REPUBLIC OF MALAWI

Ministry of Natural Resources, Energy and Mining
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In support of national early warning systems and food security

Be wise be weather-wise

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HIGHLIGHTS

- **Heavy rains cause flooding in Karonga District …**
- **Prolonged dry spells and soil moisture stress cause crop wilting…**
- **Good rainfall to return to southern and central Malawi …**

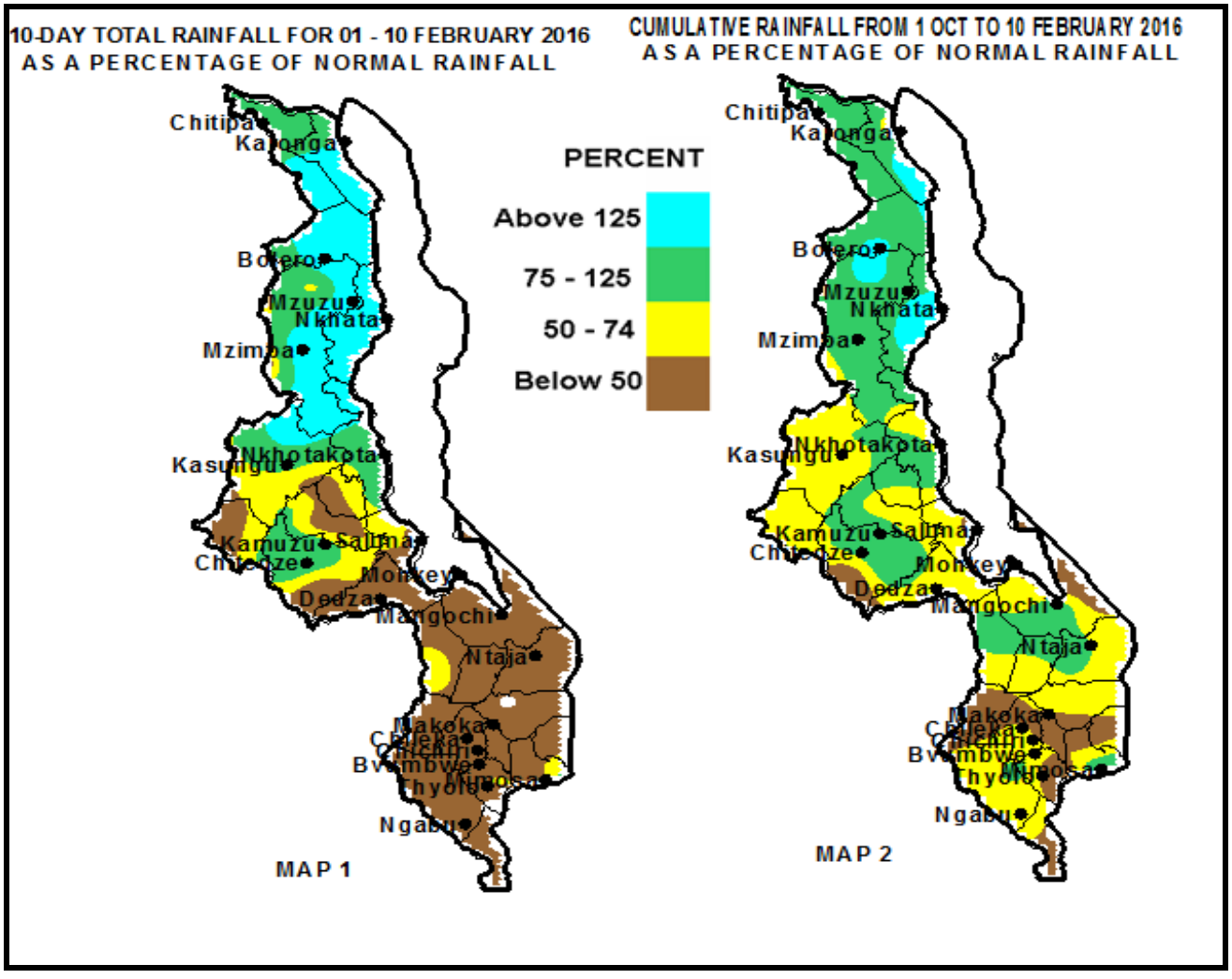

Figure 1: Rainfall Maps for 01 to 10 February 2016

1.0 WEATHER SUMMRY

During the period 01 to 10 February 2016, the main rain belt was confined to northern Malawi. As a result good rainfall with better distribution and amounts were reported over northern Malawi while the most areas in central and southern Malawi had experienced low rainfall and prolonged dry far below normal throughout the period.

