



MINISTRY OF NATURAL RESOURCES AND CLIMATE CHANGE

**THE DEPARTMENT OF CLIMATE CHANGE AND METEOROLOGICAL
SERVICES (DCCMS)**

**2025/2026
RAINFALL SEASON OUTLOOK**

© September, 2025

EXECUTIVE SUMMARY

The Department of Climate Change and Meteorological Services, through its climate experts, has produced the climate outlook for the 2025/2026 rainfall season. Several factors that influence rainfall distribution in Malawi and surrounding regions were taken into consideration in the production of the outlook. These include El-Nino Southern Oscillation (ENSO), variations in water surface temperature of the Indian Ocean and wind patterns at various levels of the atmosphere among many factors.

Neutral ENSO conditions are expected to dominate during the period from October 2025 to April 2026, meaning that neither El Niño nor La Niña may be significantly experienced. Historically, similar ENSO conditions have been experienced in 1996/1997, 2013/2014, 2016/2017 and 2024/2025.

Analyses of prevailing conditions of the key factors that governs the distribution of rainfall in Malawi have led to the following summary in terms of expected rainfall for the 2025/2026 rainfall season;

- Cumulatively, normal to above-normal rainfall amounts in most areas of Malawi are anticipated. There is, however, notable varying distribution in time and space. For instance October to December (OND) subseason, holds a contrasting prediction for the northern region, where normal to below-normal rainfall is anticipated. The month of November also holds a normal to below-normal rainfall pattern across the country.
- January to March (JFM) subseason indicates also possibility of normal to above normal rainfall amounts over many places, a key exception lies within some central region districts. Dowa, Lilongwe, Mchinji and Kasungu, for instance, are currently showing increased chances of normal to below-normal during this period. February forecast indicates normal to below-normal throughout the country, echoing the patterns of November.
- In the case of temperatures, warmer conditions are predicted for most parts of the country.
- Malawi may experience a slightly late onset of rains, which implies occurrence of false onsets in some areas. Normal to late cessation of rains is predicted; late March to early April in southern areas, and mid to end April for other areas.

The upcoming 2025/2026 rainfall season in Malawi is indeed anticipated to perpetuate a concerning pattern of variability observed in recent years, though with a crucial distinction for the coming period: the forecast leaning towards overall normal to above-normal precipitation presents a significant window of opportunity. This more favourable outlook is an advantage, prompting an urgent call to implement robust proactive measures aimed at maximizing the benefits of this vital water resource, such as enhanced water harvesting initiatives, strategic reservoir management for energy generation and irrigation, and the promotion of climate-smart agricultural practices.

However, the forecast is not entirely uniform; specific periods, notably November and February, are projected to experience below-normal rainfall, a nuance that underscores the persistent challenge of

rainfall distribution within a season and necessitates careful timing for planting and crop management. Despite these anticipated drier spells, and considering climate factors only, the overall precipitation outlook is sufficiently positive to project an above-average maize crop, a crucial buffer against recurring food insecurity.

Beyond agriculture, the multi-faceted nature of rainfall impacts means other sectors must also prepare; increased overall water volumes can strain existing infrastructure, heighten the risk of localized flooding in vulnerable areas, and potentially lead to an uptick in waterborne diseases or vector-borne illnesses like malaria with a more conducive breeding environment. Therefore, while the generally favourable outlook for the 2025/2026 season offers a welcome reprieve and significant potential for economic growth and improved livelihoods, it concurrently demands a comprehensive, adaptive strategy that mitigates the inherent risks of climatic variability and capitalizes fully on the available water resources.

Compounding these hydrological challenges are the predicted warmer conditions, indicating a heightened risk of heat waves. Such elevated temperatures pose severe health risks to human populations, particularly the vulnerable, including heatstroke and dehydration, while also stressing livestock, reducing water availability in already parched areas, and accelerating evapotranspiration, thereby nullifying any limited rainfall. Paradoxically, these warm conditions simultaneously increase the potential for high-intensity thunderstorms; while brief, these localized deluges can trigger flash floods, causing immediate loss of life and property, washing away homes, and destroying cultivated land, with accompanying strong winds further amplifying the destructive potential. The cumulative effect of winds and torrential rains associated with thunderstorms presents a persistent threat to Malawi's often-vulnerable infrastructure; roads and bridges, vital for market access and emergency services.

Energy distribution lines are frequently damaged, leading to prolonged power outages that hamper productivity and essential services, and furthermore, school blocks, health centers, and public buildings are at risk of structural damage, disrupting education and critical healthcare provision. In essence, the 2025/2026 season looms as a complex challenge, demanding robust preparedness and adaptive strategies to mitigate its far-reaching consequences across every facet of Malawian life.

It can be acknowledged that Malawi needs to prepare well in order to remain resilient to the hazards that may come with the pending rainfall season. Therefore, proactive measures—like reinforcing early warning systems, maintaining drainage infrastructure, and identifying evacuation routes—are paramount to safeguard communities and assets. Concurrently, this bounty of water, if proactively managed, provides crucial solutions for harnessing and storing resources to mitigate the inevitable dry spells and periods of reduced availability that follow. Strategic interventions such as the construction of small-scale dams, promotion of rainwater harvesting technologies at household and community levels, and investments in groundwater recharge initiatives can transform potential deluge into a national asset, ensuring water security for irrigation, domestic use, and livestock during crucial periods.

Crucially, sustained above-normal rainfall is also vital for replenishing and maintaining the water levels of Lake Malawi, a lifeblood for the nation; adequate lake levels are directly linked to the reliability of hydropower generation, which underpins the country's energy security, ensures the viability of the

thriving fishing industry, supports critical biodiversity, and provides essential water resources for domestic consumption, agriculture, and tourism. By adopting a forward-thinking, integrated approach that balances hazard mitigation with strategic water management, Malawi can turn a potentially challenging season into a foundation for long-term water security and sustainable development.

The forecasts for 2025/2026 rainfall season are aimed for dissemination to all key sectors and to as many communities as resources could cover in order to ensure early understanding and early preparedness. The communication and dissemination will be achieved through this booklet, as well as through meetings and use of other print and electronic media. Timely preparedness will lead to an enhanced response capacity across sectors and communities, leading to a more robust early warning system for the country.

While the Department of Climate Change and Meteorological Services urges all users of weather and climate information to make use of the seasonal climate outlook, it also encourages them to follow regular daily, weekly and 10-day weather updates during the rainfall season in order to ably respond to threats and opportunities that comes with changing weather.

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1 INTRODUCTION

The Department of Climate Change and Meteorological Services (DCCMS) is mandated to monitor, predict and provide information on weather, climate and climate change that would contribute towards the socio-economic development of Malawi. To fulfill this mandate, the Department issues weather updates on short term (3 days) and medium term (7-10 days) . DCCMS also issues long range forecasts through seasonal climate outlooks or seasonal forecasts.

Malawi has one main rainfall season, starting from October of a year to April of the following year. This is during the austral summer. Rainfall bearing systems such as the Inter-tropical Convergence zone (ITCZ), tropical cyclones, and others manifest in the southern African region. Rainfall season monitoring is therefore of primary importance in Malawi, considering the key social and economic sectors that are significantly affected by rains. For instance, Malawi's agriculture is largely rain-fed; and most natural and weather-related disasters do occur during this period. It is the period when the surface and atmospheric interactions over the Indian Ocean lead to development of tropical cyclones, which have been observed to be increasing in frequency and intensity in recent years.

Malawi has its rainfall season from October to April. The Department of Climate Change and Meteorological Services, as the mandated institution, starts the official monitoring of a rainfall season from 1st October. Before commencing this, the department produces and issues a seasonal climate outlook for the coming rainfall season, which is meant to be shared and communicated to the public and all climate sensitive sectors of Malawi for decision making and preparedness.

Malawi's rainfall comes from various rain bearing systems including the Inter-Tropical Convergence Zone (ITCZ), Congo air mass, Easterly Waves and Tropical Cyclones. Among the key driving factors of these rainfall systems are the Sea Surface Temperatures (SSTs) over the tropical Oceans, pressure and wind patterns that are a result of surface and atmospheric interactions. One of the important interactions is the El-Nino southern oscillation (ENSO) in the tropical Pacific Ocean phenomenon which, through teleconnections, affects rainfall distribution in different parts of the world.

Currently, ENSO is predicted to be in a dominantly neutral state during the larger part of the monitoring period. The progression of ENSO during the year enabled the identification of the past seasons that could be considered as analogous to the coming 2025/2026 rainfall season. These seasons are **1996/1997, 2013/2014, 2016/2017 and 2024/2025**. Further analysis of characteristics of rainfall during these seasons have also provided valuable information that can be used to plan preparedness and response capacity during this coming season.

The produced climate outlook is presented in subsequent sections of this booklet, at sub-seasonal scale as well as on monthly scale. The expected sector specific implications of the outlook, together with recommendations are also presented to assist the better understanding and utilization of the forecast.

2 SUB SEASONAL RAINFALL FORECASTS

The seasonal rainfall outlook is presented here in overlapping three-monthly periods as follows: October-November-December (OND); November-December-January (NDJ), December-January-February (DJF), January-February-March (JFM), and February-March-April (FMA). The maps on the right depict the forecasted rainfall amounts in millimeters (mm), while those on the left depict the forecasted rainfall categories. Four categories are utilized:

- Category 1 (brown) implies below-normal rainfall amounts.
- Category 2 (yellow) implies normal to below-normal rainfall amounts.
- Category 3 (cyan) implies normal to above-normal rainfall amounts.
- Category 4 (blue) implies above-normal rainfall amounts.

2.1 OND (October, November, December) Sub-season

During the October–December (OND) sub-season, the southern and central areas of the country are projected to experience normal to above-normal rainfall, although isolated areas may record normal to below-normal amounts. In contrast, the northern region is expected to receive predominantly normal to below-normal rainfall, with limited areas likely to experience normal to above-normal conditions. Fig.2.1.

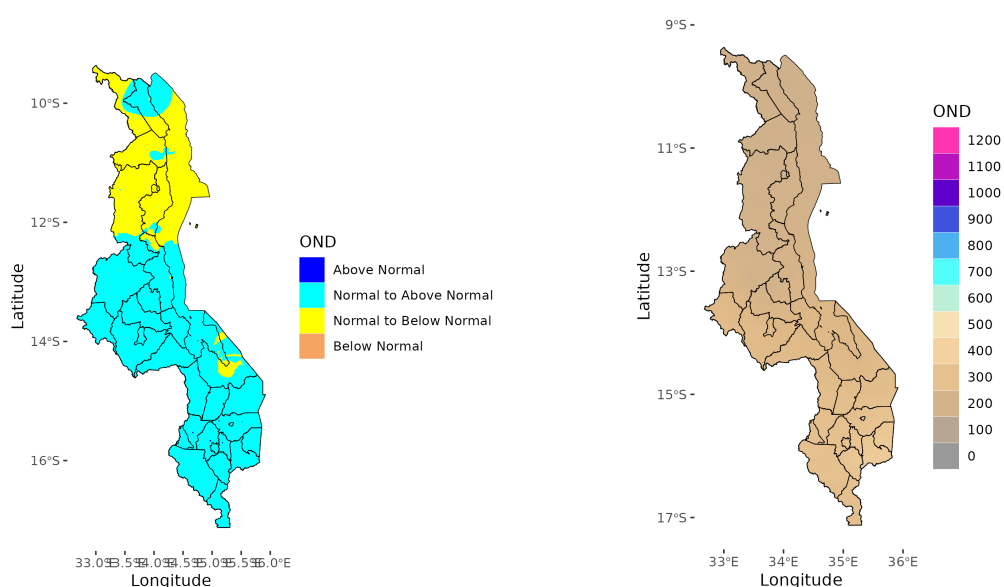


Figure 2.1 OND forecast categories (left) and OND forecast rainfall amounts (right)

2.2 NDJ (November, December, January) Sub-season

The Sub-Season months of November, December, January (NDJ) most areas of the country are expected to receive normal to above-normal rainfall, with the exception of areas, north of Mzimba, west of Rumpi, and

Dowa, where normal to below-normal rainfall is anticipated, as shown in Figure 2.2.

