



Malawi 10-day Weather and Agrometeorological Bulletin

"In support of National Early Warning Systems and Food Security"



Be wise be weather-wise
Department of Climate Change and
Meteorological Services

Period: 01 – 10 January 2022

Season: 2021/2022

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HIGHLIGHTS

- Wet conditions experienced over Malawi ...
- Major on-farm activities included planting, weeding, fertilizer application and banking...
- Moderate to locally heavy rainfall expected during the dekad 11 to 20 January 2022...

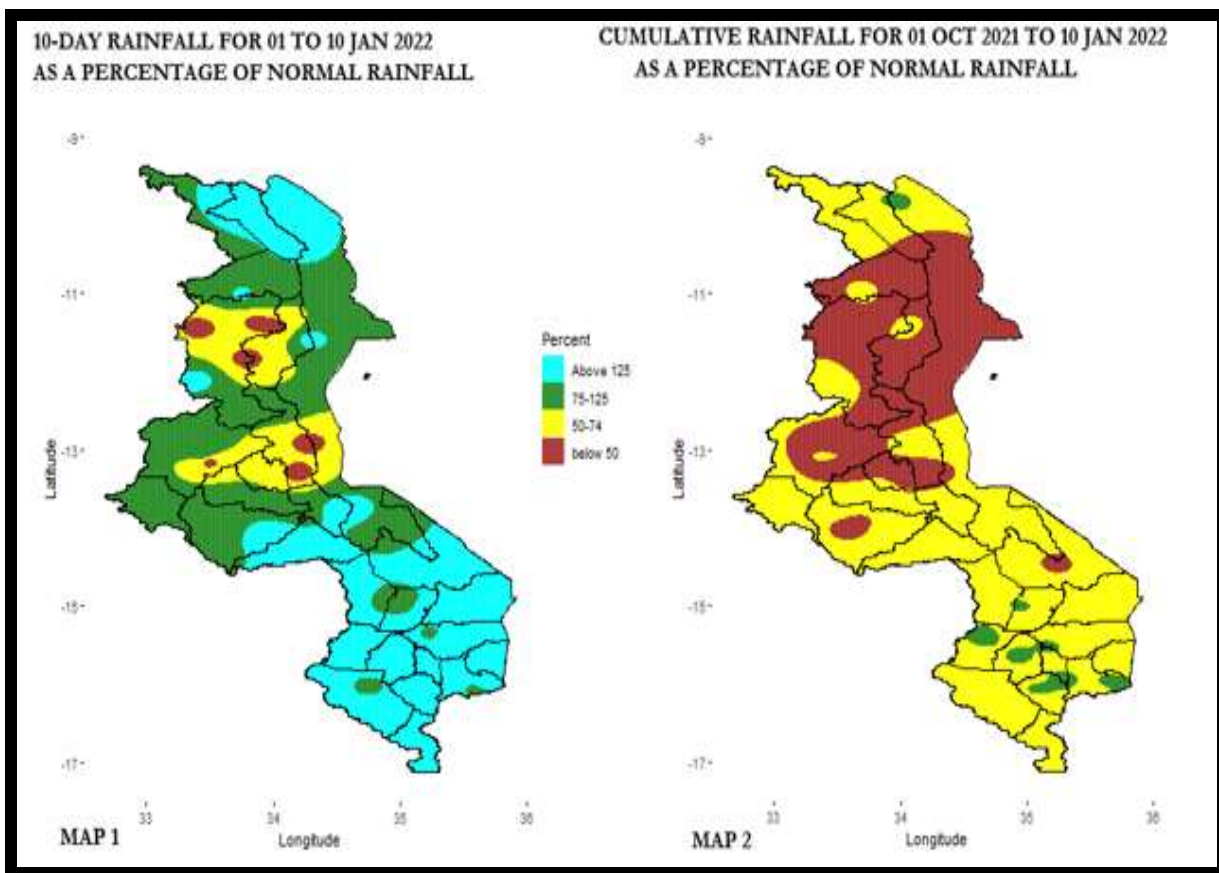


Figure 1: Observed dekadal and seasonal rainfall as percentage of normal for Malawi

1.0 WEATHER SUMMARY

During the period 01 to 10 January 2022, the Inter-Tropical Convergence Zone (ITCZ) coupled with Congo airmass influenced weather over Malawi. This resulted in moderate to locally heavy rainfall amounts received particularly over southern and northernmost areas of the country.

