Malawi 10-Day Rainfall & Agrometeorological Bulletin

Department of Climate Change and Meteorological Services

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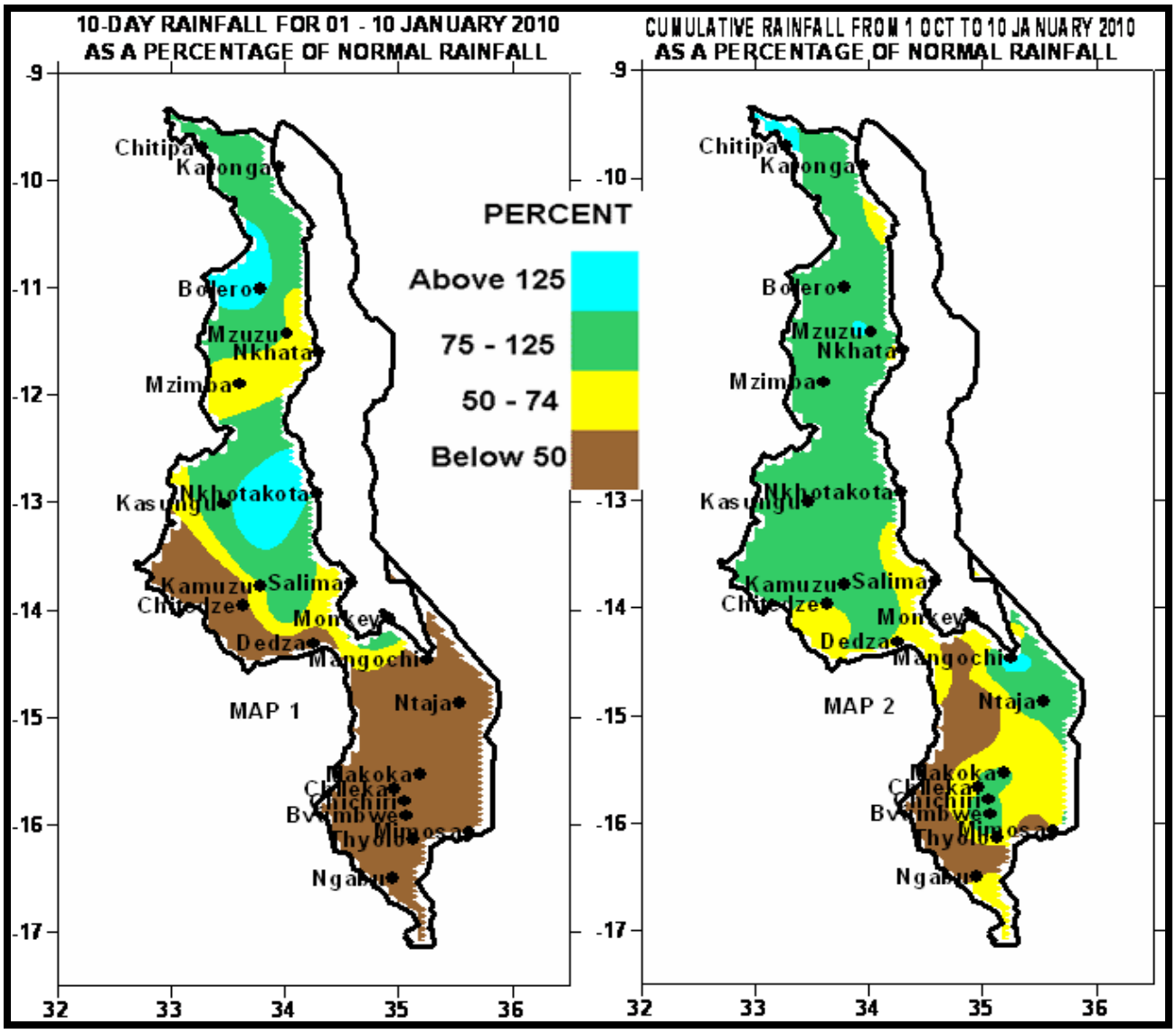
HIGHLIGHTS

- **Most areas experienced below average rainfall…**
- **Dry spells negatively affect crop growth and development…**
- **Rains to persist over northern half Malawi and dry spells in the south...**



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1. WEATHER SUMMARY

1.1 RAINFALL SITUATION

In the first ten days of January 2010, drier than normal weather conditions were experienced particularly in the south and some parts of central Malawi. Most areas in the south reported cumulative rainfall amounts of less than 10mm. The resulted in a below average rainfall situation (yellow and brown colours on Map 1) the period. Areas that registered cumulative rainfall amounts of at least 100mm were confined to central and northern Malawi. Such areas in the north included Bolero in Rumphi while in the centre Nkhotakota Met reported 127 mm, Malomo in Ntchisi 122 mm and Dwangwa in Nkhotakota 108mm..

By 10 January 2010, cumulative rainfall amounts since October 2009 expressed as a percentage of normal rainfall for the same period indicated that most areas in northern and central Malawi have received average rainfall amounts (green colour on map2) while most of the south had received below average rainfall amounts (Yellow and Brown colours on map 2..