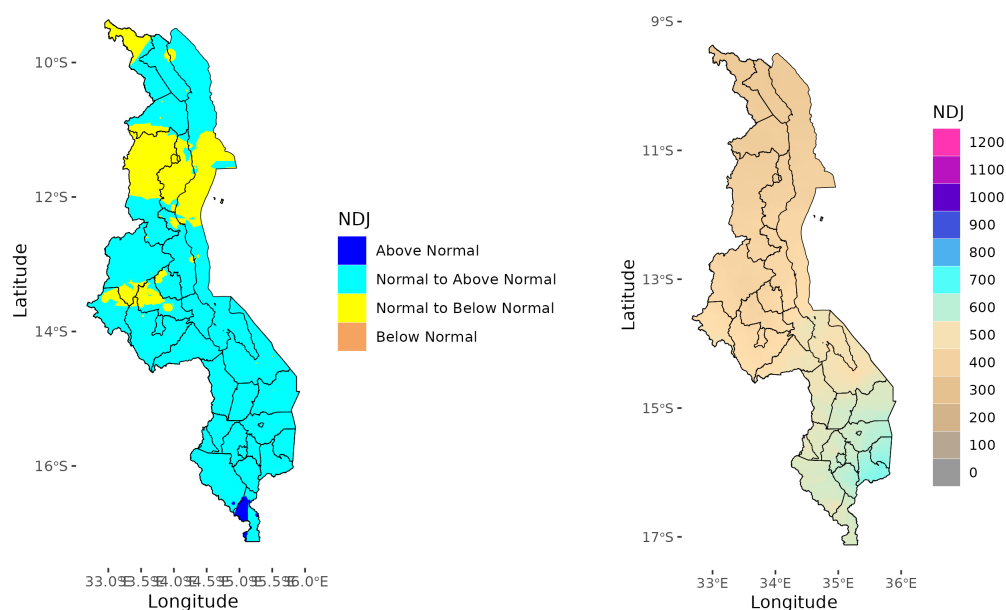


Figure 2.2 NDJ forecast categories (left) and NDJ forecast rainfall amounts (right)

2.3 DJF (December, January, February) Sub season

During December, January, February (DJF) Sub season, as illustrated in Figure 2.3. Most areas in the southern half of Malawi are expected to receive normal to above-normal total rainfall amounts, while the northern part of Lilongwe, Mchinji, and Dowa are likely to experience normal to below-normal rainfall. In addition, the northern areas are generally anticipated to receive normal to below-normal rainfall, although areas such as Karonga, southern Mzimba, and the southern part of Nkhatabay are expected to receive normal to above-normal rainfall.

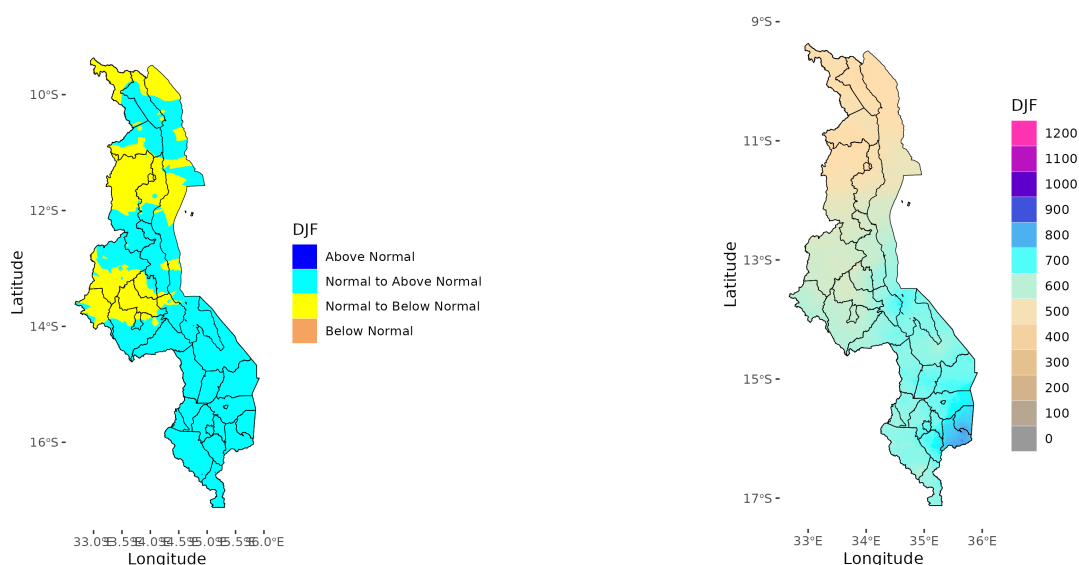


Figure 2.3 DJF forecast categories (left) and DJF forecast rainfall amounts (right)

2.4 JFM (January, February, March) Sub season

During the January–March (JFM) sub-season, most parts of Malawi are expected to receive normal to above-normal rainfall. Localized areas, particularly in southern Kasungu, Mchinji, Dowa, and parts of northern Lilongwe, are likely to experience normal to below-normal rainfall.

Overall, the outlook indicates generally favorable rainfall conditions, with some risk of localized dry spells and heavy rainfall events.

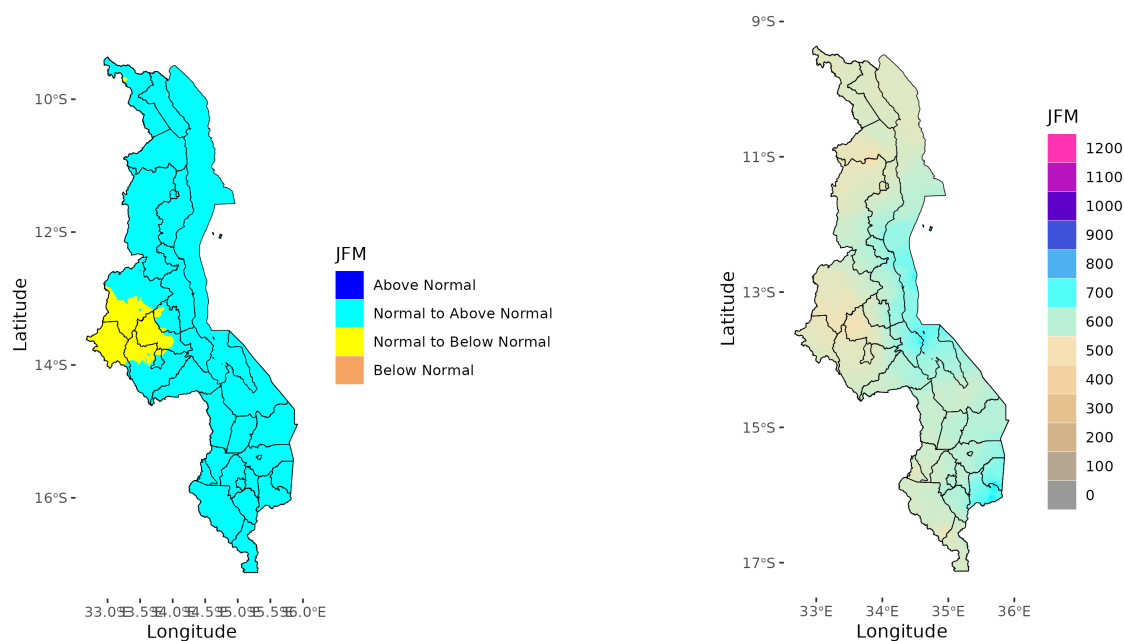


Figure 2.4 JFM forecast categories (left) and JFM forecast rainfall amounts (right)

2.5 FMA (February, March, April) Sub season

For the 2025/2026 FMA sub-season, most parts of Malawi are forecasted to receive normal to above-normal rainfall, with localized areas expected to experience above-normal totals. However, some areas in Mchinji, Chiradzulu, Blantyre, northern Thyolo and eastern Zomba are likely to record normal to below-normal rainfall. Overall, the outlook points to favorable rainfall conditions with isolated risks of both dry spells and localized flooding.

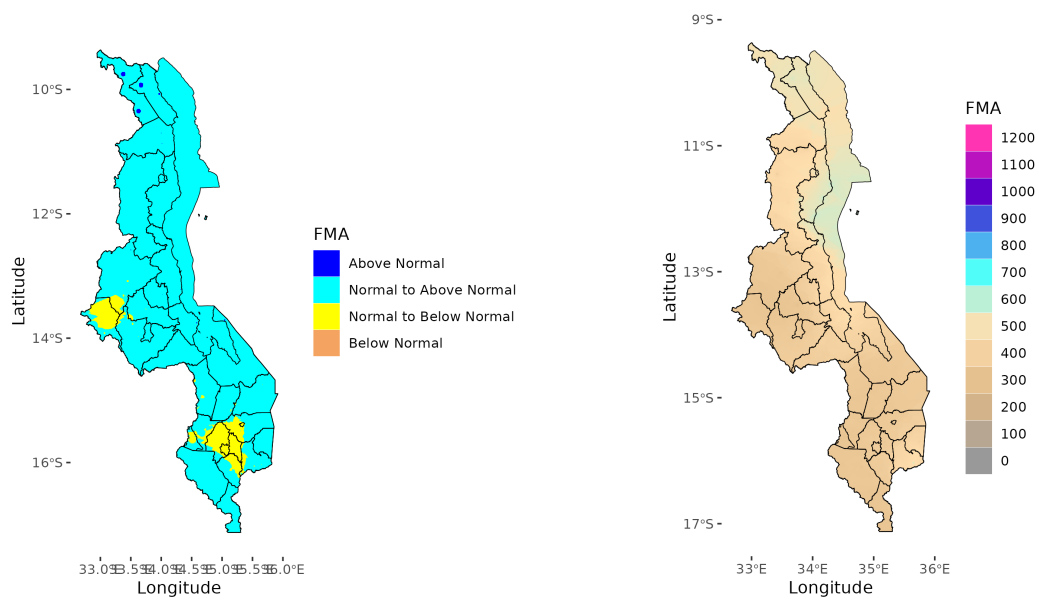


Figure 2.5 FMA forecast categories (left) and FMA forecast rainfall amounts (right)

3 MONTHLY RAINFALL FORECASTS

For month to month variations, this section provides the monthly rainfall forecasts. The maps on the right display the forecasted rainfall amounts in millimeters (mm) while on the left are maps that illustrate the forecasted rainfall categories relative to normal conditions.

3.1 October

In October, the weather outlook predicts rainfall that is above-normal in the northern and much of central Malawi, while the southern parts of Malawi are anticipated to experience normal to above-normal rainfall (refer to Fig. 3.1-left). Chizimalupsya, rains which usually occur before the main rains, are expected in many areas. However, certain locations may see minimal or no rainfall, with expected amounts likely to be below 50 mm. (see Fig. 3.1-right).

