



Malawi 10-Day Rainfall & Agrometeorological Bulletin

Department of Climate Change and Meteorological Services



Period: 21 – 31 March 2011

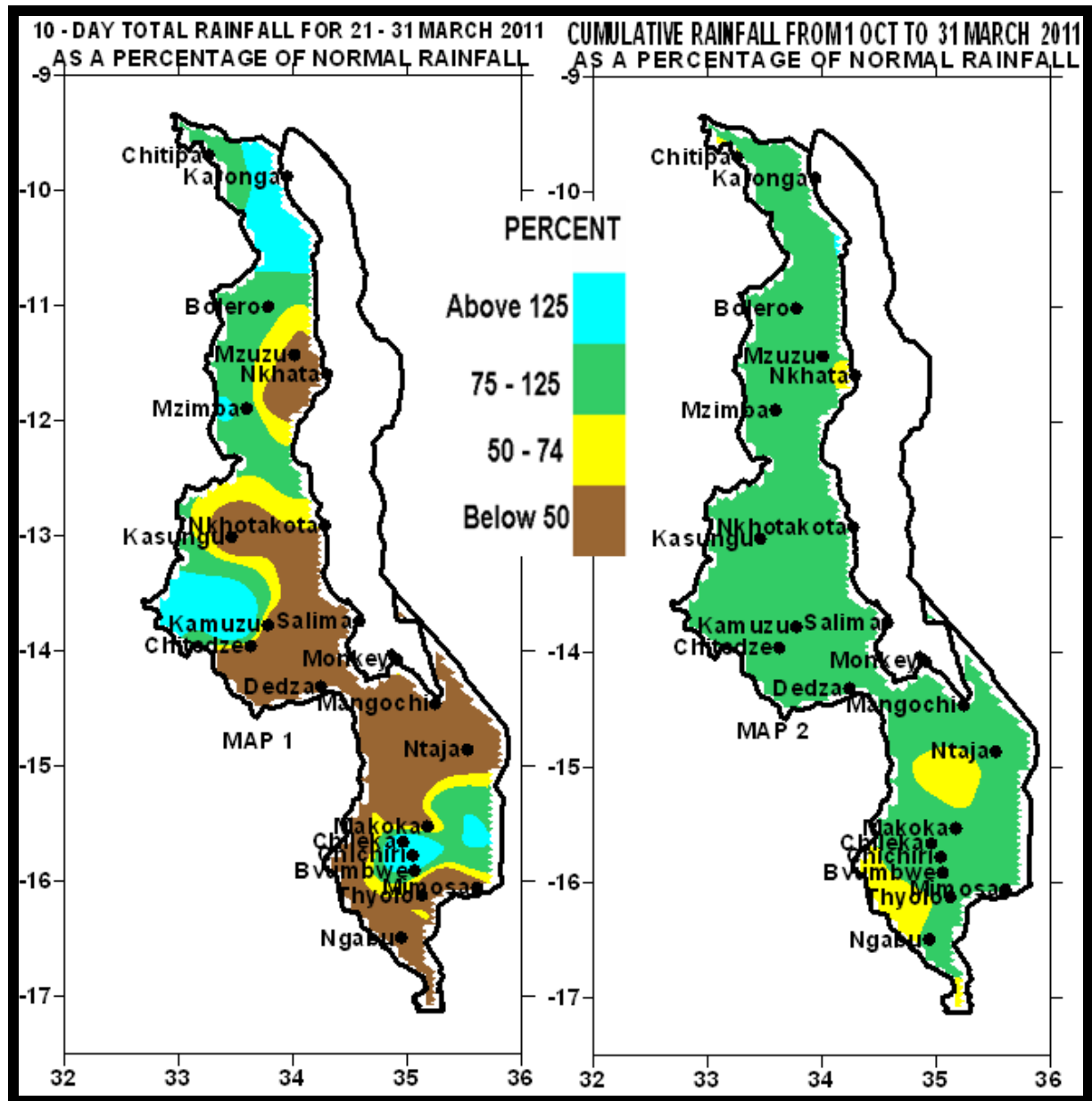
Season: 2010/2011

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HIGHLIGHTS

- ❖ Dry conditions returned to most areas in Malawi...
- ❖ Dry conditions facilitated harvesting and drying of matured crops ...
- ❖ Moderate to heavy rains expected during the first ten days of April 2011...



1. WEATHER SUMMARY

1.1 RAINFALL SITUATION

During the last ten days of March 2011, generally most parts of Malawi became dry. A few areas that received rainfall exceeding 100mm were confined to the centre and Karonga district. In the centre Kasiya Agric reported 105mm while Dwangwa had 144mm. In Karonga Baka Research accumulated 260mm, Vinthukutu 216mm and Karonga Airport 203mm. More details are in Table 1.