1.2 MEAN AIR TEMPERATURE

Mean maximum air temperatures observed in the country ranged from 26°C at Dedza to 37°C at Ngabu Chikwawa. The highest mean maximum temperature was still reported at Ngabu (39.1°C). On the other hand, mean minimum temperatures were in the range of 17°C to 25°C. The lowest minimum temperature during this period was 16.9°C, reported at Bolero and Mzimba (see Table 2).

1.4 MEAN WIND SPEEDS

Mean wind speeds, measured at two metres above the ground were still low during the period under review. The lowest speed was 0.4 m/s (1.4 Km/h) reported at Chitipa while the highest was 3.3 m/s (11.9 Km/h) recorded at Ngabu in Chikwawa (Refer to Table 2).

1.5 MEAN RELATIVE HUMIDITY

Relative Humidity values during the first ten days of January 2010 indicated relatively dry conditions as opposed to the last ten days of December 2009.The highest daily average relative humidity was 82% reported at Thyolo while the lowest daily average relative humidity was 36%, recorded at Ngabu in Chikwawa. More details are in the Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

During the first ten days of January 2010, good rains with better distribution and amounts supported crop growth and development over northern and some parts of central Malawi. However, most of the south and a few areas in the centre continued to experience prolonged dry spells and suppressed rainfall which resulted in soil moisture stress. In some districts particularly in the south due to prolonged dry spells some crops like maize were reported to have reached permanent wilting point. The worst affected districts included Chikwawa, Nsanje, Mwanza, Neno and Balaka. The prolonged dry spells also hindered agricultural operations such as application of basal and top dressing fertilizers and weeding. The above photo shows some maize crop wilting around Chileka Airport in Blantyre.

3. PROSPECTS FOR JANUARY TO MARCH 2010 RAINFALL

Most of dynamical and statistical model forecasts from advanced climate prediction centers indicate a continuation of the EL Nino conditions in the next several months. El Niño conditions are usually associated with below normal and erratic rainfall over a greater part of Southern Africa and above normal over Eastern Africa. Southern Malawi is currently experiencing prolonged dry spells and crops are wilting. This will most likely negatively affect overall crop production this season.

Despite the dry spells that Malawi is currently experiencing, climate models still project that during January to March 2010, Malawi is most likely to receive normal to above normal rainfall amounts with poor distribution.

4. OUTLOOK 11 – 20 JANUARY 2010

A series of high pressure areas passing off south coast of South Africa will cause the Inter Tropical Convergence Zone to oscillate between central and northern Malawi. Therefore expect more rains to continue over northern half of Malawi and prolonged dry spells to persist over south during the period 11 to 20 January 2010..