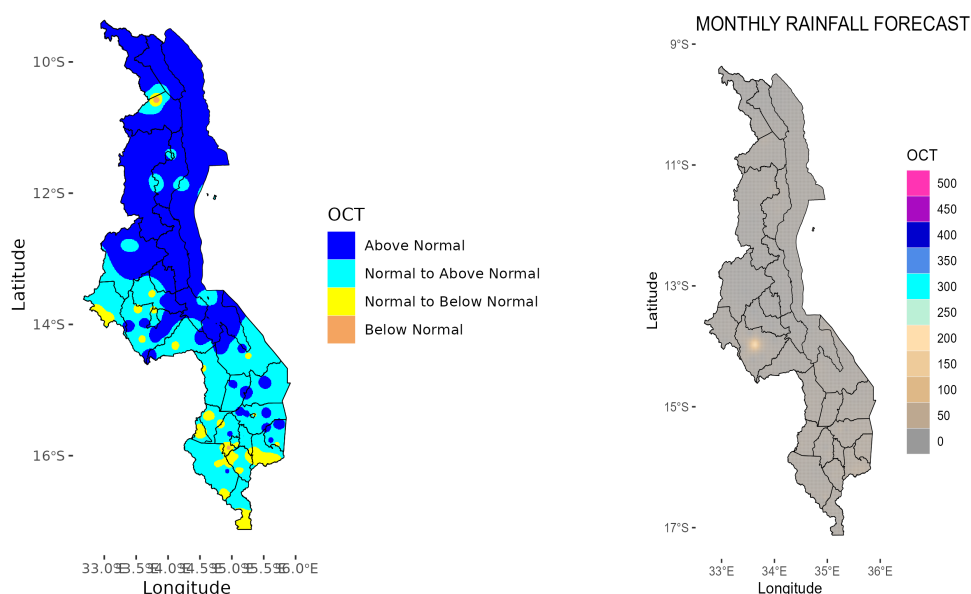


Figure 3.1 October forecast categories (left) and October forecast rainfall amounts (right)

3.2 November

Transitioning to November, a shift in rainfall patterns is anticipated. The forecast indicates a likelihood of normal to below-normal rainfall situation across much of Malawi (see Fig. 3.2-left). The monthly rainfall totals are likely to range between 50 and 100 mm (see Fig. 3.2-right). This below-normal rainfall may negatively affect the onset of the main rainfall season which will result into false onsets.

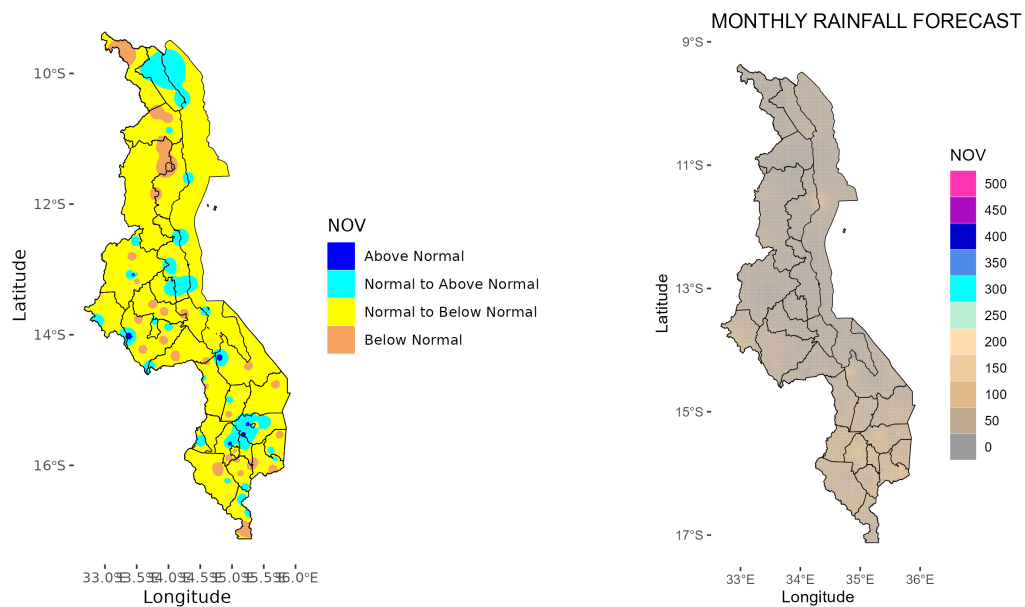


Figure 3.2 November forecast categories (left) and November forecast rainfall amounts (right)

3.3 December

Conditions are expected to improve in December, particularly in the southern and central areas, with forecast normal to above-normal rainfall. In contrast, locations like Mzimba and Nkhatabay may experience normal to below-normal rainfall, as highlighted by the yellow shade on the forecast categories map (refer to Fig. 3.3-left). Overall, total rainfall for the month is anticipated to range from 150 to 300 mm in many places (see Fig. 3.3-right).

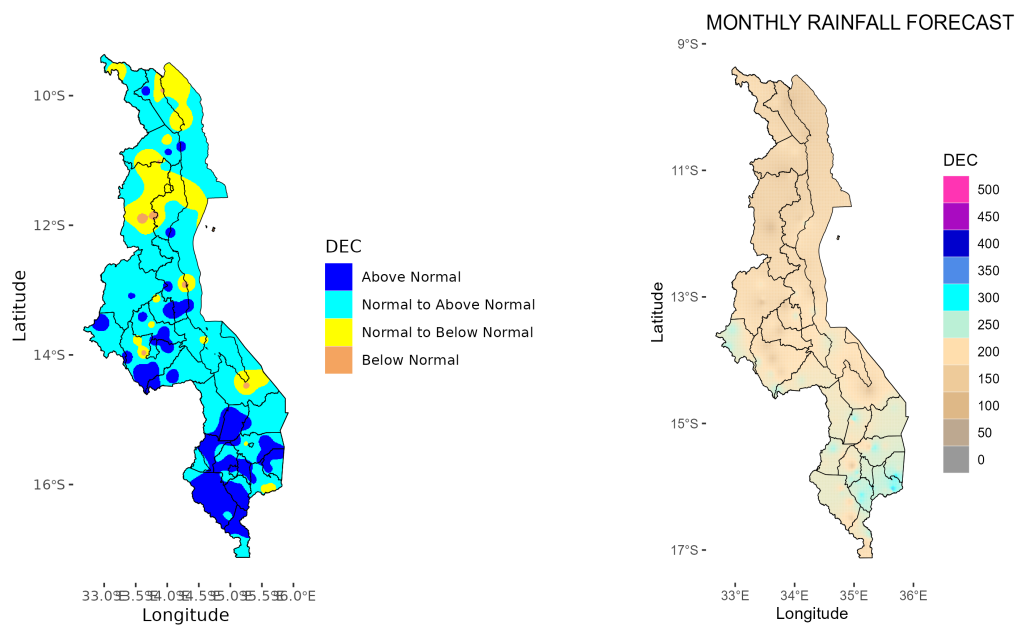


Figure 3.3 December forecast categories (left) and December forecast rainfall amounts (right)

3.4 January

Normal to above-normal rainfall amounts are expected over many areas in January (Fig. 3.4-left). The amounts are projected to range from 200 to 350 mm (refer to Fig. 3.4-right). Some areas may still experience normal to below-normal rainfall (Fig. 3.4-left), especially the central region districts of Dowa, Ntchisi, Mchinji, parts of Salima and South Kasungu.. Pockets of dry spells lasting about a week are possible during this month over many areas.

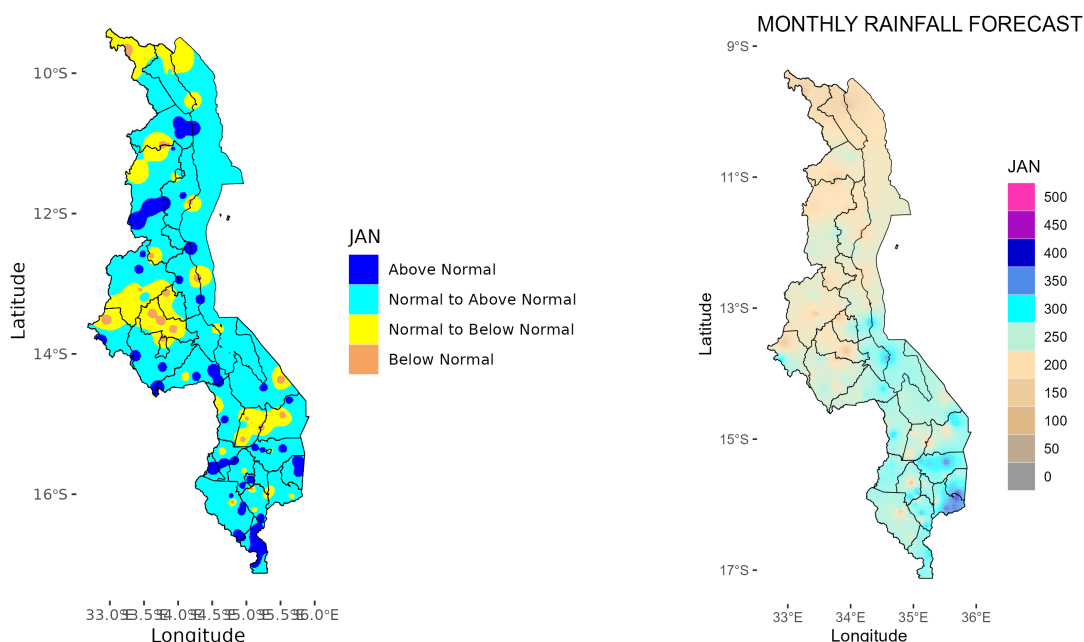


Figure 3.4 January forecast categories (left) and January forecast rainfall amounts (right)

3.5 February

In February, normal to below normal rainfall is expected across the country with few places expecting normal to above normal as indicated in Fig. 3.5-left. There is a possibility of dry spells during the month in certain locations, which could impact crop growth during this vital period. Though the rainfall is projected to be below-normal, the overall total rainfall is projected to fall between 200 and 300 mm, as shown in Fig. 3.5-right.

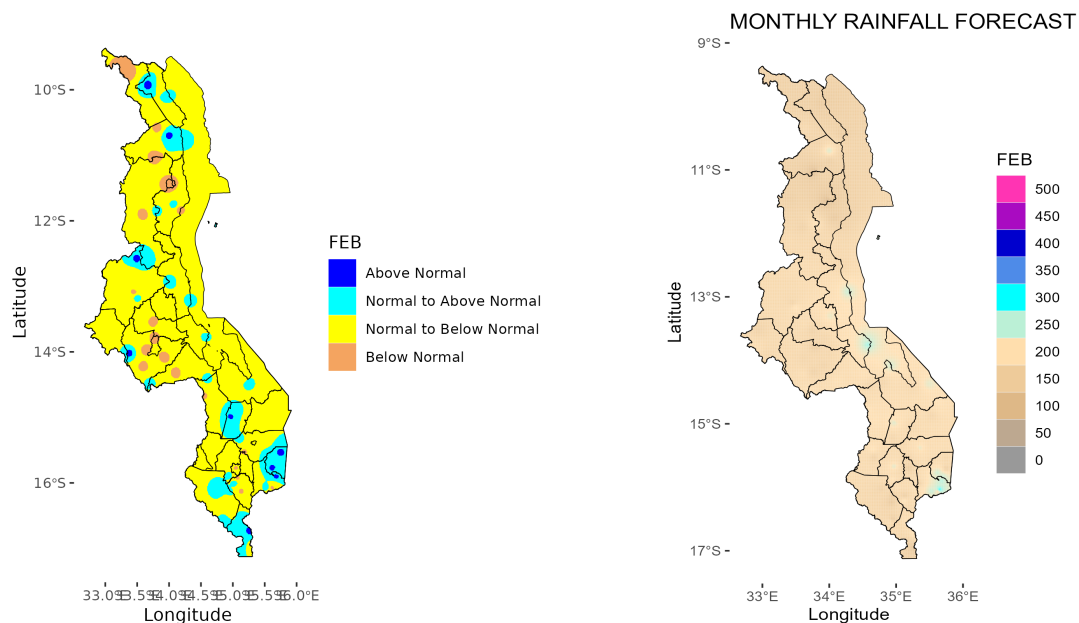


Figure 3.5 February forecast categories (left) and February forecast rainfall amounts (right)

3.6 March

March is anticipated to deliver rainfall that is normal to above normal Fig.3.6-left. The rainfall amounts are likely to range from 150 to 200mm over many places except parts of the Lake shore districts such as Nkhatabay, Nkhotakota and Salima that may receive rains more than 200mm.