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1.1 RAINFALL SITUATION

During the period 01 to 10th February 2016, well distributed moderate to heavy rainfall was mostly confined to northern Malawi. As a result many stations in north had registered heavy cumulative rainfall amounts. Rainfall amounts of 100mm or more were reported at the following stations: Mzimba Met had reported 138mm in seven days, Chelinda (Nyika) had 130mm in nine days, Lupembe Agric in Karonga district recorded 124mm in six days, Rumphi Boma recorded 119mm in seven days, Ekwendeni Agric 112mm, Bwengu Agric 108mm and Nkhata Bay Met 104mm. On the other hand central and southern areas of Malawi had experienced below average rainfall as a result of low rainfall and prolonged dry spells. Most areas in the southern Malawi had reported little or nil rainfall throughout the entire period. For instance nil rainfall was registered at Makhanga Agric, Mwanza Boma and Chingale Agric. More details are in Table 1.

Map 2 in Figure 1 shows cumulative rainfall performance during the period October 2015 up to 10 February 2016. The map indicates that lower than average rainfall (yellow and brown colours) have been received in most parts of southern and central Malawi and more rainfall has been received in northern Malawi. Refer to Map 2 and Table 1 for more details.

1.3 AIR TEMPERATURE

During the period 01 to 10 February 2016 warm to hot weather had persisted over Malawi. The average daily maximum temperatures had ranged from 25.5°C at Dedza to 33.9°C at Ngabu in Chikwawa district. The average minimum temperatures were between 15.7°C and 23.5°C at Dedza and Ngabu respectively. The highest maximum temperature was 36.2°C recorded at Ngabu in Chikwawa while the lowest temperature was 13.6°C reported at Dedza. For more details see Table 2.

1.4 WIND SPEEDS

During the first ten days February 2016 daily average wind speeds measured at a height of two metres above the ground level across Malawi ranged from 1.8Km per hour at Mangochi to 7.6km per hour at Chileka Airport. More details are in Table 2.

1.5 RELATIVE HUMIDITY

During the period 01 to 10 February 2016, daily average relative humidity values from selected stations within Malawi had indicated that moist air had covered most parts of Malawi. The daily average values had ranged from 62% at Mimosa in Mulanje district to 85% at Mkondezi in Nkhata Bay district. Details are on the Table 2.

1.6 SUNSHINE HOURS

The mean durations of bright sunshine hours in Malawi had increased. Most areas had experienced daily average sunshine hours of more than six hours. The highest mean sunshine , hours was 9.8 hours recorded at Chileka International Airport in Blantyre district. Details are on the Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

During the period 01 to 10 February 2016 good rains with better distribution and amounts were only confined to northern Malawi while low rainfall and prolonged dry spells negatively affected agricultural production in central and southern Malawi. Good rains that fell in northern Malawi had facilitated planting of roots and tubers, growth and development of crops, improved water availability, soil moisture reserves and pasture availability. However, in some parts of Karonga district heavy rains had caused heavy flooding in North Rukuru river while low rainfall and prolonged dry spells that were experienced in most parts of central and southern Malawi had caused soil moisture stress and wilting of crops.

Most crops in Malawi were planted mid-November and December 2015, so generally crops were reported to ranging between vegetative and flowering stages. The early planted hybrid maize varieties were at cob formation stage and required more water to do well..

Major on-farm agricultural activities during the period 01 to 10 February 2016 in areas that had received good rainfall had included weeding, application of basal fertilizer and planting of tuber crops like sweet potatoes, potatoes and cassava.

3. PROSPECTS FOR 2015/16 RAINFALL SEASON

Updated rainfall outlook for the 2015/16 season suggest higher than usual chances that northern half of Malawi is likely to receive average to above average rainfall amounts while the southern half of Malawi is expected to receive below average rainfall amounts during the period January to March (JFM) 2016.

4. OUTLOOK FOR 11 – 20 FEBRUARY 2016

Models for short and medium range rainfall forecasts suggest that pressure is expected to gradually continue falling over the south eastern sub-continent and the main rain belt will be shifting southwards from northern Malawi to southern Malawi within the period 11 to 20th February 2016. Therefore expect an improvement rainfall performance in most parts of central and southern Malawi during the second ten days of February 2016.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR 01 TO 10 FEBRUARY 2016

