



# Malawi 10-Day Rainfall & Agrometeorological Bulletin

Department of Climate Change and Meteorological Services



Period: 11 – 20 February 2012

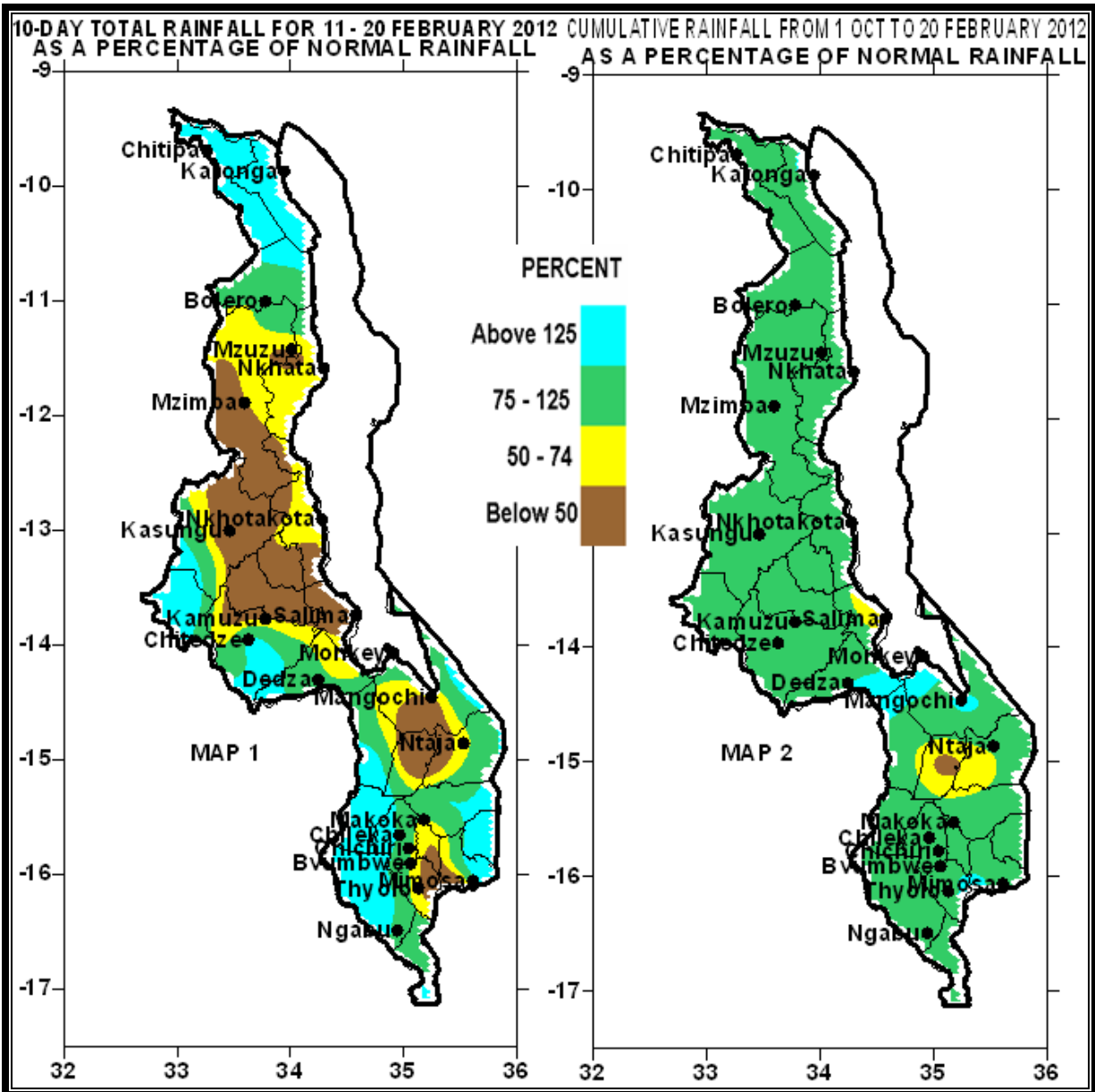
Season: 2011/2012

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## HIGHLIGHTS

- Below average rainfall was experienced over most areas in Malawi...
- Prolonged dry spells have hampered crop yields and overall production ...
- Expect improved rainfall performance in the northern half and dry spells to persist in the south .