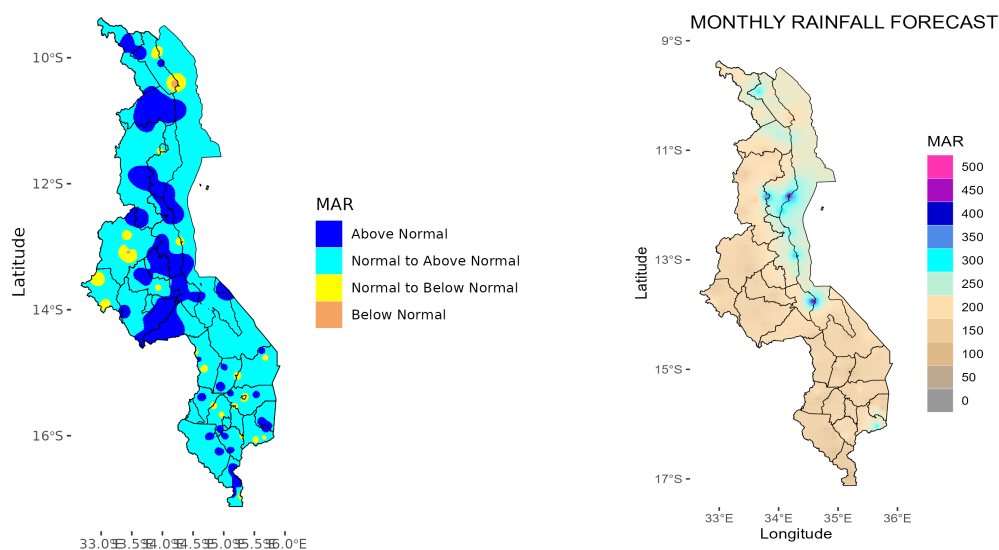


Figure 3.6 March forecast categories (left) and March forecast rainfall amounts (right)

3.7 April

In April, most areas of the country are expected to receive normal to above-normal rainfall (see Fig. 3.7-left). Rainfall totals are expected to range from 50 to 100 mm in the southern and central areas and above 100 mm in the northern part of the country (see Fig. 3.7-right).

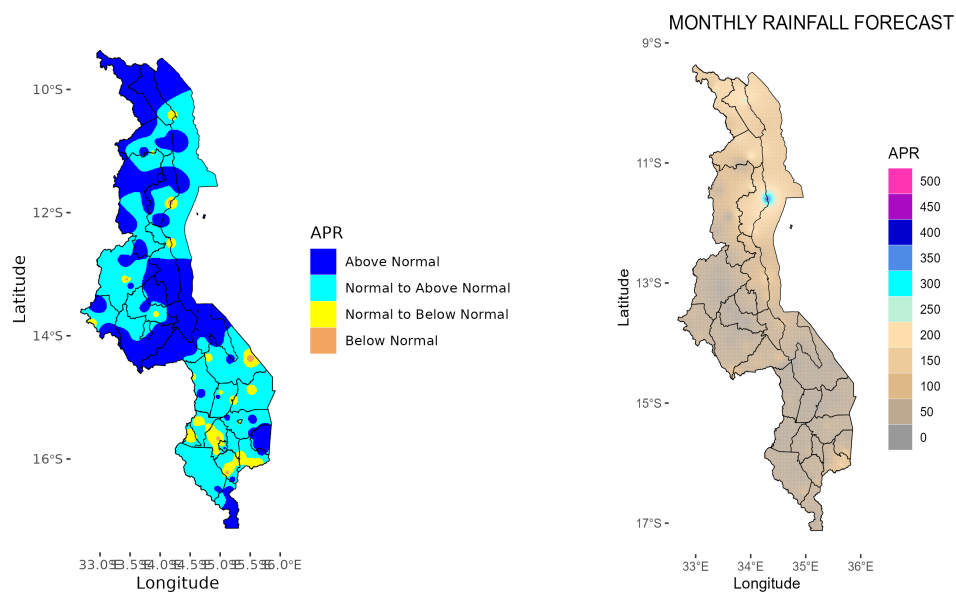


Figure 3.7 April forecast categories (left) and April forecast rainfall amounts (right)

4 SEASONAL RAINFALL CHARACTERISTICS

4.1 Onset of the season

Malawi's main rainfall season occurs from October to April. Typically, effective rains begin late in November, starting in the south and progressively moving northwards Fig 4.1-left. Pre-season rains, locally known as Chizimalupsya, usually arrive before the main rains. The onset is likely to be delayed by a week or so over many places. Otherwise, the onset dates are anticipated from early to mid December over many places Fig 4.1-right..

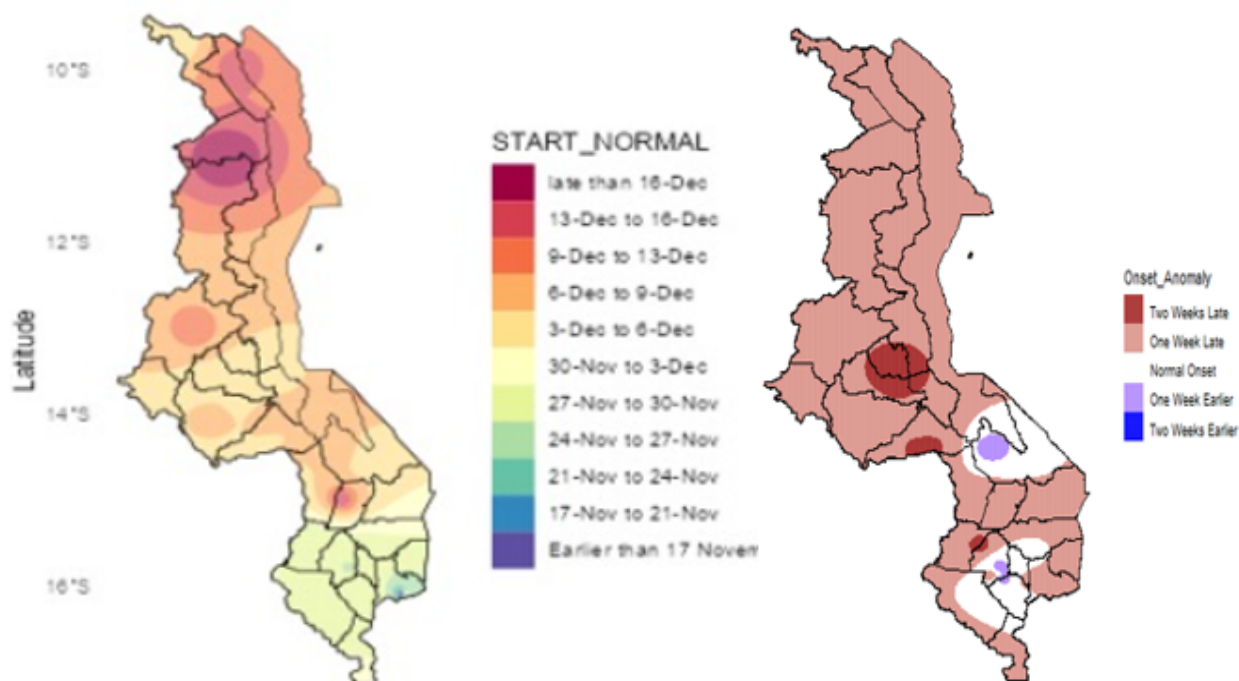


Figure 4.1 Average season onset (left), Expected onset anomaly (right)

4.2 Cessation of the season

On average, the rainy season tails off from the fourth week of March to the first week of April across most parts of the country Fig 4.2-left. However, the season tends to extend in areas with higher topography in southern Malawi, as well as along the northern shores of Lake Malawi. For the 2025/2026 rainfall season, the cessation is likely to be normal in many districts of Central and Northern areas, otherwise, late cessation is anticipated in many southern districts Fig 4.2-right.

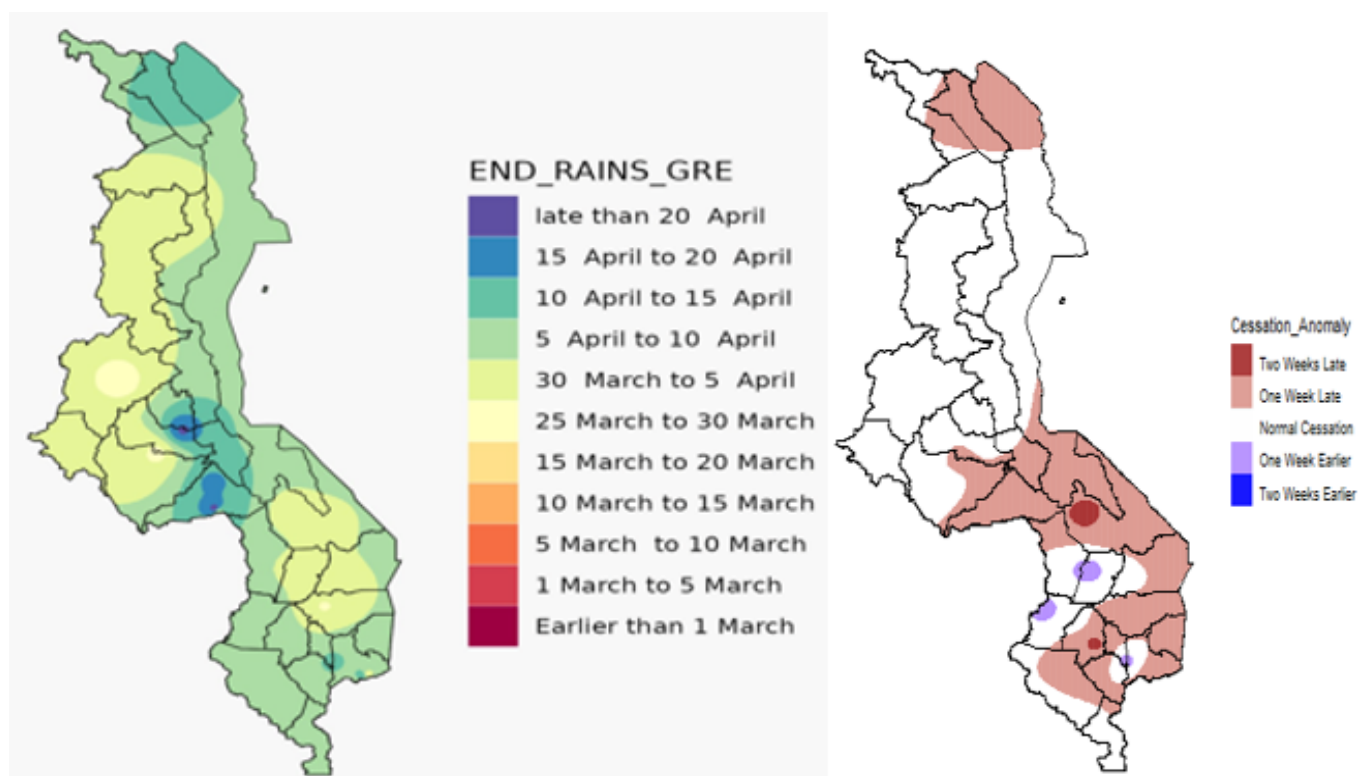


Figure 4.2 Average season cessation (left), Expected cessation anomaly(right)

4.3 Duration of the Season

On average, seasonal length in Malawi ranges from 100 to 150 days with very isolated cases of greater than 150 days Fig 4.3-left . For the 2025/2026 rainfall season, a normal to a short season is generally expected with some central and northern districts expected to experience a seasonal length of less by two weeks from the normal Fig 4.3-right. At least 12 districts are likely expected to have a shorter than normal season.