1.1 RAINFALL SITUATION

During the first dekad of January 2022, wet conditions prevailed over the country with extreme wetness over southern and northernmost areas of the country. The ten-day cumulative rainfall amounts were higher than the long-term average rainfall amounts for the period over most areas of the country (cyan colour in Map1) with near long-term dekadal average amounts over majority of central areas (Green and yellow colours in Map1) and isolated cases of below long-term dekadal average amounts over some northern and central areas (Brown colour in Map1).

Cumulatively for the period under review, areas that recorded at least 180.0mm included Neno Agriculture which recorded 280.2mm, Satemwa Tea Estate in Thyolo recorded 272.9mm, Chichiri Meteorological station in Blantyre recorded 232.7mm, Thuchila Agriculture in Mulanje recorded 219.1mm, Ntaja Meteorological station in Machinga recorded 211.7mm, Lujeri Tea Estate in Mulanje recorded 196.4mm and Mwanza Boma recorded 185.0mm. Details in Table 1.

Map 2 indicates the spatial cumulative rainfall distribution since the start of monitoring of the 2021/2022 rainfall season in October 2021, up to 10 January 2022. The map indicates that most areas over Malawi have received normal to below rainfall amounts (yellow colour) with outright below normal rainfall amounts, especially parts of central and northern Malawi (brown colour).

1.2 AIR TEMPERATURE

Malawi experienced warm to hot conditions during the period 01 to 10 January 2022 compared to very hot conditions experienced during previous dekads. Mean daily maximum temperatures had ranged from 24.2°C at Dedza Meteorological station to 33.9°C at Ngabu Meteorological station in Chikwawa. Mean daily minimum temperatures had ranged from 16.0°C at Dedza Meteorological station to 24.7°C at Ngabu Meteorological station. Details in Table 2.

1.3 WIND SPEEDS

During the period 01 to 10 January 2022, most parts of Malawi experienced light to moderate wind speeds. Daily average wind speeds measured at a height of two metres above the ground level across the country had ranged from 1.1 km per hour at Bolero Meteorological station in Rumphu to 8.3 km per hour at Chileka International Airport in Blantyre. More details in Table 2.

1.4 RELATIVE HUMIDITY

During the period 01 to 10 January 2022, air over Malawi was humid. Daily average relative humidity values recorded from various weather stations had ranged from 64% at Chitedze Meteorological station in Lilongwe to 85% at Nkhata Bay Meteorological station. Details as in Table 2.

1.5 SUNSHINE HOURS

Generally medium to long hours of bright sunshine were observed over Malawi during the period 01 to 10 January 2022. Daily average values had ranged from 6.4 hours per day at Dedza Meteorological station to 8.5 hours per day at Ngabu Meteorological station and consequently the amount of Solar Radiation had ranged from 8.8 to 10.2 cal/cm²/day. For details see Table 2.

2. AGROMETEOROLOGICAL ASSESSMENT

During the period under review, there was an improvement in spatial distribution of rainfall in most parts of the country with very wet conditions over majority of southern and northernmost areas of the country. The main on-farm activities over Malawi included planting, weeding, fertilizer application and banking. Majority of farmers in the southern and central regions were reported to be applying basal fertilizer as well as banking while majority of farmers in the north were reported to be planting. Farmers were still accessing farm inputs under the Malawi Government's Affordable Inputs Programme (AIP) and through other initiatives.

For proper utilization of rain water during the 2021/2022 rainfall season, farmers are encouraged to adhere to principles of good agricultural practices including use of recommended seeds, moisture conservation, timely control of weeds, pests and diseases; and fertilizer/ manure application.

3. PROSPECTS FOR 2021/2022 RAINFALL SEASON

La Nina conditions have been established over eastern-central equatorial Pacific Ocean. Global models are projecting that these conditions are likely to persist throughout the 2021/2022 rainfall season. The rainfall forecast for the sub season JFM is that:

“During January to March 2022, most areas in the south, center and the north are expected to receive normal to above-normal rainfall amounts.”

At national level, there are higher chances of normal to above normal rainfall amounts over most parts of the country.

4. OUTLOOK FOR 11-20 JANUARY 2022

Models for short and medium range forecasts indicate a high chance of sustained rainfall activities over Malawi due to combined influence of Inter-Tropical Convergence Zone and Congo airmass during the period 11 to 20 January 2022. The anticipated dekadal rainfall amounts are likely to be within the normal to above normal categories of the historical dekadal values as shown in figure 2 below.