### 1.1 RAINFALL SITUATION

In the second ten days of February 2012, Malawi was under a broad Equatorial Trough and the main rain bearing systems namely Congo Air mass and the Inter Tropical Convergence Zone continued to relax. As a result most areas in Malawi continued to receive little and below average rainfall amounts (yellow and brown colours on Map 1). However, very few areas still reported cumulative rainfall amounts in excess of 100mm. Such areas with high rainfall amounts in the south included Lujeri Tea Estate (342mm) in Mulanje and Neno Agric (173mm) while in the centre high rainfall figures were reported at Dzonzi Forest in Ntcheu (136mm) and Mkanda Agric (144mm) in Mchinji and in the north heavy rains were recorded in Karonga and Chitipa Districts for instance Baka Research recorded 187mm, Lupembe 168mm, Karonga Airport Met 146mm and Chitipa Met 101mm. More details are on Table 1.

The cumulative rainfall performance Map 2 indicates that by 20<sup>th</sup> February 2012 most parts of Malawi had recorded average cumulative rainfall amounts (Green Colour on Map 2) with pockets of below average rainfall (Yellow colour on Map 2) recorded in some parts of Salima in the centre and around Balaka and Liwonde areas in the south. The below average rainfall situation has been largely due to poor and erratic rainfall performance. For more details see Map 2 and Table 1.

### 1.2 MEAN AIR TEMPERATURE

Malawi continued to experienced warm to hot temperatures during the second ten days of February 2012. Daily average maximum temperatures ranged from 25°C over high altitude areas like Dedza to 36°C in low altitude areas like Ngabu in Shire Valley. The highest absolute maximum temperature was still reported at Ngabu up to 39°C. For more details see Table 2.

### 1.4 MEAN WIND SPEEDS

At two meters height above the ground level Malawi continued to experience generally light wind speeds. Daily average wind speeds ranged from 0.6 to 2.1 metres per second or 2.2 to 7.6 Km/hr. More details are in Table 2. Chileka Airport with 2.1m/s registered the highest average wind speeds.

### 1.5 MEAN RELATIVE HUMIDITY

High Relative humidity values were reported over most areas in Malawi during the second ten days of February 2012. Daily average relative humidity values at most stations were above 72% except at Ngabu in Shire

Valley and Karonga up North. More details are on the Table 2.

### 2. AGROMETEOROLOGICAL ASSESSMENT

Prolonged dry spells that extended up to the second ten days of February 2012 have badly hampered crop production particularly maize which was at critical tasselling and flowering stages where the crop requires a lot of water to attain potential yields. Crops have suffered soil moisture stress, a development that will negatively impact on crop yields and production this season. The most affected districts in the south include Zomba, Balaka and Mangochi while in the centre include Salima, Dowa, Kasungu, some parts Lilongwe and Mzimba, Nkhata Bay and Rumphu in the North. On the other hand drier than average conditions have allowed extremely wet conditions to dry up and flood waters to rescind. Heavy rains that were received over a few areas maintained soil moisture reserves and facilitated growth and development of roots and tuber crops.

The general crop stand in the fields was threatened by prolonged dry spells and reduced crop yields were expected. Maize crop which is the staple food crop for Malawi was reported to be at various growth stages ranging from vegetative to maturity stages and more rains are required to support the bulk of this crop to full maturity stage.