TABLE 1: DEKADAL RAINFALL SUMMARY FOR 01 – 10 JANUARY 2010 AT SELECTED STATIONS

STATION NAME SOUTHERN REGION	DEKADAL TOTAL RAINFALL (mm)	DEKADAL NORMAL RAINFALL (mm)	RAINFALL DEKADAL TOTAL (%)	TOTAL TO DATE (mm)	NORMAL TO DATE (mm)	RAINFALL TOTAL TODATE (%)	RAINY DAYS
Balaka Township	3.0	84.1	**4**	94.0	333.5	**28**	1
Bvumbwe Met.	10.0	80.2	**12**	344.2	416.5	**83**	3
Chancellor College	31.0	100.5	**31**	339.1	512.1	**66**	2
Chichiri Met.	28.6	88.2	**32**	354.1	666.2	**53**	2
Chikwawa Boma	0.0	66.8	**0**	130.7	326.7	**40**	0
Chikweo Agric.	0.0	86.1	**0**	373.2	389.3	**96**	0
Chileka Airport	0.8	68.1	**1**	322.1	352.8	**91**	1
Chingale Agric	1.5	70.4	**2**	242.5	362.6	**67**	2
Chiradzulu Agric	4.0	66.4	**6**	289.6	385.5	**75**	2
Chizunga Factory	5.0	96.6	**5**	513.0	573.8	**89**	2
Kasinthula Res. Stn.	0.0	62.9	**0**	121.4	291.5	**42**	0
Liwonde Township	0.0	60.2	**0**	184.0	292.1	**63**	0
Lujeri Tea Estate	18.4	135.4	**14**	707.6	813.6	**87**	3
Mpilipili	21.5	91.9	**23**	247.5	346.7	**71**	1
Makoka Met	28.0	76.4	**37**	299.3	379.4	**79**	2
Mangochi Met.	9.5	54.2	**18**	308.9	210.7	**147**	2
Mimosa Met.	28.7	97.7	**29**	418.2	561.7	**74**	2
Monkey Bay Met.	74.7	49.1	**152**	195.7	199.4	**98**	4
Mpemba Vet	0.0	87.5	**0**	442.7	456.5	**97**	0
Mulanje Boma	0.0	107.1	**0**	225.7	702.4	**32**	0
Mwanza Boma	0.0	73.5	**0**	106.0	401.6	**26**	0
Namiasi Agric	0.0	59.0	**0**	149.7	269.6	**56**	0
Nchalo Sucoma	0.0	53.1	**0**	73.4	255.9	**29**	0
Neno Agric	0.0	96.0	**0**	149.2	415.2	**36**	0
Ngabu Met.	2.1	61.3	**3**	166.8	312.3	**53**	2
Nsanje Boma	0.0	75.7	**0**	262.0	430.9	**61**	0
Ntaja Met.	0.2	70.1	**0**	266.5	329.4	**81**	0
Phalula Agric	0.0	72.7	**0**	130.7	345.1	**38**	0
Satemwa Tea Estate	4.5	75.6	**6**	496.1	417.4	**119**	2
Thyolo Met	2.4	80.2	**3**	297.3	433.7	**69**	1
Zomba RTC	0.0	81.7	**0**	330.5	469.0	**70**	0
CENTRAL REGION							
Bunda College	30.1	81.8	**37**	163.8	353.8	**46**	2
Chileka Namitete	3.0	86.1	**3**	258.8	384.6	**67**	1
Chitedze Met.	30.2	68.9	**44**	251.5	321.0	**78**	3
Dedza Met	18.6	82.5	**23**	234.3	336.2	**70**	2
Dwangwa Sugar Corp.	108.0	85.8	**126**	235.7	418.9	**56**	5
Kaluluma DTC	0.0	59.1	**0**	212.5	307.1	**69**	0
K.I.A Met	49.9	72.7	**69**	236.5	295.4	**80**	7
Kasiya Agric	22.7	87.3	**26**	372.3	419.5	**89**	4
Kasungu Met	76.9	70.1	**110**	307.3	281.9	**109**	5
Malomo Agric	122.3	66.0	**185**	250.7	254.0	**99**	6
Madisi Agric	68.2	69.0	**99**	293.3	290.3	**101**	4
Mchinji Boma	16.4	83.0	**20**	495.7	427.8	**116**	2
Mkanda Met	0.0	67.6	**0**	312.1	349.2	**89**	0
Mponela Agric	79.5	68.0	**117**	303.0	282.1	**107**	6
Mtakataka Airwing	8.3	50.7	**16**	223.5	284.4	**79**	2
Nathenje Agric	66.5	72.1	**92**	358.5	311.2	**115**	4
Nkhotakota Met	126.9	108.8	**117**	430.8	423.0	**102**	4
Ntcheu - Nkhande	32.9	86.3	**38**	259.9	405.5	**64**	3
Ntchisi Boma	78.2	93.3	**84**	273.2	434.5	**63**	7
Salima Met	49.8	94.8	**53**	163.2	364.3	**45**	2
NORTHERN REGION							
Bolero Met	101.3	62.6	**162**	289.0	238.2	**121**	7
Bwengu Agric.	50.0	63.8	**78**	122.0	273.7	**45**	4
Chitipa Met	73.2	71.2	**103**	449.5	332.3	**135**	8
Emfeni Agric	78.5	77.0	**102**	233.3	313.2	**74**	6
Karonga Met.	63.4	63.0	**101**	200.7	276.4	**73**	0
Lupembe	69.0	62.6	**110**	165.3	226.4	**73**	4
Mzimba Met	48.8	92.7	**53**	228.4	336.6	**68**	5

Mzuzu Met.	49.5	66.6	**74**	432.8	337.8	**128**	5
NkhataBay Met.	45.2	89.9	**50**	198.0	409.2	**48**	4

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 01 – 10 JANUARY2010

STATION	MAX TEMP (°C)	MIN TEMP (°C)	ABS MAX (°C)	ABS MIN (°C)	WIND SPEED (m/s)	RELATIVE HUMIDITY (%)
BOLERO	28.4	16.9	30.0	16.0	N/A	81
BVUMBWE	26.6	17.7	28.8	16.2	2.0	N/A
CHICHIRI	27.7	18.4	29.5	17.0	0.9	69
CHILEKA	29.9	21.0	32.4	19.4	2.7	67
CHITIPA	26.2	17.8	28.2	17.6	0.4	80
K I A	27.9	17.6	29.6	16.9	1.3	68
KARONGA	30.4	22.4	31.5	21.4	1.3	75
KASUNGU	28.3	19.4	30.1	18.4	1.5	73
MAKOKA	28.8	18.5	30.8	16.6	1.3	69
MANGOCHI	N/A	23.3	N/A	22.0	1.3	68
MIMOSA	30.6	19.5	33.7	17.5	1.2	75
MONKEY BAY	30.6	23.8	31.8	20.9	1.8	71
MZIMBA	26.9	16.9	27.8	15.9	0.8	77
MZUZU	26.2	17.3	27.7	15.6	1.3	81
NGABU	37.1	24.9	39.1	24.1	3.3	36
NKHATA BAY	31.6	21.5	33.1	20.6	0.6	75
NKHOTAKOTA	29.7	22.0	31.9	20.2	N/A	74
NTAJA	31.1	22.2	31.6	20.6	1.9	72
THYOLO	29.5	20.5	30.5	18.6	N/A	82

Glossary of some terms on this table

- 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) = mps x 3.6