Cumulative rainfall performance as at 31st of March 2011 indicated that most areas in Malawi had received three quarters of the long term average rainfall amounts for the period (depicted by green colour on Map 2). However, pockets of rainfall deficits still existed in some parts of Southern Malawi especially in Chikhwawa and Balaka districts.

1.2 MEAN AIR TEMPERATURE

During the ten days of March 2011, average daily maximum temperatures over most areas in Malawi ranged from 25°C at Dedza to around 36°C at Ngabu. The highest absolute daytime temperature was still reported at Ngabu (37°C) in Shire Valley while the lowest absolute night temperature was 13.2°C reported at Chongoni in Dedza. See more details in Table 2.

1.4 MEAN WIND SPEEDS

Average wind speeds at a height of two metres above the ground continued to be generally light. The lowest was 0.6 m/s (2.2 Km/h) recorded at Chitedze Research Station and the highest was 2.5 m/s (7.6 Km/h) reported at Chileka. See more details in Table 2.

1.5 MEAN RELATIVE HUMIDITY

In the last ten days of March 2011, air over Malawi was still fairly moist. The lowest reported daily average relative humidity was

68% reported at Kasunga and Ngabu in Shire Valley while the highest daily average relative humidity value was 84% reported at Nkhata Bay. More details are in the Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

Dry conditions that were experienced in the last ten days of March facilitated drying and harvesting of matured crops. In most parts of Malawi crops have reached maturing and drying stages and more sunshine is needed. However, there is a small proportion of late planted crop that was still at flowering stage and still needed moisture for it to reach full maturity. The improvement in rainfall distribution and amounts during the first ten days of April would support growth and development of root and tuber crops as well as replenish water resources. On the other hand, more rains would hinder harvesting of matured crops and increase field losses. According to fortnightly crop reports from extension officers in the Ministry of Agriculture and Food Security crops were reported doing well in central and northern areas and good harvest are expected. However, dry spells in February have negatively impacted crop yields in areas along the Shire River from Mangochi downstream to Nsanje districts.

Indicators from the Crop Water Requirement Satisfaction Index (WRSI) model suggest that despite the dry spells overall crop production this season will be slighter higher than last season.

3. PROSPECTS FOR APRIL TO JUNE 2011

As the main rainfall season comes to an end, Easterly waves are expected to maintain rainfall in some parts of Malawi especially during the better part of April before incursions of cool and moisture air bring chiperoni weather over the country. Therefore, expect light to moderate rainfall to persist particularly over highlands and along the lakeshore districts during May and June 2011.

4. OUTLOOK 01 – 10 APRIL 2011

Medium range forecast suggest that Easterly waves will maintain moderate to heavy rains over Malawi during the first ten days of April 2011.