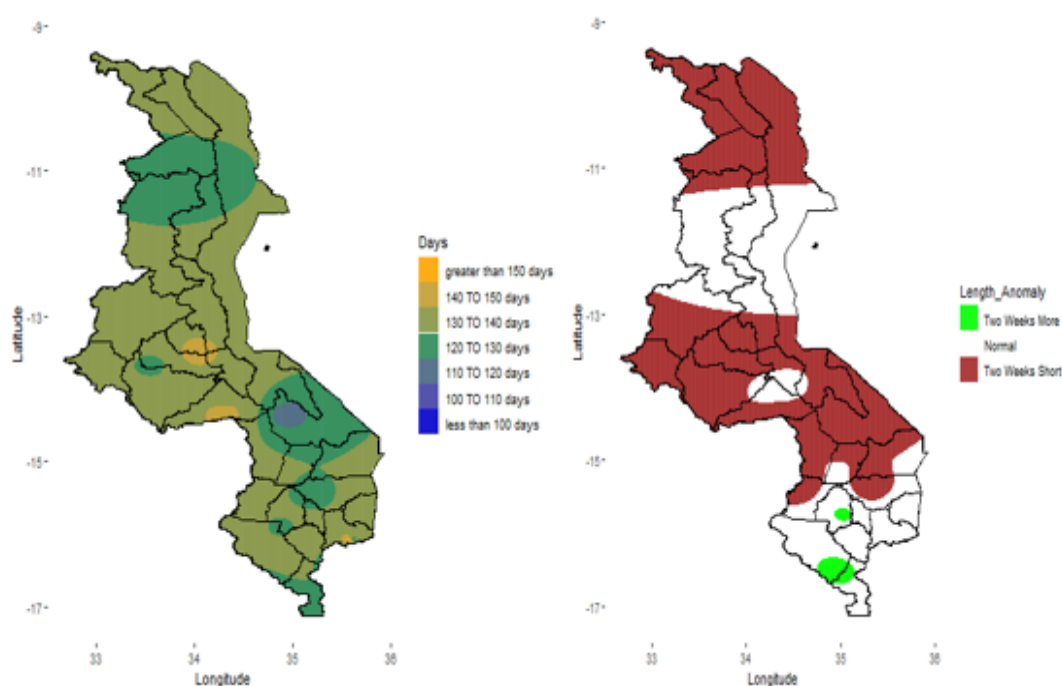


Figure 4.3 Average seasonal length (left), Expected seasonal length (right)

4.4 Rain Days

A rain day is defined as any day during the rainfall season from October to April that receives at least 1.0 mm of rainfall.

Climatologically, the number of rainy days ranges from 40 to 85 in a season spanning October to April (Fig 4.4-Right). For the 2025/2026 rainfall season, the number of rainy days ranges from 50 to 75 as shown in Fig 4.4-left below.

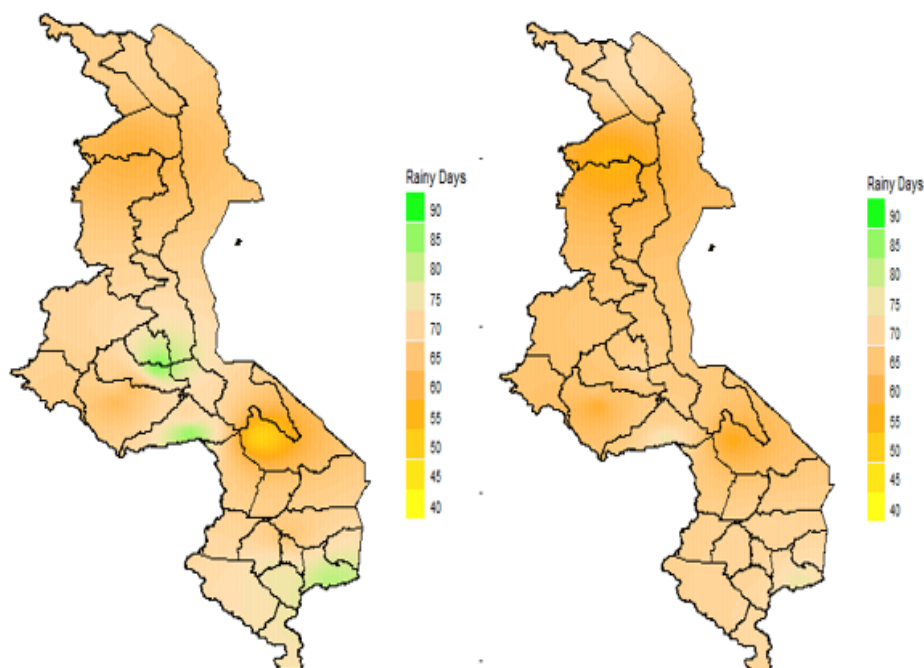


Figure 4.4 Average Number of Rain Days(left), Expected Number of Rain Days(right)

4.5 Dry Spells in January

Fig 4.5 shows the anticipated number of consecutive dry days (CDD) in January. There is a less likelihood of prolonged dry spells over central and southern areas of the country while a high likelihood of dry spells of between 7 to 10 days are over parts of Mangochi, Mzimba, Rumphi and Nkhata Bay districts. Prolonged dry spells of more than 10 consecutive days are likely over parts of Karonga and Chitipa districts.

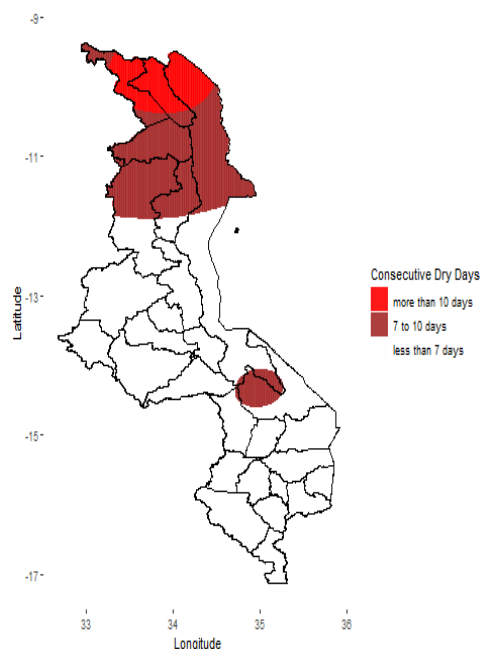


Figure 4.5 Expected duration of dry spells in January

4.6 Dry Spells in February

Fig 4.6 shows the anticipated number of consecutive dry days (CDD) during February. There is a less likelihood of prolonged dry spells of over 10 days across the country. However, dry spells of between 7 to 10 days are likely over parts of Karonga, Chitipa, Lilongwe, Salima, Ntcheu and Balaka districts.

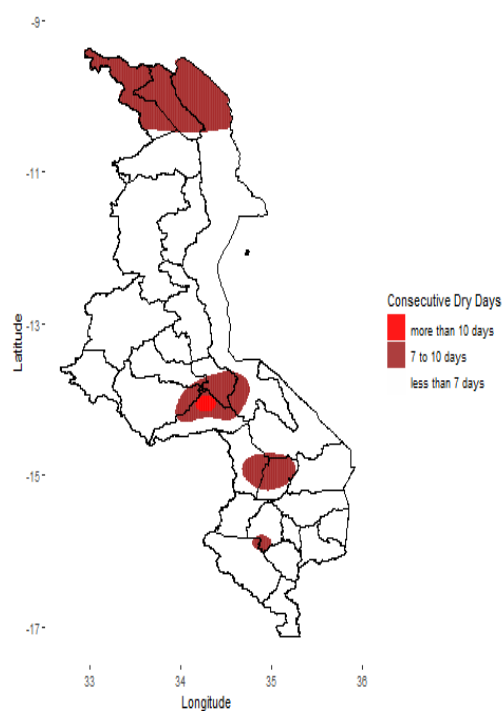


Figure 4.6 Expected duration of dry spells in February

4.7 Meteorological Drought Index

Meteorological drought conditions are presented and analyzed through the application of the Standardized Precipitation Evapotranspiration Index (SPEI), a tool recognized for its efficacy in real-time drought monitoring. This index provides a holistic perspective on water availability by crucially balancing the water received through precipitation against the water lost to the atmosphere via potential evapotranspiration. Each map visually delineates regional conditions using a comprehensive spectrum of colors, ranging from "Extremely Dry" (dark red) to the wetness "Extremely Wet" (dark purple), allowing for immediate visual comprehension of hydrological stress.

A series of monthly maps, presented in Fig 4.7, illustrates the projected drought evolution across Malawi from October 2025 to April 2026. The initial months of October and November emerge as particularly very dry portraying a prevalence of drought across numerous districts. In October, a staggering minimum of 19 districts (Fig 4.8) are anticipated to experience some form of drought, predominantly falling into the "moderately dry" and "extremely dry" categories. This categorization implies a significant water deficit, where the volume of water received as precipitation is severely outnumbered by the evaporative demand, pointing towards potential stress on agricultural systems and water resources. By November, there is some improvement where the anomalous dryness persists, but confined to the Lakeshore districts, alongside Chitipa, Mulanje, and Thyolo, affecting a total of eight districts (Fig 4.8).

A more significant improvement is observed starting in December, when only the northern district of Karonga is projected to remain moderately dry. This trend continues to January identifying only two affected districts, a number that slightly increases to three in the month of February, indicating a progressive recovery from the earlier widespread dry conditions. It is also important to note that Chitipa seems to be highly dry in at least 4 of the months.

