



REPUBLIC OF MALAWI

Ministry of Natural Resources, Energy and Mining
Department of Climate Change and Meteorological Services

10-day Weather and Agrometeorological Bulletin

In support of national early warning systems and food security



Be wise be weather-wise

Period: 11 – 20 December 2015

Season: 2015/2016

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HIGHLIGHTS

- Widespread locally heavy rains experienced over Malawi...
- Maize crop ranged from planting and germination to vegetative stage...
- Wet weather to persist over Malawi during the period 21 to 31 December 2015...

10 - DAY TOTAL RAINFALL FOR 11 - 20 DEC 2015
AS A PERCENTAGE OF NORMAL RAINFALL

CUMULATIVE RAINFALL FROM 1 OCT TO 20 DECEMBER 2015
AS A PERCENTAGE OF NORMAL RAINFALL

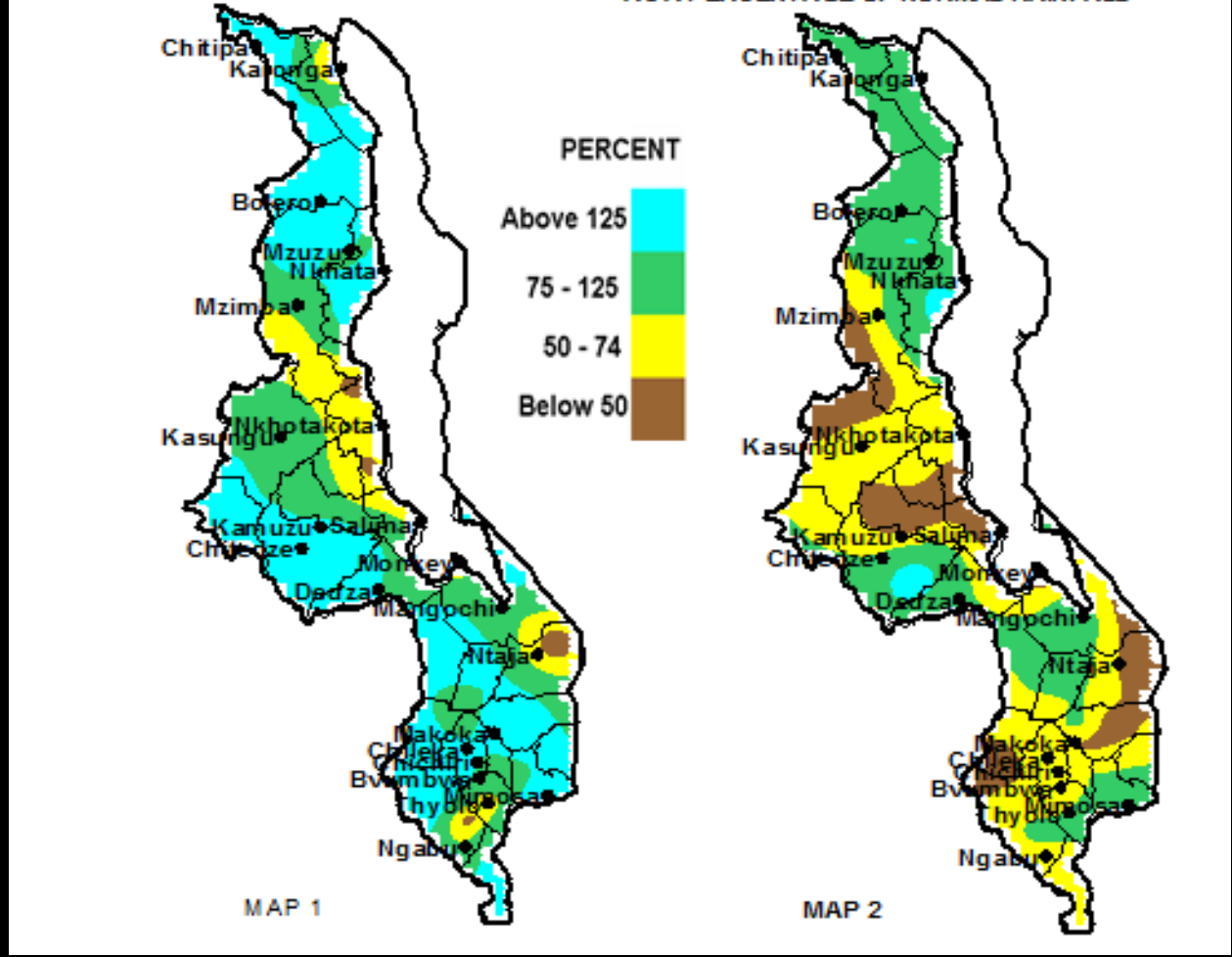


Figure 1: Rainfall Maps for 11 to 20 December 2015

1.0 WEATHER SUMMARY

During the second ten days of December 2015, the combined effect of Congo Air Mass and the Inter Tropical onvergence Zone brought widespread locally heavy rains across Malawi.

