0 |
| Toleza Farm | 0.0 | 45.0 | 0 | 636.9 | 764.2 | 83 | 0 |
| Thyolo Boma | 22.5 | 78.0 | 29 | 673.0 | 996.3 | 68 | 4 |
| Thyolo Met | 27.6 | 74.2 | 37 | 961.9 | 990.0 | 97 | 6 |
| Zomba R.T.C | 30.5 | 74.4 | 41 | 1127.5 | 1072.3 | 105 | 1 |
| **CENTRAL REGION** | | | | | | | |
| Chitedze Met. | 22.9 | 46.8 | 49 | 788.0 | 815.4 | 97 | 4 |
| Dedza Met | 11.4 | 42.9 | 27 | 687.0 | 849.3 | 81 | 2 |
| Dwangwa Sugar Corp. | 117.1 | 86.7 | 135 | 709.2 | 1015.4 | 70 | 9 |
| K.I.A. Met. | 2.2 | 44.6 | 5 | 855.7 | 772.0 | 111 | 3 |
| Kasungu Met | 54.7 | 36.9 | 148 | 863.4 | 805.7 | 107 | 3 |
| Lifuwu | 0.0 | 86.5 | 0 | 1089.1 | 1137.2 | 96 | 0 |
| Mlangeni Njolomole | 0.0 | 58.7 | 0 | 919.1 | 902.4 | 102 | 0 |
| Nkhotakota Met | 259.3 | 132.4 | 196 | 1100.2 | 1150.0 | 96 | 7 |
| Ntcheu - Nkhande | 7.2 | 47.7 | 15 | 1001.3 | 969.2 | 103 | 1 |
| Ntchisi Boma | 22.0 | 44.2 | 50 | 755.4 | 777.4 | 97 | 3 |
| Salima Met | 0.0 | 77.8 | 0 | 858.9 | 1100.8 | 78 | 0 |
| Dedza RTC | 18.4 | 49.2 | 37 | 780.9 | 900.7 | 87 | 2 |
| **NORTHERN REGION** | | | | | | | |
| Baka Res. Stn. | 83.7 | 140.0 | 60 | 641.6 | 871.3 | 74 | 2 |
| Chikangawa forest | 47.9 | 67.9 | 71 | 926.4 | 905.5 | 102 | 6 |
| Chitipa Met | 14.9 | 72.8 | 20 | 999.2 | 872.2 | 115 | 3 |
| Karonga Met. | 71.5 | 91.2 | 78 | 993.8 | 753.8 | 132 | 5 |
| Mzimba Met | 18.0 | 47.2 | 38 | 910.9 | 797.6 | 114 | 3 |
| Mzuzu Met. | 83.4 | 62.6 | 133 | 892.7 | 893.3 | 100 | 7 |
| NkhataBay Met. | 269.2 | 49.9 | 539 | 865.2 | 1096.4 | 79 | 9 |

# TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR DEKAD 2 OF MARCH 2005

| STATION | MAX TEMP (°C) | MIN TEMP (°C) | ABS MAX (°C) | ABS MIN (°C) | WIND SPEED m/s | RH % |
|---|---|---|---|---|---|---|
| BVUMBWE | 26.3 | 15.1 | 30.2 | 13.3 | 1.7 | 65 |
| CHILEKA | 29.6 | 20.0 | 34.0 | 18.0 | 2.9 | 67 |
| NTAJA | 29.2 | 20.2 | 31.9 | 20.0 | 1.6 | 72 |
| CHITEDZE | 27.8 | 16.9 | 29.7 | 15.9 | 0.7 | 74 |
| CHITIPA | 27.2 | 18.1 | 28.5 | 17.0 | 2.1 | 77 |
| DEDZA | 24.5 | 15.2 | 26.2 | 14.0 | 1.0 | 75 |
| KASUNGU | 28.6 | 18.2 | 30.0 | 17.0 | 1.6 | 70 |
| KARONGA | 30.5 | 22.1 | 33.0 | 20.0 | 1.5 | 75 |
| K I A | 27.1 | 16.2 | 28.2 | 16.5 | 1.5 | 73 |
| MAKOKA | 27.7 | 17.4 | 30.2 | 15.1 | 1.6 | 69 |
| MANGOCHI | 31.0 | 22.0 | 34.2 | 21.3 | 2.0 | 68 |
| MIMOSA | 28.5 | 18.5 | 30.2 | 17.1 | 1.1 | 69 |
| MONKEY BAY | 31.1 | 22.5 | 32.1 | 21.7 | 1.9 | 65 |
| MZIMBA | 26.6 | 17.0 | 28.5 | 14.8 | 0.9 | 75 |
| MZUZU | 25.3 | 17.1 | 27.6 | 15.1 | 2.0 | 82 |
| NGABU | 33.8 | 22.8 | 39.6 | 21.5 | 1.9 | 66 |
| NKHATA BAY | 29.4 | 20.6 | 32.4 | 19.6 | 2.0 | 83 |
| NKHOTAKOTA | 29.3 | 21.8 | 30.7 | 21.1 | 2.1 | 74 |
| SALIMA | 30.6 | 22.8 | 32.2 | 22.0 | 2.9 | 66 |
| THYOLO | 27.3 | 18.3 | 31.9 | 15.3 | 1.0 | 76 |

**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