



# Malawi 10-Day Rainfall & Agrometeorological Bulletin

Department of Climate Change and Meteorological Services



Period: 11 – 20 February 2011

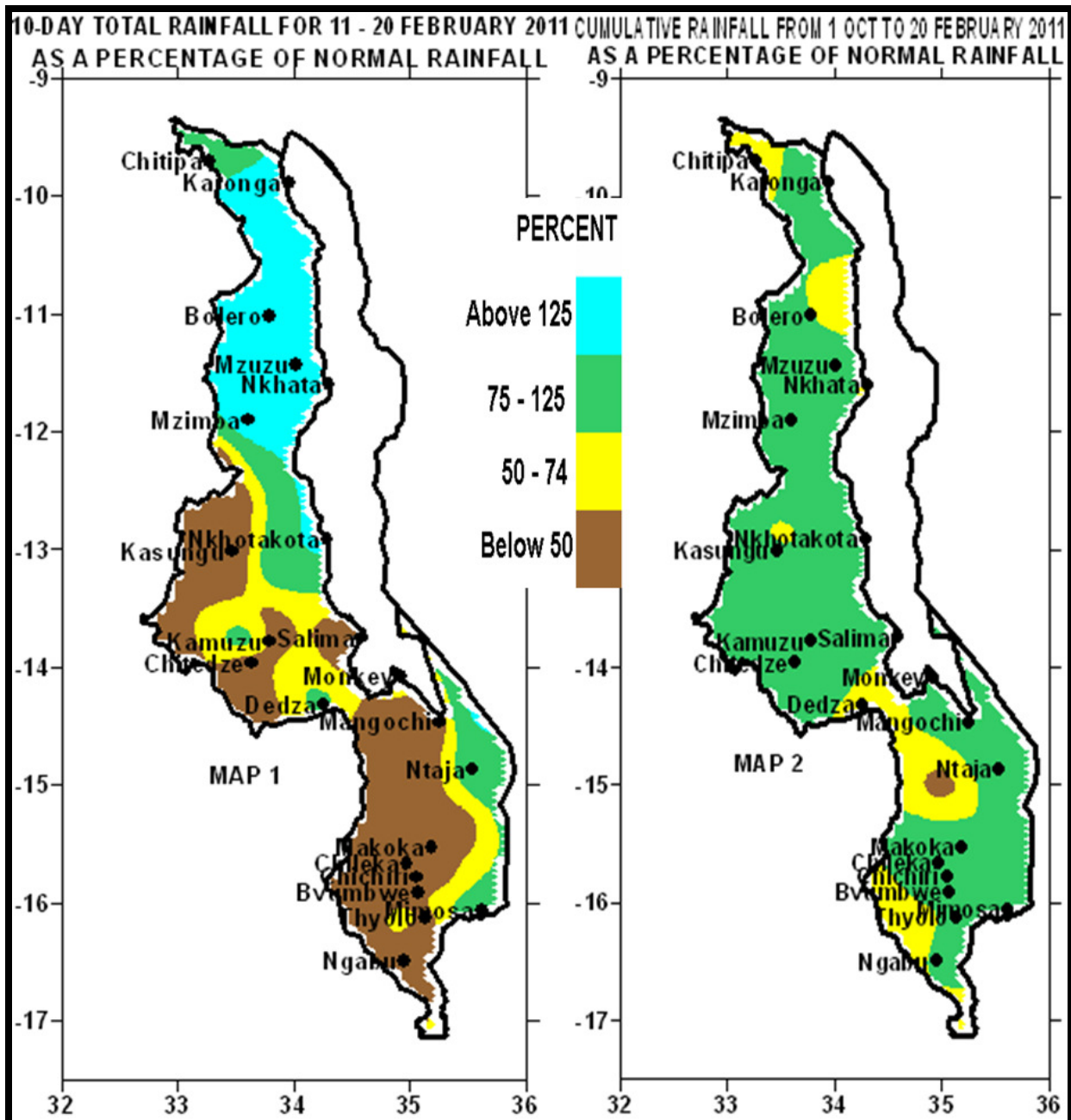
Season: 2010/2011

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## HIGHLIGHTS

- ❖ Cyclone Bingiza deposits heavy rainfall in northern Malawi & light elsewhere ...
- ❖ Dry spells cause permanent wilting of crops especially in low altitude areas...
- ❖ More rains expected over the North and Centre during 21– 28 February 2011...



## 1. WEATHER SUMMARY

### 1.1 RAINFALL SITUATION

During the second 10-days of February 2011, Tropical Cyclone 'BINGIZA' restricted the main rain belt to northern Malawi. As a result moderate to heavy rainfall was mostly confined to northern Malawi and floods were reported in Karonga District. Above average cumulative 10-day rainfall amounts (light blue *Colour on Map 1*) were deposited over most areas in the north including Vinthukutu 149mm, Mzimba Met 143mm, Mzuzu Met 136mm, Zombwe Agric 124mm and, Bolero Met 119mm. In the centre, only Nkhotakota Met reported rainfall amount above 100mm. Otherwise, the greater part of central and southern Malawi registered light and far below average rainfall. More details are in Table 1.