1.1 RAINFALL SITUATION

During the second ten days of December 2015 widespread locally heavy rains were experienced over Malawi. Hence most areas had reported above average rainfall amounts. A few areas had registered high rainfall amounts of up to 100mm within the period under review. Such areas in the south included Lujeri Tea Estate in Mulanje which received 177mm in ten days, Mulanje Agric accumulated 155mm in seven days, Mpilipili Agric recorded 151mm in six days, Chingale Agric 138mm in eight days, Chikwawa Agric had 116mm in seven days, Chichiri Met 107mm in seven days and Bvumbwe Met 103mm in eight days in Central region such high rainfall figures were reported at Nathenje Agric 192mm, Mlangeni – Njolomole 145mm, Kasiya Agric 125mm and Dzonzi Forest in Ntcheu 121mm while in the north high rainfall figures were reported at Chintcheche Agric 200mm, Vinthukutu Agric in Karonga and Zombwe Agric in Mzimba 150mm each and Chitipa Met reported 119mm. More details are in Table 1.

Map 2 in Figure 1 indicates cumulative rainfall performance from 01 October 2015 to 20 December 2015. The map shows some areas in Malawi have received less than half of the expected rainfall amounts (brown colour) while others have received their average rainfall amounts (green colour).

1.3 AIR TEMPERATURE

During the second ten days of December 2015, average daily maximum temperatures in Malawi had ranged from 25.6°C at Dedza to 36.8°C at Ngabu in Chikwawa while average minimum temperatures had ranged from 17.2°C at Dedza to 25.5°C at Monkey Bay. The highest maximum temperature was still reported at Ngabu (43.1°C) in Chikwawa while the lowest temperature was 15.6°C recorded at Mzuzu Airport. For more details see Table 2.

1.4 WIND SPEEDS

Average wind speeds measured at a height of two metres above the ground level across the Malawi varied from 3.2km per hour at Chichiri in Blantyre to 11.9km per hour at Dedza Met in Dedza. More details are in Table 2.

1.5 RELATIVE HUMIDITY

During the second ten days of December 2015, daily average relative humidity values sampled from selected stations from

in Malawi had ranged from 58% at Bvumbwe Met to 79% at Chitipa Met. Details are on the Table 2.

1.6 SUNSHINE HOURS

The mean durations of bright sunshine hours across Malawi had continued to decrease due to a pick in cloudiness. Most areas had experienced daily average sunshine hours of less than five hours. The highest mean sunshine hours were still observed in Shire Valley and along the lakeshore. Details are on the Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

During the period 11 to 20 December 2015 widespread moderate to heavy rains fell over most parts of Malawi. These rains were favourable for planting and good germination of crops. Reports indicated that most farmers continued planting various crops during the period under discussion. As such the major on-farm agricultural activities included land preparation, procurement of farm inputs and equipment, planting of crops. Maize crop ranged from planting and germination to vegetative stage. Generally effective planting rains have been earlier this season compared to last season.

For proper utilization of the rains, farmers are encouraged to adhere to principles of good husbandry including early land preparation, use of appropriate seeds, timely planting, implementation of proper plant population and spacing, and control of weeds, pests and diseases. Farmers are advised to seek further advice and guidance from Agricultural Extension officers.

3. PROSPECTS FOR 2015/16 RAINFALL SEASON

The rainfall outlook for the 2015/16 season shows that most parts of Malawi are likely to receive average to higher than average rainfall amounts during the season. However, a few areas particularly in the Shire Valley are likely to receive lower than average rainfall amounts towards the end of season.

4. OUTLOOK FOR 21 – 31 DECEMBER 2015

Models for short and medium range rainfall forecasts show that the main rain bearing systems are likely remain active particularly over central and northern Malawi during the last ten days of December 2015. Hence wet weather will prevail in most areas and widespread locally heavy rains are expected to persist mainly over central and northern Malawi during the period 21 to 31 December 2015