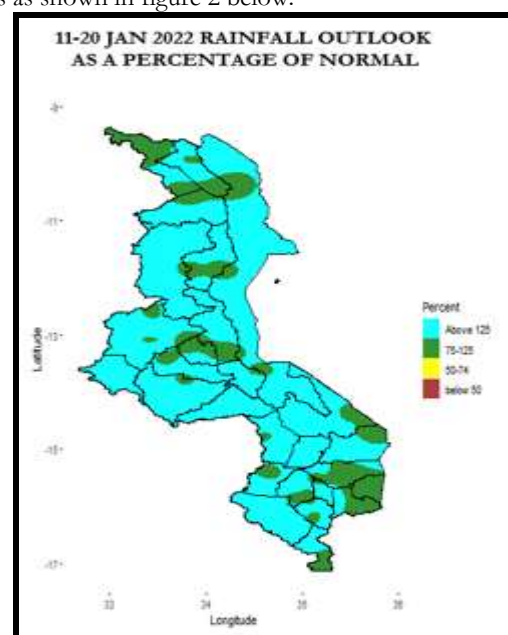


Figure 2: Dekadal rainfall outlook for Malawi as percentage of normal rainfall

TABLE 1: 10-DAY RAINFALL TOTALS AT SELECTED STATIONS FOR 01 TO 10 JANUARY 2022

ADD	STATION NAME	ACTUAL DEKADAL TOTAL RAINFALL (mm)	DEKADAL NORMAL EXPECTED RAINFALL (mm)	ACTUAL TOTAL AS PERCENTAGE OF NORMAL (EXPECTED RAINFALL)	RAINY DAYS ≥.3mm	ACTUAL TOTAL RAINFALL TO DATE (mm)	NORMAL (EXPECTED) RAINFALL TO DATE (mm)	ACTUAL TO DATE AS PERCENTAGE OF NORMAL (EXPECTED RAINFALL)
KARONGA	Baka Res. Stn.	110.2	66.1	167	7	198.2	322.3	61
	Karonga Met.	94.4	63.0	150	7	229.4	276.4	83
	Vinthukutu Agric	109.0	72.5	150	5	109.0	313.4	35
MZUZU	Bolero Met	116.0	62.6	185	7	137.9	238.2	58
	Bwengu Agric.	58.6	63.8	92	5	102.3	273.7	37
	Chikangawa For.	23.5	82.4	29	4	154.9	368.8	42
	Ekwendeni Agric.	19.9	86.3	23	3	133.0	350.1	38
	Euthini Agric.	34.6	72.9	47	3	34.6	296.6	12
	Mbawa Res. Stn	144.7	76.3	190	6	215.5	318.2	68
	Mzuzu Met.	26.3	66.6	39	7	229.9	337.8	68
	NkhataBay Met.	128.1	89.9	142	7	199.4	409.2	49
	Rumphi Boma	63.6	64.5	99	4	85.4	245.6	35
KASUNGU	Kasungu Met	61.0	70.1	87	5	86.8	281.9	31
	Lisasadzi	36.1	77.2	47	5	76.8	321.1	24
	Mwimba Res	81.7	68.4	119	7	185.7	323.3	57
	Ntchisi Boma	42.7	93.3	46	6	48.5	434.5	11
LILONGWE	Chitedze Met.	65.1	68.9	94	6	138.5	321.0	43
	Dedza Met	131.1	82.5	159	7	229.7	336.2	68
	Kasiya Agric	103.0	87.3	118	4	211.4	419.5	50
	Nathenje Agric	177.4	72.1	246	6	201.4	311.2	65
	Ntcheu - Nkhand	132.4	86.3	153	6	205.6	405.5	51
SALIMA	Dwangwa Sugar	85.0	85.8	99	8	156.8	418.9	37
	Nkhotakota Met	29.7	108.8	27	6	241.7	423.0	57
	Salima Met	119.1	94.8	126	5	222.9	364.3	61
MACHINGA	Balaka Township	100.6	84.1	120	6	278.1	333.5	83
	Chikweo Agric.	131.9	86.1	153	6	244.2	389.3	63
	Chingale Agric	86.8	70.4	123	5	184.4	362.6	51
	Liwonde Town	128.6	60.2	214	7	178.7	292.1	61
	Makoka Met	178.7	76.4	234	7	307.9	379.4	81
	Mangochi Met.	68.5	54.2	126	7	103.1	210.7	49
	Namwera Agric	171.9	89.6	192	6	230.0	385.2	60
	Ntaja Met.	211.7	70.1	302	10	245.0	329.4	74
	Phalula Agric	133.7	72.7	184	6	232.3	345.1	67
	Toleza Farm	62.9	64.8	97	7	187.0	338.3	55
BLANTYRE	Zomba RTC	119.4	81.7	146	7	322.7	469.0	69
	Bvumbwe Met.	107.5	80.2	134	8	263.5	416.5	63
	Chichiri Met.	232.7	88.2	264	8	386.0	666.2	58
	Chileka Airport	165.4	68.1	243	8	355.1	352.8	101
	Chiradzulu Agric	104.7	66.4	158	6	265.8	385.5	69
	Lujeri Tea Estate	196.4	135.4	145	8	980.9	813.6	121
	Masambanjati Agr	176.1	96.9	182	7	325.3	513.9	63
	Mimosa Met.	93.5	97.7	96	5	374.9	561.7	67
	Mwanza Boma	185.0	73.5	252	8	260.7	401.6	65
	Neno Agric	280.2	96.0	292	5	468.0	415.2	113
SHIRE VALLEY ADD	Satemwa Tea Est.	272.9	75.6	361	8	366.7	417.4	88
	Thuchila Agric	219.1	67.7	324	7	334.7	331.5	101
	Chikwawa Boma	76.3	66.8	114	6	174.1	326.7	53
	Makhanga Met	128.5	62.2	207	4	183.6	320.6	57
	Monkey Bay Met.	43.8	49.1	89	5	109.3	199.4	55
SHIRE VALLEY ADD	Nchalo Sucoma	89.1	53.1	168	5	150.7	255.9	59
	Ngabu Met.	106.4	61.3	174	4	191.0	312.3	61
	Nsanje Boma	138.5	75.7	183	5	218.7	430.9	51