ADD	RAINFALL STATION	ACTUAL DEKADAL TOTAL RAINFALL (mm)	DEKADAL NORMAL (EXPECTED) RAINFALL (mm)	ACTUAL TOTAL AS PERCENTAGE OF NORMAL (EXPECTED) RAINFALL	ACTUAL TOTAL RAINFALL TODATE (mm)	NORMAL (EXPECTED) RAINFALL TODATE (mm)	ACTUAL TODATE AS PERCENTAGE OF NORMAL (EXPECTED) RAINFALL	RAINY DAYS ≥ 0.3 mm
KARONGA	Baka Res. Stn.	54.4	51.0	107	304.3	497.5	61	7
	Chitipa Met	84.0	87.6	96	676.3	561.1	121	9
	Karonga Met.	49.1	48.7	101	295.2	436.4	68	9
	Lupembe	124.0	49.8	249	562.5	382.2	147	6
	Vinthukutu Agric	74.9	53.6	140	769.6	494.8	156	4
MZUZU	Bolero Met	84.0	51.2	164	540.3	394.7	137	6
	Bwengu Agric.	108.2	58.8	184	499.1	465.7	107	6
	Chikangawa forest	94.2	69.4	136	641.6	594.8	108	7
	Chelinda (Nyika)	129.9	83.5	156	516.4	659.9	78	9
	Chintheche Agric	100.0	76.0	132	1243.1	731.7	170	4
	Embangweni Agric	2.5	65.1	4	313.7	514.5	61	1
	Ekwendeni Agric.	111.8	43.2	259	287.6	488.1	59	7
	Euthini Agric.	51.6	62.7	82	507.6	470.8	108	3
	Mbawa Res. Stn	48.2	66.5	72	352.5	507.3	69	5
	Mzimba Met	138.0	67.2	205	680.3	543.5	125	7
	Mzuzu Met.	76.4	51.9	147	662.6	527.9	126	6
	NkhataBay Met.	104.3	65.3	160	791.6	604.3	131	7
	Rumphi Boma	119.2	56.1	212	595.5	429.6	139	7
	Zombwe Agric	31.9	48.8	65	556.8	422.2	132	6
KASUNGU	Dowa Agric	25.1	66.2	38	321.0	552.6	58	3
	Kaluluma Agric	107.4	57.6	186	379.0	517.3	73	5
	Kasungu Met	62.7	72.0	87	349.1	486.2	72	7
	Lisasadzi	35.3	77.8	45	371.0	547.5	68	5
	Madisi Agric	61.0	72.9	84	413.8	519.0	80	3
	Mchinji Boma	14.1	62.1	23	411.4	648.8	63	3
	Mkanda Met	20.6	64.6	32	410.4	568.1	72	3
	Mponela Agric	15.5	83.0	19	351.2	510.4	69	3
	Mwimba Research	56.0	75.8	74	224.8	552.6	41	2
	Ntchisi Boma	102.4	103.8	99	393.9	739.8	53	6
SALIMA	Dwangwa	98.7	76.7	129	483.6	661.9	73	5
	Lifuwu	44.5	129.0	34	281.5	702.3	40	2
	Salima Met	51.9	102.3	51	306.3	683.0	45	3
LILONGWE	Chileka Namitete	78.5	76.2	103	442.8	609.0	73	2
	Chitedze Met.	66.8	65.2	102	457.5	544.9	84	3
	Dzonzi Forest	65.0	84.4	77	470.4	636.5	74	3
	K.I.A Met	68.1	72.1	94	541.9	524.2	103	4
	Mlangeni Njolomole	35.0	81.5	43	481.4	593.6	81	3
	Mtakataka Airwing	12.4	86.1	14	95.4	489.9	19	2
	Nathenje Agric	36.6	56.4	65	540.3	516.1	105	2
	Dedza RTC	11.3	103.2	11	396.1	653.6	61	4
MACHINGA	Balaka Township	8.6	79.3	11	383.1	585.2	65	1
	Chancellor College	6.5	106.2	6	N/A	811.1	N/A	2
	Chikweo Agric.	22.0	78.5	28	410.8	673.8	61	3
	Mpilipili (Makanjila)	5.2	96.8	5	272.9	588.3	46	2
	Makoka Met	38.7	91.7	42	279.3	640.1	44	3
	Mangochi Met.	5.3	72.4	7	367.7	418.4	88	2
	Monkey Bay Met.	8.4	71.7	12	180.8	399.1	45	2
	Namwera Agric	9.6	83.2	12	219.0	655.3	33	2
	Ntaja Met.	14.1	65.8	21	429.3	561.8	76	4
	Phalula Agric	26.2	67.3	39	298.2	548.4	54	2
	Toleza Farm	12.5	69.5	18	492.5	568.9	87	1
	Zomba RTC	43.1	100.2	43	561.6	767.2	73	4
BLANTYRE	Bvumbwe Met.	50.0	90.3	55	509.8	697.5	73	4
	Chichiri Met.	27.2	72.9	37	481.8	867.7	56	4
	Chileka Airport	17.8	88.5	20	312.0	586.5	53	3
	Chingale Agric	0	83.6	0	382.6	601.3	64	0
	Chiradzulu Agric	12.2	98.9	12	186.5	644.3	29	1
	Lujeri Tea Estate	106.5	126.3	84	1321.7	1202.4	110	4
	Masambanjati Agric	6.1	87.8	7	373.3	777.8	48	1
	Mimosa Met.	110.9	95.2	116	696.6	867.8	80	4
	Mpemba Vet	20.9	84.8	25	411.2	725.9	57	2
	Mulanje Boma	35.5	109.5	32	1028.0	1067.0	96	1
	Mwanza Boma	0.0	91.2	0	247.7	657.1	38	0
	Naminjiwa Agric	26.5	83.6	32	185.7	638.2	29	3
	Neno Agric	36.8	107.8	34	302.6	721.7	42	2
	Satemwa Tea Est	22.2	87.3	25	445.4	656.5	68	2
	Thuchila Agric	3.2	80.2	4	284.0	563.2	50	2
	Thyolo Boma	32.0	96.3	33	233.8	702.6	33	1
	Thyolo Met	66.2	90.3	73	545.5	711.9	77	2
SHIRE VALLEY	Chikwawa Boma	29.3	66.7	44	393.8	529.1	74	1
	Kasinthula Res. Stn.	37.5	54.2	69	N/A	441.5	N/A	1
	Makhanga Agric	0.0	58.5	0	222.8	478.7	47	0
	Nchalo Sucoma	12.2	70.2	17	285.2	434.9	66	1
	Ngabu Met.	4.7	69.1	7	339.7	498.4	68	3
	Nsanje Boma	2.7	81.8	3	248.6	695.3	36	1