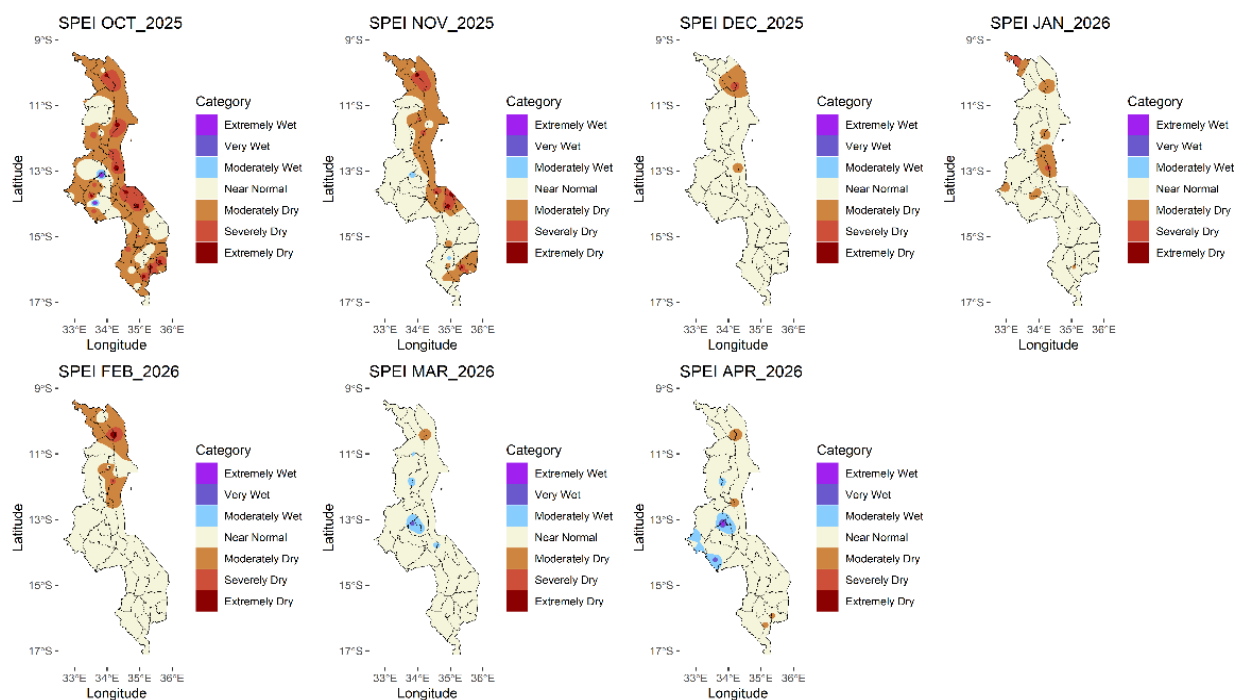


Figure 4.7 Standardised precipitation and evapotranspiration index (SPEI) for October 2025, November 2025, December 2025, January 2026, February 2026, March 2026 and April 2026

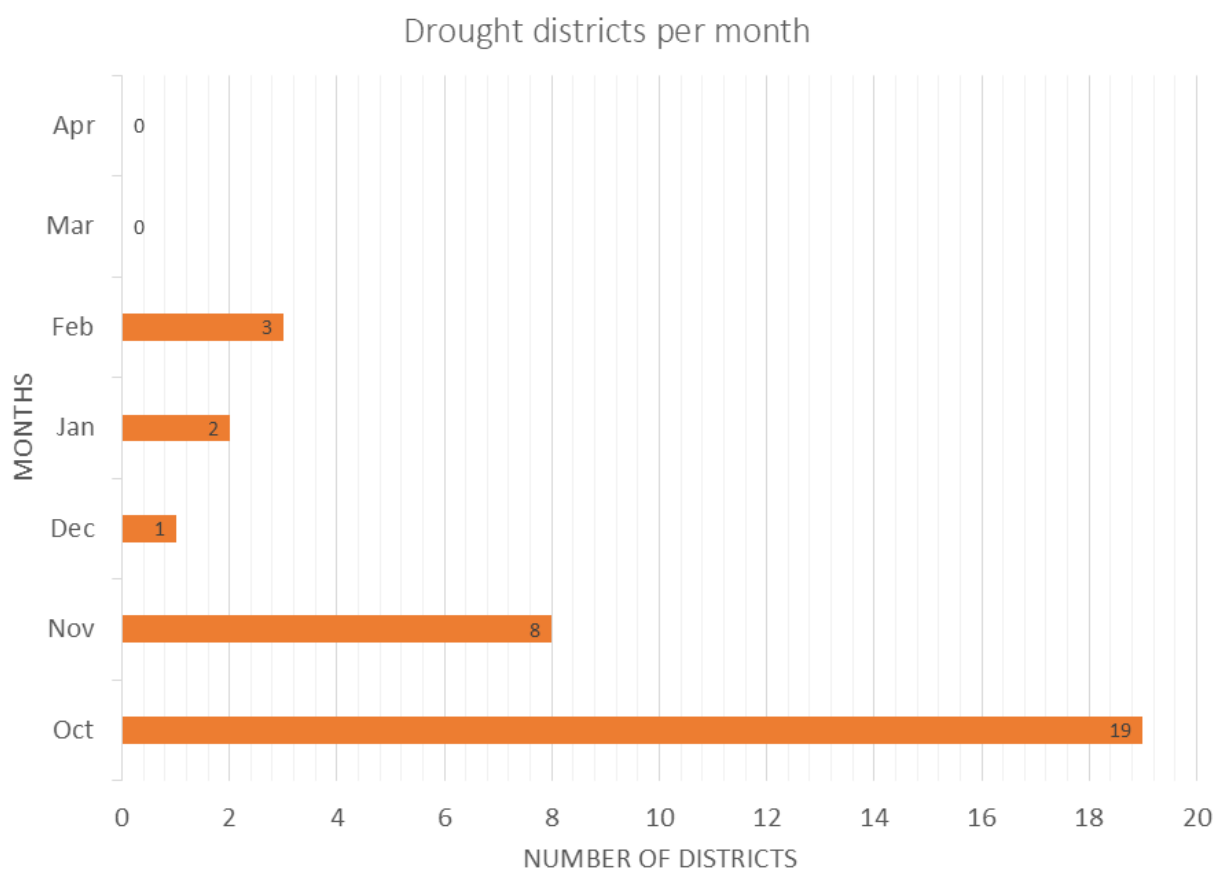


Figure 4.8 Number of districts anticipated to experience meteorological drought per month during the 2025/2026 rainfall season

5 MONTHLY MAXIMUM TEMPERATURE FORECASTS

The maps below display the forecasted monthly average maximum temperatures for 2025/2026 season (right maps) in degrees Celsius, and associated changes with reference to long term average period (left maps).

5.1 October

Normal to warmer conditions are expected over most parts of the country . Some areas in central and northern Malawi may experience lower average maximum temperatures, indicating cooler than normal conditions. Nsanje and Chikwawa districts are the hottest districts with average maximum temperature of 37.5 degrees Celsius followed by Mangochi and Machinga which will be at 34.3 and 34.2 degrees celsius, Fig.5.1. Nyika will be the coolest with an average maximum temperature of 25.9 degrees Celsius. 8% of the area will experience average maximum temperature exceeding 35 degrees Celsius, while 82% will have the temperature above 30 degrees Celsius.

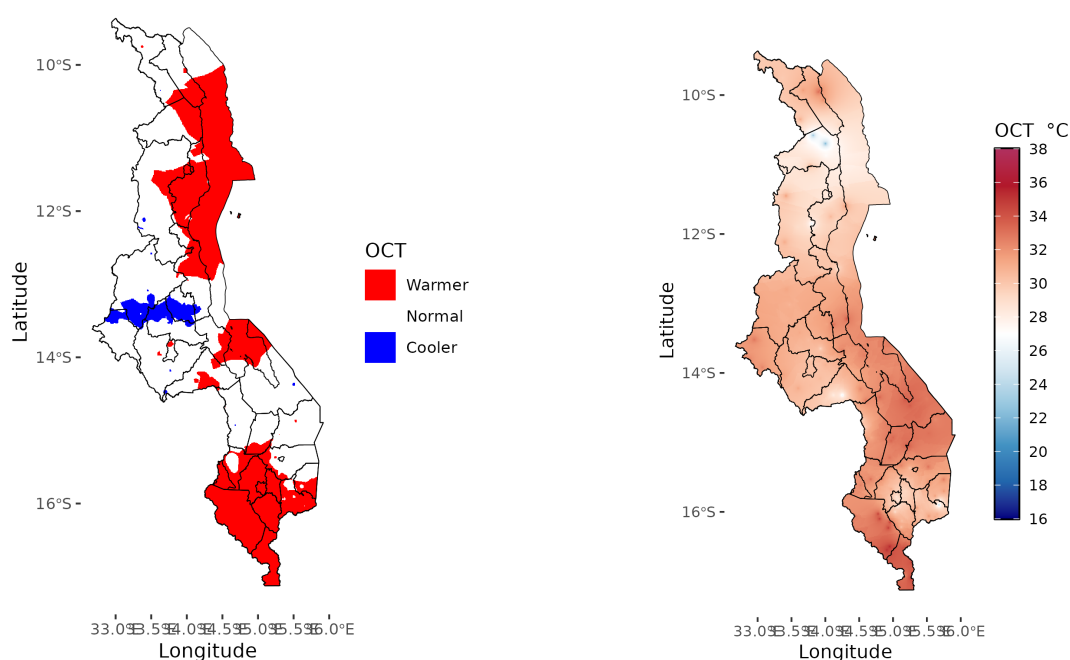


Figure 5.1 October forecast expressed as changes from average (left), October forecasted mean maximum temperature (right)

5.2 November

In November, a diverse temperature outlook is anticipated across the nation. While certain central and northern regions are projected to experience cooler-than-normal temperatures, a significant majority of the country is poised for warmer-than-average conditions. Mirroring October's trend, the hottest spot is lower Shire in Chikwawa and Nsanje, with the mean maximum temperature of 37.9 degrees Celsius. Following closely, Mangochi is predicted to reach an average maximum of 35.1 degrees Celsius, with Machinga and Salima also experiencing considerable heat at 34.6 degrees Celsius. Indeed, November is set to intensify the heat experienced in the preceding month, with the national average temperature projected to be 0.3 degrees Celsius higher than October's. In stark contrast to these sweltering conditions, the elevated plateaus of Dedza

will offer some respite, registering the country's lowest point with a mean maximum of 26.8 degrees Celsius, Fig 5.2. This widespread increase in warmth is further underscored by the expansion of areas experiencing extreme heat; the geographical extent where average maximum temperatures exceed 35 degrees Celsius is expected to grow from 8% in October to 9% in November, and similarly, the proportion of the country experiencing temperatures above 30 degrees Celsius will broaden significantly, increasing from 82% to 87%.