TABLE 1: DEKADAL RAINFALL SUMMARY FOR 21 – 31 MARCH 2011 AT SELECTED STATION

STATION NAME	DEKADAL TOTAL RAINFALL	DEKADAL NORMAL	DEKADAL TOTAL AS % NORMAL	TOTAL TO DATE	NORMAL TO DATE	TOTAL TODATE AS % NORMAL	RAINY DAYS ≥ 0.3 mm
SOUTHERN REGION							
Bvumbwe Met.	25.5	57.9	44	997.0	1016.1	98	4
Chichiri Met.	76.2	15.3	498	973.5	1028.5	95	4
Chileka Airport	54.1	44.5	122	888.1	826.9	107	5
Chingale Agric	0.0	30.1	0	658.6	863.2	76	0
Kasinthula Res. Stn.	2.0	21.2	9	679.9	667.2	102	2
Mpilipili (Makanjila)	0.0	35.0	0	791.2	845.5	94	0
Makhanga Met	14.4	25.5	56	685.9	676.0	101	2
Makoka Met	0.0	32.5	0	1035.1	904.3	114	0
Mangochi Met.	9.0	33.2	27	638.0	663.3	96	3
Masambanjati Agric	41.6	64.9	64	830.4	1188.6	70	3
Mimosa Met.	22.5	81.3	28	948.9	1268.0	75	6
Monkey Bay Met.	9.2	13.4	69	711.7	551.6	129	2
Mpemba Vet	93.3	52.1	179	1231.7	1040.5	118	4
Mulanje Boma	3.8	125.0	3	1337.9	1524.1	88	2
Naminjiwa Agric	49.5	36.5	136	790.0	910.1	87	1
Namwera Agric	0.0	51.7	0	747.0	972.2	77	0
Neno Agric	28.0	42.6	66	915.1	1011.1	91	2
Ngabu Met.	0.0	35.1	0	567.7	704.8	81	0
Nsanje Boma	0.0	57.7	0	656.5	1000.5	66	0
Ntaja Met.	0.0	48.6	0	783.6	827.2	95	0
Thuchila Agric	0.0	40.2	0	661.1	815.1	81	0
Thyolo Boma	6.0	52.5	11	847.1	1048.8	81	1
Thyolo Met	44.1	56.3	78	1172.9	1107.1	106	4
Zomba R.T.C	81.7	58.2	140	1116.8	1111.8	100	5
CENTRAL REGION							
Chitedze Met.	3.4	41.6	8	698.2	829.7	84	3
Dedza Met	0.0	36.6	0	674.0	879.2	77	0
Dwangwa Sugar Corp.	144.1	143.8	100	1094.3	1136.1	96	9
Dzalanjama Forest	0.0	45.9	0	0.0	889.3	0	0
K.I.A Met	4.4	47.3	9	714.2	810.8	88	2
Kasiya Agric	105.1	36.2	290	1029.4	909.2	113	5
Kasungu Met	1.2	31.1	4	537.5	743.2	72	1
Malomo Agric	13.7	30.8	44	757.4	792.1	96	1
Mchinji Boma	76.1	50.6	150	856.5	948.6	90	5
Nathenje Agric	12.6	38.5	33	703.0	796.3	88	1
Nkhotakota Met	72.1	142.5	51	1166.2	1244.6	94	5
Ntchisi Boma	3.5	67.5	5	968.7	1141.6	85	2
Salima Met	10.2	71.6	14	1041.0	1123.4	93	4
NORTHERN REGION							
Baka Res. Stn.	260.2	188.6	138	1119.6	1059.9	106	9
Bolero Met	32.8	29.6	111	480.0	595.9	81	4
Bwengu Agric.	28.1	49.3	57	609.3	712.2	86	4
Chikangawa forest	20.6	95.2	22	871.6	968.7	90	3
Chitipa Met	51.7	52.8	98	645.5	880.5	73	6
Karonga Met.	202.5	114.0	178	970.0	807.7	120	10
Mbawa Res. Stn	40.8	35.8	114	734.2	765.1	96	6
Mzimba Met	61.1	48.2	127	759.7	838.8	91	6
Mzuzu Met.	40.3	100.9	40	687.3	876.2	78	5
NkhataBay Met.	67.4	167.0	40	731.6	1082.9	68	6
Vinthukutu Agric	215.5	122.5	176	1229.4	881.0	140	6

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 21 – 31 MARCH 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 ⁻² p/day
BOLERO	28.1	17.7	29.5	15.2	N/A	73	5.8	5.4	4.2	7.9
BVUMBWE	26.4	N/A	27.9	N/A	1.8	77	N/A	3.0	2.5	4.2
CHICHIRI	27.1	18.2	28.7	16.0	0.7	75	N/A	N/A	N/A	N/A
CHILEKA	29.3	20.1	30.7	18.0	2.5	71	8.0	7.1	5.6	9.5
CHITEDZE	29.7	17.1	28.4	14.9	0.6	8	8.1	6.1	4.6	9.5
CHITIPA	25.9	17.2	28.0	17.0	1.4	76	N/A	N/A	N/A	N/A
DEDZA	24.5	15.6	25.2	13.2	1.0	71	N/A	N/A	N/A	N/A
K I A	26.6	16.4	27.2	13.8	1.3	73	7.9	6.2	4.8	9.4
KARONGA	29.4	21.4	30.5	20.1	0.8	80	6.8	6.3	5.0	8.8
KASUNGU	N/A	19.6	N/A	15.5	1.2	68	N/A	N/A	N/A	N/A
MANGOCHI	32.1	21.9	33.5	21.4	1.1	69	9.0	7.6	6.0	10.1
MIMOSA	N/A	19.0	N/A	15.3	1.0	77	N/A	N/A	N/A	N/A
MONKEY BAY	30.6	22.7	31.8	21.3	1.3	72	9.7	7.8	6.2	10.6
MZIMBA	26.9	16.3	28.5	13.7	0.9	77	5.9	5.4	4.2	8.0
MZUZU	24.8	16.2	26.0	14.4	1.3	83	5.4	5.0	3.9	7.7
NGABU	35.5	23.0	37.0	20.6	1.5	68	N/A	N/A	N/A	N/A
NKHATA BAY	29.8	20.5	31.9	19.4	0.6	84	4.2	5.1	4.0	6.9
NKHOTAKOT	28.9	21.8	30.0	20.8	1.6	75	7.2	6.7	5.3	8.9
NTAJA	30.2	20.9	32.0	19.8	1.2	72	8.8	7.3	5.7	10.1
SALIMA	32.6	24.5	30.7	20.2	1.7	74	8.8	7.5	6.0	10.0

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