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 01 TO 10 FEBRUARY 2016

ADD/ STATION	MAX TEMP (°C)	MIN TEMP (°C)	ABS MAX (°C)	ABS MIN (°C)	WIND SPEED Km/hour	RH %	SUN SHINE HOURS	Eo mm per day	Et mm per day	RAD-TION calcm^{-2} p/day
KARONGA ADD										
Chitipa	26.5	18.0	28.9	17.5	4.7	83	4.6	5.3	4.2	7.6
Karonga	30.4	21.2	32.5	19.9	3.2	78	5.0	5.9	4.7	7.8
MZUZU ADD										
Bolero	27.9	19.0	30.3	18.0	3.6	78	8.4	6.9	5.4	10.0
Mzimba	26.6	17.6	28.5	16.6	2.2	78	5.1	5.4	4.3	7.9
Mzuzu	25.6	17.5	28.0	15.1	4.3	83	5.3	5.4	4.2	8.0
Nkhata Bay	30.1	21.3	30.8	19.6	1.8	85	4.2	5.4	4.3	7.3
KASUNGU ADD										
Kasungu	28.2	18.6	29.5	17.1	3.2	75	7.5	6.5	5.1	9.4
LILONGWE ADD										
Chitedze	27.9	18.5	29.7	16.6	1.8	76	7.1	6.3	4.9	9.1
Dedza	25.5	15.7	26.7	13.6	6.5	72	7.0	6.1	4.8	9.1
K I A	27.3	17.9	28.8	16.0	3.6	72	8.0	6.6	5.2	9.8
SALIMA ADD										
Salima	29.7	22.1	31.5	21.0	5.4	74	8.3	4.8	3.6	9.9
MACHINGA ADD										
Makoka	28.5	17.7	29.6	16.5	3.6	72	8.9	7.0	5.5	10.3
Mangochi	31.7	20.0	33.1	16.0	1.4	69	8.0	7.0	5.6	9.7
Monkey Bay	30.0	20.1	31.8	16.2	5.4	69	8.0	7.1	5.7	9.7
Ntaja	29.8	22.0	31.4	19.6	4.7	67	6.5	6.7	5.4	8.7
BLANTYRE ADD										
Bvumbwe	25.7	17.7	26.7	16.4	5.0	73	8.6	6.7	5.2	10.1
Chichiri	27.2	18.3	29.0	17.2	3.2	65	8.5	6.8	5.3	10.1
Chileka	29.5	20.2	30.8	19.1	7.6	67	9.8	7.9	6.3	10.9
Mimosa	30.7	19.3	33.0	17.5	3.6	62	8.5	7.3	5.7	10.1
SHIRE VALLEY ADD										
Ngabu	33.9	23.5	36.2	22.5	5.8	67	9.0	8.3	6.7	10.4

Glossary of some terms on this table

- Eo = Potential Evaporation, Et = Potential Evapotranspiration and 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 Kilometers per hour (Km/hr) to meters per second (mps) = (Km/Hr)/3.6