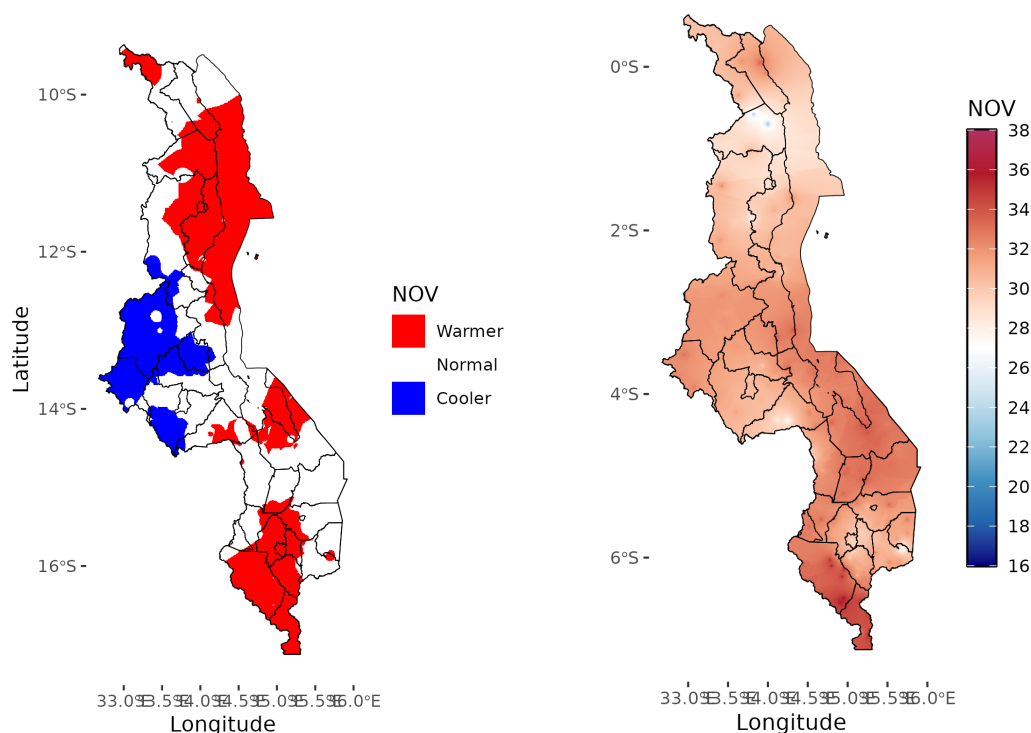


Figure 5.2 November forecast expressed as changes from average (left), November forecasted mean maximum temperature (right)

5.3 December

December is projected to bring hot conditions across much of the country, with forecasts indicating dominantly higher-than-average maximum temperatures in most regions. Despite this widespread warmth, certain districts are expected to experience more extreme heat. The Lower Shire region, adhering to its reputation as a heat enclave, is anticipated to record the highest average maximum temperature of 35.8 degrees Celsius. Following closely are Mangochi at 33.6 degrees Celsius, Karonga with 33.5 degrees Celsius, and Likoma at 33 degrees Celsius, solidifying their positions among the warmest locales. Interestingly Fig 5.3, while December remains warm, there's a slight anticipated reprieve from the preceding month's intensity, with the national average maximum temperature predicted to be 1.7 degrees Celsius cooler than that of November. However, the persistence of significant heat is evident in the geographical distribution: approximately 8% of the country's total land area is forecast to experience average maximum temperatures exceeding a sweltering 35 degrees Celsius throughout December. Furthermore, a substantial portion, about 56%, of the nation will contend with average maximum temperatures climbing above 30 degrees Celsius, underscoring the pervasive nature of the elevated heat this month.

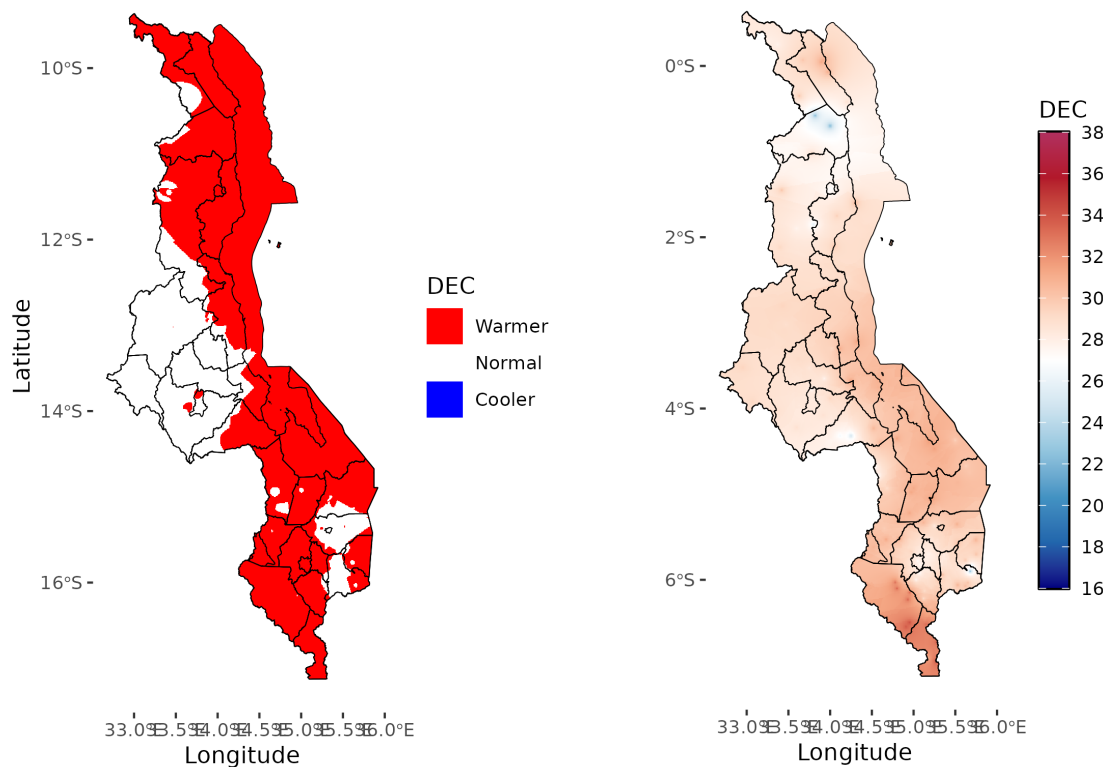


Figure 5.3 December forecast expressed as changes from average (left), December forecasted mean maximum temperature (right)

5.4 January

A diverse temperature pattern is anticipated across the region, with normal conditions expected to be prevalent in a significant number of areas. However, this normalcy will not be universal. Northern and southern regions, particularly those situated along the lakeshore and within the Shire Valley, are forecasted to experience warmer than average conditions. Conversely, a distinct chill is expected to settle over the central areas, where temperatures are predicted to be cooler than their seasonal norms. This regional variation is further underscored by the forecast average maximum temperatures, which span a considerable range. The Lower Shire area is expected to reach a high of 34.2 degrees Celsius, contrasting sharply with the cooler climes of Nyika, where the average maximum is projected to be a more moderate 23.7 degrees Celsius. Furthermore, a notable monthly shift is anticipated; January is projected to be substantially cooler, averaging 3.7 degrees Celsius lower than November's figures, Figure 5.4.

No geographical region is expected to register an average maximum temperature surpassing the critical threshold of 35 degrees Celsius. However, while the most intense, potentially life-threatening heat is absent, a substantial portion – precisely 29% of the total area – is still anticipated to experience average maximum temperatures exceeding 30 degrees Celsius.

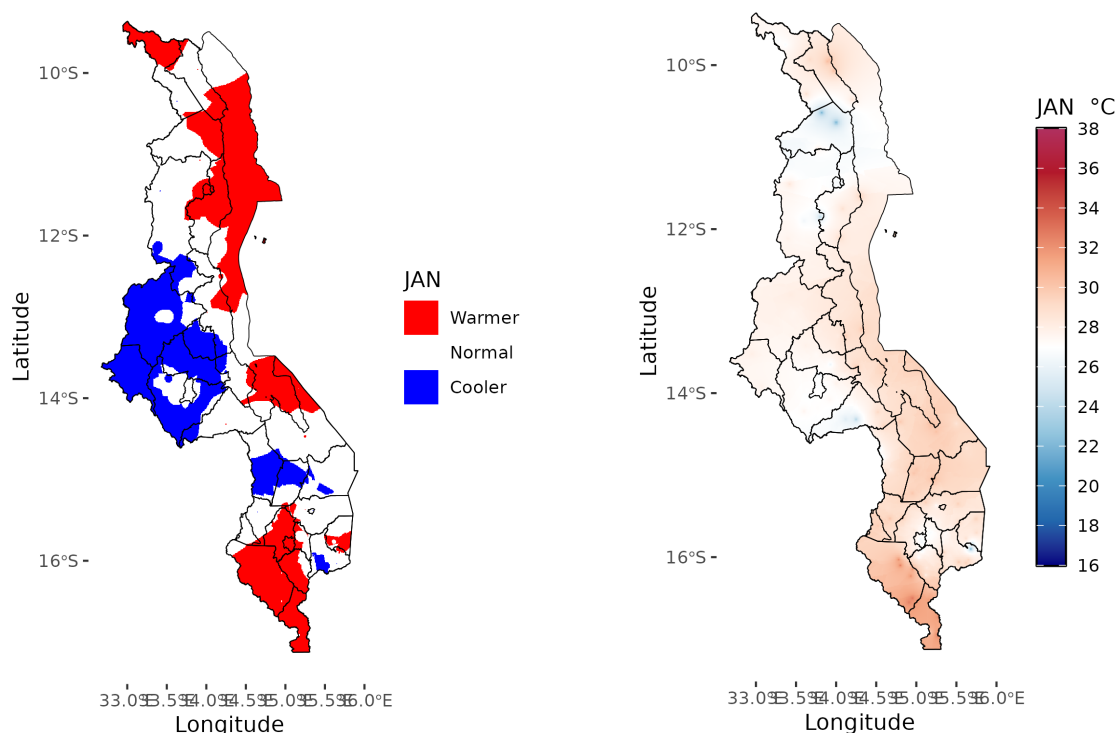


Figure 5.4 January forecast expressed as changes from average (left), January forecasted mean maximum temperature (right)

5.5 February

Malawi is bracing for an exceptionally warm February, with many regions across the country expected to experience temperatures significantly above their seasonal norms. This month is anticipated to see maximum temperatures not only exceeding their usual averages but also climbing a striking 3.1 degrees Celsius above November forecast temperatures. The heat will be notably uneven across the country, highlighting Malawi's diverse topography; in the southern lowlands, particularly in Nsanje, the temperatures are projected to hit 35 degrees Celsius. Conversely, the cooler, elevated terrains of Nyika will offer some respite, though still registering a warm temperature of 24.9 degrees Celsius – a figure that might itself be higher than its historical February average Fig 5.5. The breadth of this heatwave is significant, albeit with varying degrees of intensity: only a small fraction, approximately 2% of the country's total landmass, is expected to endure the most extreme conditions where maximum temperatures will surpass the 35 degrees Celsius mark. However, a much larger proportion – nearly 39% of Malawi – is projected to experience widespread temperatures exceeding a challenging 30 degrees Celsius, potentially impacting human comfort, agricultural practices, and water resources across a significant part of the nation.