### 3. PROSPECTS FOR 2011/12 RAINFALL SEASON

La Niña conditions in the tropical Pacific have been at weak to moderate levels since around October 2011. Model forecasts and expert interpretation suggest that the La Niña is near its maximum strength and hence is likely to slowly decline over the coming months. However, beyond May, there is some uncertainty over the expected state of the Pacific Ocean, with no particular preference for El Niño, La Niña or neutral conditions. The situation in the tropical Pacific will continue to be carefully monitored. **Malawi is expected to receive above average to average rainfall amounts during the period February to April 2012.**

### 4. OUTLOOK FOR 21 – 29 FEBRUARY 2012

Models for short and medium range weather forecasts suggest that the Inter Tropical Convergence Zone will be mainly active over northern and central Malawi during the forecast period. Therefore expect an improvement in rainfall performance over northern and central Malawi and localized dry spells to persist over southern Malawi during the last days of February 2012.

**TABLE 1: DEKADAL RAINFALL SUMMARY FOR 11 – 20 FEBRUARY 2012 AT SELECTED STATIONS**

STATION NAME	DEKADAL TOTAL	DEKADAL NORMAL	DEKADAL TOTAL	TOTAL TO	NORMAL TO	TOTAL TO DATE	RAINY DAYS
	RAINFALL		AS %	DATE	DATE	AS %	
<b>SOUTHERN REGION</b>	mm	mm	NORMAL	mm	mm	NORMAL	≥ 0.3mm
Balaka Township	10.6	46.6	23	253.1	631.8	40	2
Bvumbwe Met.	50.3	73.8	68	862.5	771.3	112	6
Chichiri Met.	49.0	52.3	94	805.0	920.0	88	3
Chileka Airport	63.6	50.4	126	653.6	636.9	103	4
Chingale Agric	77.0	68.2	113	500.5	669.5	75	5
Chiradzulu Agric	20.6	66.2	31	563.0	710.5	79	2
Kasinthula Res. Stn.	7.3	46.3	16	701.0	487.8	144	2
Liwonde Township	12.0	62.5	19	249.7	568.5	44	1
Lujeri Tea Estate	342.0	138.8	246	1707.3	1341.2	127	7
Makoka Met	34.1	63.1	54	746.3	703.2	106	6
Mangochi Met.	21.6	65.0	33	706.8	483.4	146	3
Masambanjati Agric	49.7	95.3	52	819.5	873.1	94	3
Mimosa Met.	93.4	71.9	130	1190.7	939.7	127	5
Monkey Bay Met.	46.8	46.7	100	710.2	445.8	159	3
Mpembeni Vet	79.3	68.0	117	918.6	793.9	116	4
Mulanje Boma	46.1	86.9	53	1247.2	1153.9	108	3
Mwanza Boma	92.0	66.0	139	812.8	723.1	112	3
Namiasi Agric	37.1	50.6	73	541.6	565.8	96	4
Nchalo Sucoma	65.5	46.4	141	573.9	481.3	119	3
Neno Agric	173.2	68.8	252	875.4	790.5	111	4
Ngabu Met.	60.2	51.3	117	493.7	549.7	90	3
Ntaja Met.	36.0	56.7	63	486.6	618.5	79	4
Phalula Agric	51.8	57.4	90	464.0	605.8	77	3
Satemwa Tea Est. No.1	41.4	76.1	54	688.7	732.6	94	5
Thyolo Boma	53.8	78.7	68	623.1	781.3	80	5
Thyolo Met	81.0	73.8	110	967.4	785.7	123	5
<b>CENTRAL REGION</b>							
Chileka Namitete	38.4	68.3	56	513.1	677.3	76	4
Chitedze Met.	96.7	57.7	168	583.1	602.6	97	5
Dedza Met	58.5	74.7	78	832.3	657.2	127	8
Dowa Agric	6.3	56.4	11	599.2	609.0	98	1
Dzonzi Forest	135.7	70.9	191	802.5	707.4	113	5
K.I.A Met	33.3	61.9	54	801.0	586.1	137	4
Kasiya Agric	8.5	63.6	13	640.3	668.8	96	2
Kasungu Met	8.5	63.3	13	626.1	549.5	114	2
Malomo Agric	37.1	65.7	56	584.2	581.5	100	3
Madisi Agric	7.5	75.9	10	453.6	594.9	76	2
Mkanda Met	144.3	55.1	262	671.0	623.2	108	7
Mlangeni Njolomole	100.5	87.2	115	931.8	680.8	137	7
Nathenje Agric	94.9	73.4	129	572.8	589.5	97	5
Nkhotakota Met	45.4	73.6	62	801.6	784.5	102	5
Ntcheu - Nkhonde	76.5	75.7	101	642.6	748.0	86	6
Ntchisi Boma	35.6	90.3	39	399.1	830.1	48	3
Salima Met	30.0	91.7	33	432.5	774.7	56	5
<b>NORTHERN REGION</b>							
Baka Res. Stn.	186.7	63.4	294	668.0	560.9	119	6
Bolero Met	48.0	60.7	79	485.9	455.4	107	4
Bwengu Agric.	93.2	66.2	141	505.4	531.9	95	6
Chikangawa forest	56.9	75.6	75	484.4	670.4	72	7
Chitipa Met	101.8	77.5	131	741.4	638.6	116	8
Euthini Agric.	33.0	63.4	52	623.2	534.2	117	5
Karonga Met.	146.4	49.1	298	613.1	485.5	126	6
Lupembe	168.1	58.4	288	374.6	440.6	85	4
Mbawa Res. Stn	11.3	66.0	17	582.7	573.3	102	5
Mzimba Met	36.3	79.3	46	493.1	622.8	79	6
Mzuzu Met.	23.5	65.3	36	600.3	593.2	101	6
NkhataBay Met.	40.5	62.1	65	725.5	666.4	109	6
Rumphi Boma	35.9	65.2	55	433.1	494.8	88	4
Vinthukutu Agric	86.3	58.6	147	659.1	553.4	119	5

**TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 11 – 20 FEBRUARY 2012**

STATION	MAX	MIN	ABS	ABS	WIND	RH
	TEMP	TEMP	MAX	MIN	SPEED	
	(°C)	(°C)	(°C)	(°C)	m/s	%
<b>BOLERO</b>	29.4	18.0	31.7	16.0	N/A	76
<b>BVUMBWE</b>	26.9	18.0	30.1	16.6	1.3	77
<b>CHICHIRI</b>	27.7	19.7	30.9	17.9	0.6	77
<b>CHILEKA</b>	30.2	20.4	33.9	18.3	2.1	77
<b>CHITEDZE</b>	27.9	18.0	30.6	16.7	0.6	78
<b>CHITIPA</b>	28.1	17.5	29.6	16.1	0.7	74
<b>DEDZA</b>	24.7	16.2	26.6	14.5	0.7	83
<b>K I A</b>	27.4	16.8	29.5	16.1	1.2	76
<b>KARONGA</b>	31.3	20.8	33.5	17.7	1.1	69
<b>KASUNGU</b>	29.4	17.9	30.7	16.4	1.1	76
<b>MAKOKA</b>	28.4	19.0	31.6	16.9	1.0	80
<b>MANGOCHI</b>	31.1	22.6	33.4	21.7	1.0	73
<b>MIMOSA</b>	31.3	19.9	35.0	18.9	0.9	78
<b>MONKEY BAY</b>	30.8	22.8	32.2	21.1	1.5	73
<b>MZIMBA</b>	27.4	17.2	29.2	15.5	0.7	75
<b>MZUZU</b>	27.0	17.1	28.8	14.9	1.2	78
<b>NGABU</b>	35.6	21.3	39.1	19.8	0.7	68
<b>NKHATA BAY</b>	31.8	20.7	33.0	19.4	0.6	78
<b>NKHOTAKOTA</b>	29.4	22.0	30.4	19.9	1.6	74
<b>NTAJA</b>	30.8	21.5	33.6	20.4	1.0	74
<b>SALIMA</b>	31.3	22.6	33.5	21.2	1.8	74

**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