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR 01 TO 10 JANUARY 2022

ADD/STATION NAME	MAX TEMP (°C)	MIN TEMP (°C)	ABS MAX (°C)	ABS MIN (°C)	WIND SPEED (Km/Hr)	RH (%)	SUN SHINE (Hrs)	Eo (mm per day)	Et (mm per day)	RADIATION (cal cm ⁻² p/day)
KARONGA ADD										
KARONGA	30.6	21.4	31.9	20.0	4.3	70	7.6	6.8	5.6	9.5
MZUZU ADD										
BOLERO	28.3	20.0	30.7	18.2	1.1	76	7.2	6.8	5.4	9.2
MZUZU	25.7	18.2	28.3	17.4	3.2	82	6.6	6.8	5.4	8.9
NKHATA BAY	29.3	21.6	32.7	21.0	2.2	85	6.8	5.7	4.6	9.0
KASUNGU ADD										
KASUNGU	28.4	19.8	34.6	18.0	5.8	65	7.5	6.4	5.3	9.5
LILONGWE ADD										
CHITEDZE	27.8	19.4	29.7	18.3	1.8	64	7.3	6.2	5.2	9.4
DEDZA	24.2	16.0	25.7	15.4	5.0	81	6.4	5.0	4.0	8.8
SALIMA ADD										
NKHOTAKOTA	28.7	21.4	31.1	20.9	1.4	77	7.7	6.2	5.0	9.6
SALIMA	29.4	22.3	31.7	20.3	6.5	79	8.2	6.6	5.6	9.9
MACHINGA ADD										
NTAJA	29.7	21.5	33.2	20.3	4.3	81	6.8	6.4	5.2	9.1
MAKOKA	26.9	19.6	30.4	18.4	3.2	81	6.7	5.8	4.6	9.0
MANGOCHI	31.2	23.2	34.2	21.1	2.2	79	7.9	6.3	5.1	9.8
MONKEY BAY	29.4	23.4	32.0	21.1	5.4	75	8.1	6.8	5.6	9.9
BLANTYRE ADD										
BVUMBWE	25.1	18.1	27.2	18.1	4.0	83	6.5	5.4	4.3	8.9
CHICHIRI	26.1	19.4	28.1	17.5	4.0	78	6.7	6.6	5.5	9.0
CHILEKA	28.1	18.7	30.2	18.7	8.3	69	7.4	6.8	5.6	9.5
MIMOSA	29.6	20.2	32.0	18.3	3.2	79	6.7	5.9	4.8	9.0
SHIRE VALLEY ADD										
NGABU	33.9	24.7	37.1	23.1	1.8	75	8.5	7.5	6.3	10.2

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 Kilometres per hour (Km/hr) = mpsx3.6