The cumulative rainfall picture as at 20<sup>th</sup> February 2011, especially in the north continued to improve. The greater part of Malawi had received average cumulative rainfall amounts (Green Colour on Map2) and below average rainfall situation was confined to just a few areas like lower Shire and around Balaka in the south (yellow colour on Map 2).

### 1.2 MEAN AIR TEMPERATURE

The country experienced increased cloudiness. As a result warm to hot temperatures were maintained over Malawi. The average maximum temperatures still ranged from 23°C at Dedza to 32°C at Ngabu. The highest absolute daytime temperature was still reported at Ngabu (35°C) in Shire Valley while the lowest absolute night temperature was 13°C reported at Dedza Met. See more details in Table 2.

### 1.4 MEAN WIND SPEEDS

Average wind speeds at a height of two metres above the ground were still light. The lowest was 0.7 m/s (2.5 Km/h) recorded at Chitedze Research Station and the highest was 2.9 m/s (10.4 Km/h) reported at Chileka. See more details in Table 2.

## 1.5 MEAN RELATIVE HUMIDITY

During the second ten days of February 2011, air over Malawi remained fairly moist. The lowest daily average relative humidity was 69% reported at Kasungu while the highest daily average relative humidity value was 88% reported at Mzuzu Airport. More details are in the Table 2.

## 2. AGROMETEOROLOGICAL ASSESSMENT

During the second 10-days of February 2011, good rains for agricultural production were confined to northern Malawi and a few areas in the centre while the greater part of Malawi continued to experience a decline in soil moisture as a result of dry spells. Seasonal dry conditions have resulted in



wilting and premature drying of crops. The impact was reported worse in southern Malawi particularly along the Shire River from Mangochi to Nsanje where most crops have reached permanent wilting point (**Fig. 1**).

Crops were generally reported doing well except in areas that have been negatively affected by dry spells. Most crops ranged from flowering to maturity stages. The dry spells that have been experienced during the month of February have compromised what would have been one of the best growing seasons in recent years. However, the overall picture is still better than last season. No major outbreaks of pests and diseases have been reported over the country.

## 3. PROSPECTS OF 2010/11 RAINFALL SEASON

Despite dry spells in February, climate model forecasts continue to suggest that during February, March and April 2011, a greater part of Malawi is likely to experience average to above average total rainfall amounts.

## 4. OUTLOOK 21 – 28 FEBRUARY 2011

Medium range forecast suggest that during the last 10-days of February 2011 more rains with better distribution and amounts will still be confined to central and northern Malawi while rainfall in the south will be mostly confined to the highlands.