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR 11 TO 20 DECEMBER 2015

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	Chitipa Met	118.8	62.3	191	211.8	180.7	117	10
	Karonga Met.	14.4	63.3	23	17.9	150.4	12	3
	Vinthukutu Agric	149.5	68.0	220	196.7	178.4	110	5
MZUZU	Bwengu Agric.	84.8	59.9	142	155.2	147.0	106	4
	Chikangawa forest	73.0	66.6	110	195.6	209.2	93	5
	Chintheche Agric	200.4	81.7	245	450.6	286.5	157	4
	Embangweni Agric	44.0	72.4	61	44.0	189.8	23	4
	Ekwendeni Agric.	48.7	73.5	66	97.2	228.0	43	4
	Euthini Agric.	62.7	50.3	125	114.5	155.6	74	6
	Mbawa Res. Stn	36.2	71.4	51	61.5	170.9	36	5
	Mzuzu Met.	49.7	55.1	90	290.5	208.1	140	7
	Rumphi Boma	63.5	44.0	144	96.0	113.9	84	3
	Zombwe Agric	149.5	48.8	306	230.4	139.8	165	5
KASUNGU	Dowa Agric	55.8	66.7	84	77.7	170.2	46	6
	Kasungu Met	76.5	58.8	130	110.3	157.8	70	7
	Madisi Agric	68.5	68.5	100	72.5	160.1	45	4
	Mponela Agric	48.8	43.5	112	58.0	161.1	36	4
	Mwimba Research	81.4	69.7	117	91.0	183.1	50	5
	Ntchisi Boma	38.8	90.9	43	79.7	231.4	34	7
LILONGWE	Dedza Met	66.7	65.2	102	138.0	185.1	75	7
	Dzonzi Forest	120.6	78.8	153	161.1	240.7	67	5
	Kasiya Agric	125.0	95.7	131	139.8	258.7	54	6
	Mlangeni Njolomole	145.1	74.7	194	182.5	221.0	83	3
	Nathenje Agric	192.3	63.0	305	281.4	175.5	160	5
SALIMA	Dwangwa	33.5	78.7	43	33.5	247.5	14	4
	Lifuwu	50.4	71.6	70	64.9	177.1	37	5
	Salima Met	62.4	80.8	77	71.2	185.5	38	5
MACHINGA	Balaka Township	106.6	58.2	183	207.4	197.0	105	8
	Chikweo Agric.	30.6	83.3	37	76.0	228.6	33	5
	Chingale Agric	137.7	73.5	187	202.7	223.6	91	8
	Mpilipili Agric	151.3	62.5	242	198.3	182.4	109	6
	Mangochi Met.	34.3	41.2	83	120.3	117.3	103	5
	Monkey Bay Met.	26.7	46.3	58	35.3	96.9	36	3
	Namiasi Agric	73.2	51.5	142	123.8	141.1	88	4
	Ntaja Met.	30.8	64.1	48	89.2	189.9	47	2
	Phalula Agric	31.5	50.8	62	93.8	215.5	44	2
BLANTYRE	Bvumbwe Met.	103.3	66.6	155	197.7	274.4	72	8
	Chichiri Met.	107.3	89.9	119	172.1	473.6	36	7
	Chizunga Factory	56.4	113.0	50	134.7	376.4	36	4
	Lujeri Tea Estate	177.2	126.8	140	589.2	552.9	107	10
	Mpemba Vet	96.4	74.4	130	158.9	292.0	54	5
	Mulanje Boma	154.9	92.3	168	542.9	496.9	109	7
	Satemwa Tea Est.	45.8	73.8	62	156.7	273.8	57	7
	Thuchila Agric	36.0	53.2	68	140.3	199.6	70	5
SHIRE VALLEY	Chikwawa Boma	116.3	51.2	227	134.4	205.2	65	7
	Makhanga Met	76.0	51.5	148	126.1	196.2	64	2
	Nchalo	16.9	43.5	39	138.3	159.8	87	5
	Ngabu Met.	39.1	52.8	74	118.6	190.0	62	3

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 11 TO 20 DECEMBER 2015

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	26.8	18.7	30.7	17.7	5.0	79	3.9	5.1	4.1	7.0
Karonga	32.9	23.8	35.0	20.5	6.8	59	5.0	6.9	5.7	7.7
MZUZU ADD										
Mzuzu	27.1	17.6	30.6	15.6	4.3	77	4.4	5.3	4.2	7.4
KASUNGU ADD										
Kasungu	29.5	19.7	34.9	16.6	5.0	71	3.9	5.6	4.5	7.1
LILONGWE ADD										
Dedza	25.6	17.2	28.1	16.0	11.9	73	4.0	5.6	4.5	7.2
SALIMA ADD										
Salima	32.9	24.3	37.3	20.0	7.9	64	5.9	4.8	3.8	8.4
MACHINGA ADD										
Mangochi	34.0	25.0	37.5	22.5	3.2	66	5.5	6.9	5.6	8.2
Monkey Bay	32.6	25.5	36.0	20.6	9.7	69	6.8	7.8	6.4	9.0
Ntaja	33.2	23.0	37.6	21.2	10.4	60	5.0	7.2	6.0	7.9
BLANTYRE ADD										
Bvumbwe	27.7	19.5	32.4	18.2	5.4	58	4.7	6.1	4.9	7.7
Chichiri	30.3	20.2	34.9	18.6	3.2	71	4.5	5.8	4.7	7.5
SHIRE VALLEY ADD										
Ngabu	36.8	25.4	43.1	23.5	7.9	70	7.6	8.4	6.9	9.6

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 Meters Per Second (mps) to Kilometers per hour (Km/hr) = mpsx3.6