TABLE 1: DEKADAL RAINFALL SUMMARY FOR 11 – 20 FEBRUARY 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
<b>SOUTHERN REGION</b>							
Balaka Township	0.0	46.6	0	216.0	631.8	34	0
Bvumbwe Met.	29.0	73.8	39	811.8	771.3	105	6
Chichiri Met.	7.7	52.3	15	751.6	920.0	82	3
Chikwawa Boma	16.4	41.5	40	349.0	570.6	61	3
Chileka Airport	0.4	50.4	1	621.5	636.9	98	1
Chiradzulu Agric	7.4	66.2	11	559.0	710.5	79	3
Kasinthula Res. Stn.	33.0	46.3	71	497.8	487.8	102	3
Liwonde Township	25.0	62.5	40	328.8	568.5	58	3
Mpilipili	35.8	62.7	57	585.3	651.0	90	4
Makhanga Met	18.8	52.0	36	478.9	530.7	90	4
Makoka Met	29.1	63.1	46	820.8	703.2	117	3
Mangochi Met.	12.2	65.0	19	511.8	483.4	106	2
Mimosa Met.	68.8	71.9	96	760.9	939.7	81	7
Monkey Bay Met.	36.1	46.7	77	386.8	445.8	87	5
Mulanje Boma	80.9	86.9	93	867.5	1153.9	75	6
Mwanza Boma	17.0	66.0	26	561.0	723.1	78	2
Nchalo Sucoma	23.2	46.4	50	328.5	481.3	68	2
Neno Agric	17.0	68.8	25	700.7	790.5	89	4
Ngabu Met.	24.9	51.3	49	452.2	549.7	82	1
Ntaja Met.	62.6	56.7	110	669.0	618.5	108	6
Thuchila Agric	33.8	57.8	58	487.4	621.0	78	4
Thyolo Met	26.2	73.8	36	937.7	785.7	119	5
Zomba RTC	22.4	70.4	32	766.0	837.6	91	1
<b>CENTRAL REGION</b>							
Chitedze Met.	16.3	57.7	28	518.8	602.6	86	4
Dedza Met	61.2	74.7	82	435.6	657.2	66	5
Dowa Agric	27.6	56.4	49	527.8	609.0	87	3
Dwangwa Sugar Corp.	79.8	60.1	133	771.8	722.0	107	7
K.I.A Met	28.0	61.9	45	551.3	586.1	94	5
Kasiya Agric	60.0	63.6	94	615.1	668.8	92	2
Kasungu Met	12.9	63.3	20	358.6	549.5	65	3
Malomo Agric	69.9	65.7	106	536.3	581.5	92	4
Mchinji Boma	19.6	74.7	26	649.4	723.5	90	3
Mponela Agric	29.0	71.5	41	407.5	581.9	70	2
Mwimba Research	19.5	72.3	27	745.0	624.9	119	2
Mtakataka Airwing	19.8	62.2	32	408.7	552.1	74	3
Nathenje Agric	50.4	73.4	69	524.3	589.5	89	3
Nkhotakota Met	108.4	73.6	147	635.5	784.5	81	4
Ntchisi Boma	75.2	90.3	83	746.9	830.1	90	6
Salima Met	9.5	91.7	10	596.5	774.7	77	2
Dedza RTC	43.9	68.8	64	421.5	722.4	58	3
<b>NORTHERN REGION</b>							
Bolero Met	118.9	60.7	196	344.2	455.4	76	10
Bwengu Agric.	79.9	66.2	121	369.0	531.9	69	5
Chitipa Met	87.1	77.5	112	422.6	638.6	66	10
Karonga Met.	66.2	49.1	135	445.9	485.5	92	0
Mbawa Res. Stn	31.0	66.0	47	488.1	573.3	85	6
Mzimba Met	143.0	79.3	180	558.7	622.8	90	9
Mzuzu Met.	135.7	65.3	208	518.5	593.2	87	10
Nkhata Bay Met.	80.1	62.1	129	464.2	666.4	70	8
Vinthukutu Agric	149.1	58.6	254	422.9	553.4	76	5
Zombwe Agric	123.9	62.6	198	494.2	484.8	102	9

**TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 11 – 20 FEBRUARY 2011**

STATION	MAX TEMP	MIN TEMP	ABS MAX	ABS MIN	WIND SPEED	RH	SUN SHINE HOURS	Eo mm per day	Et mm per day	RAD- TION cal cm <sup>-2</sup> p/day
	(°C)	(°C)	(°C)	(°C)	m/s	%				
BOLERO	26.9	18.4	30.2	17.3	1.0	79	4.9	5.4	4.3	7.7
BVUMBWE	24.0	16.1	25.9	14.4	1.8	79	6.0	5.5	4.3	8.4
CHILEKA	28.0	19.4	30.9	18.4	2.9	76	8.7	7.3	5.7	10.1
CHITEDZE	27.0	16.9	28.4	15.2	0.7	75	7.0	6.0	4.7	9.0
CHITIPA	25.5	16.7	28.2	16.1	0.9	79	N/A	N/A	N/A	N/A
DEDZA	23.0	14.4	24.9	13.0	0.9	81	N/A	N/A	N/A	N/A
K I A	26.1	15.8	27.9	13.2	1.1	76	N/A	N/A	N/A	N/A
KARONGA	26.8	21.2	30.9	20.5	0.8	79	4.9	5.6	4.4	7.7
KASUNGU	N/A	18.5	N/A	16.7	1.1	69	N/A	N/A	N/A	N/A
MAKOKA	26.7	17.6	29.0	15.0	1.9	77	8.0	6.6	5.1	9.7
MANGOCHI	31.7	22.0	32.0	20.7	1.3	72	N/A	N/A	N/A	N/A
MIMOSA	28.3	19.0	31.9	16.9	1.2	79	N/A	N/A	N/A	N/A
MONKEY BAY	28.9	22.3	30.0	21.7	1.6	71	8.0	7.2	5.7	9.7
MZIMBA	25.0	16.5	27.4	15.1	0.9	83	3.7	4.7	3.7	6.9
MZUZU	24.2	16.8	26.4	16.0	1.3	88	3.1	4.4	3.4	6.5
NGABU	32.3	21.2	35.4	19.3	1.1	71	N/A	N/A	N/A	N/A
NKHOTAKOTA	27.7	21.2	28.9	18.9	1.6	78	7.0	4.4	3.3	9.1
NTAJA	28.4	20.0	30.6	14.0	1.0	79	N/A	N/A	N/A	N/A
SALIMA	28.0	21.4	29.2	19.9	1.7	73	8.2	7.1	5.6	9.8

**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