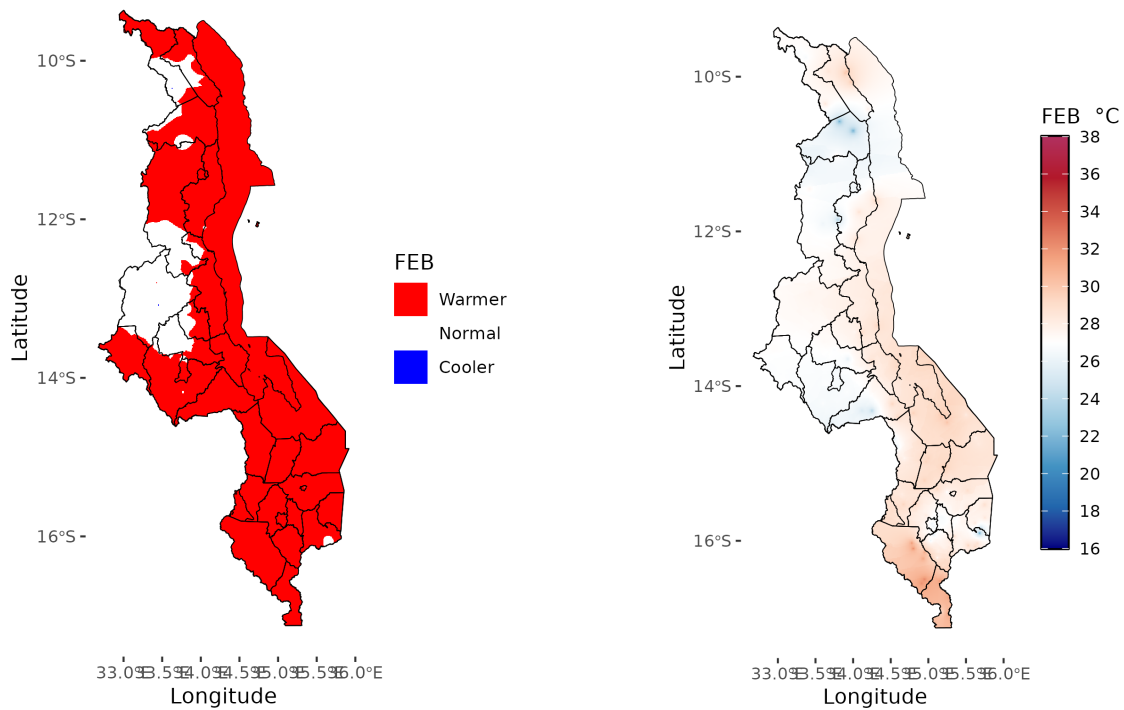


Figure 5.5 February forecast expressed as changes from average (left), February forecasted mean maximum temperature (right)

5.6 March

Looking ahead to March, the meteorological outlook indicates a prevailing warmth across much of the territory, with most northern and southern geographical areas experiencing average maximum temperatures notably above their seasonal norms Fig 5.5-right. In contrast, a corridor stretching across the central plains and extending northward towards Rumphi is expected to maintain more typical conditions, registering average maximum temperatures consistent with seasonal averages for the month. This varied temperature landscape is further illustrated by specific regional forecasts: the southern district of Chikwawa is projected to reach a high of 34 degrees Celsius, reflecting its characteristically warmer climate. Conversely, the cooler, elevated regions of Nyika are expected to average a significantly milder 23.6 degrees Celsius, showcasing the diverse thermal profiles within the area. Notably, despite these variations, no single geographical location is forecast to exceed an average maximum temperature of 35 degrees Celsius during this period. However, the prevalence of warm conditions is still considerable, with approximately 29% of the overall land area likely to register average maximum temperatures surpassing the 30 degrees Celsius mark.

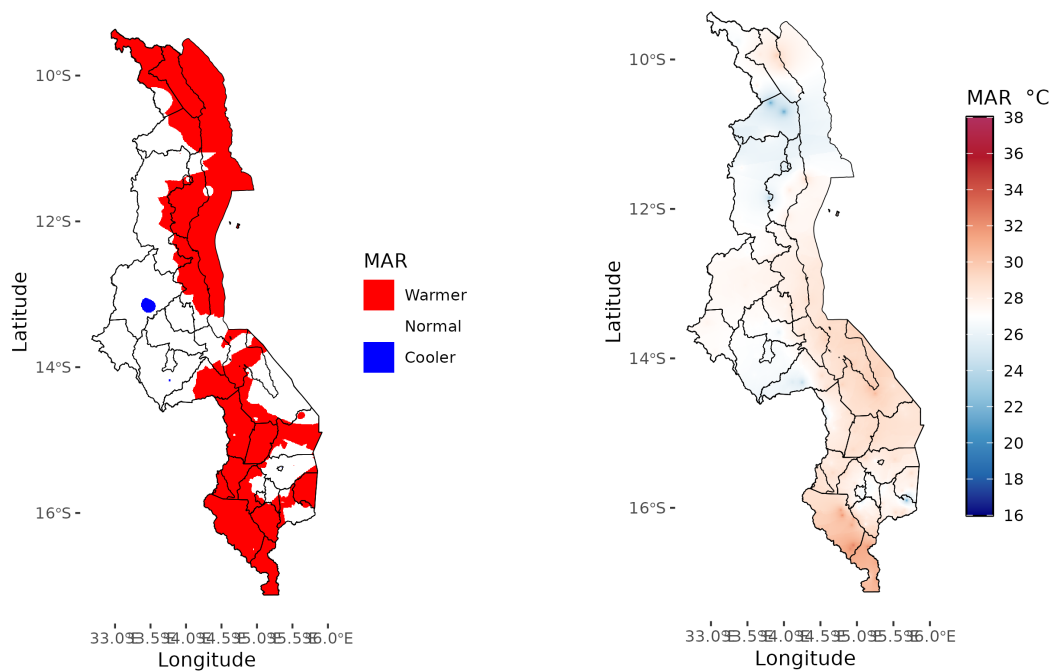


Figure 5.6 March forecast expressed as changes from average (left), March forecasted mean maximum temperature (right)

5.7 April

April's weather outlook presents a normal maximum temperature over many places. While the central region is poised to experience conditions noticeably cooler than its seasonal average, offering a possibly extended period of refreshing temperatures, a contrasting meteorological pattern is anticipated over the northern lakeshore areas. These lakeside locales are projected to register warmer-than-normal temperatures, a phenomenon visually supported by the data presented in Fig 5.7-left. This pronounced climatic dichotomy is further underscored by specific local forecasts: the southern lowlands of Nsanje are expected to register a notable average maximum temperature of 31.9 degrees Celsius, indicating consistently hot conditions. Conversely, Ntchenachena, likely nestled in a higher or more northern locale, is predicted to remain significantly cooler, with an average of just 21.8 degrees Celsius, illustrating the dramatic variation in elevation and microclimates within the overarching region. Despite these pockets of warmth, the broader picture for April suggests a generally moderate month, as only a limited portion of the total land area, approximately 9%, is projected to experience average maximum temperatures exceeding the 30 degrees Celsius threshold. This indicates that while extreme heat will be present in specific, localized areas, the vast majority of the region will enjoy milder conditions, staying below that significant heat marker throughout the month.

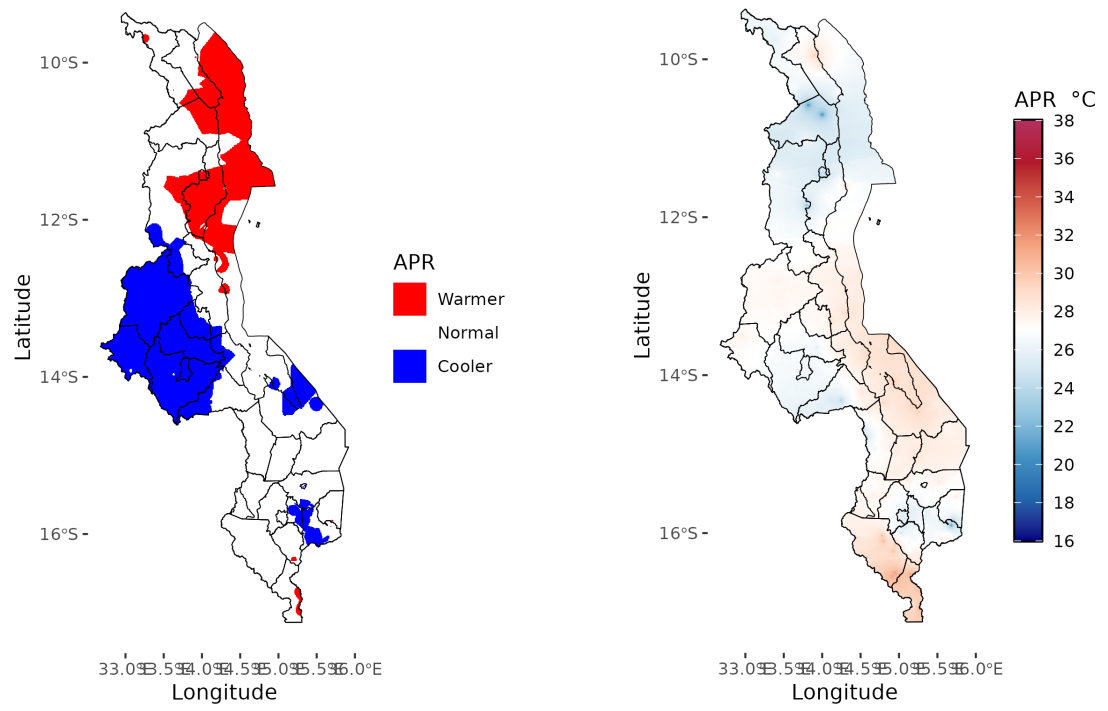


Figure 5.7 March forecast expressed as changes from average (left), March forecasted mean maximum temperature (right)

6 IMPLICATIONS FOR SOME SECTORS

6.1 Agriculture and Food Security

From October to December, most areas are likely to experience normal to above-normal rains. However, most northern areas and Mangochi may receive normal to below normal rainfall, potentially causing delays in planting or early-season water stress. November is expected to be drier than normal with some areas experiencing a delayed onset. A delayed or erratic onset in November could disrupt planting schedules, forcing farmers to re-plant or miss optimal windows. In addition, the probability of a drought in October and November is high, resulting in water stress conditions.

Rainfall is generally expected to be normal to above-normal from January to March, although parts of the Central Region including Mchinji, Kasungu, Ntchisi and Lilongwe could experience below-normal conditions which may affect crop growth. February is also likely to be drier than usual, increasing the risk of moisture stress on crops. **However, based on the amount of water potentially available during the entire season, at national level maize crop can still attain Water Requirement Satisfaction Index (WRSI) of greater than 94% leading to yield increase that may reach about 10%.**

High temperatures from November to March may further intensify heat stress, influence crop development, and encourage pest and disease outbreaks.

Heavy downpours following dry spells may cause soil erosion and nutrient loss, while prolonged dry periods could reduce soil moisture and affect fertility. Water availability may be limited during drier months, potentially impacting both livestock health and crop production. The combination of high temperatures and variable rainfall may create favorable conditions for pests such as armyworms, as well as fungal and other crop diseases. Farmers may need to reconsider crop choices, favoring drought-tolerant varieties in areas expecting below-normal rainfall.

Above-normal rains towards the end of the season could affect harvesting, making it difficult to dry grains and increasing the risk of post-harvest losses, including mold or aflatoxin contamination.

Farmers are therefore encouraged to use short weather forecasts in addition to these seasonal forecasts to guide decisions on planting, irrigation scheduling, pest and disease management, and harvest timing. Staggering planting dates and remaining flexible in farm management practices will be crucial to protecting crops and sustaining yields throughout the season, which may extend into April. Furthermore, farmers may consider to insure their crops and animals as well. District specific forecasts can also provide localised information that may be useful for farmers.

6.2 Disaster Risk Management

As the season approaches, a significant concern looms for flood-prone regions across the country, with meteorological forecasts specifically pointing to elevated rainfall amounts especially in January, suggesting a

high probability of widespread inundation. This risk is further compounded by predictions that the frequency of these flooding events may be slightly higher than the seasonal average, intensifying the potential for disruption. Such severe weather manifestations, encompassing not just general floods but also rapid flash-floods and powerful severe storms, carry devastating consequences; they pose an immediate threat to human life and are capable of inflicting extensive damage upon residential properties, vital infrastructure like roads and bridges, and essential services. The grim aftermath often includes the large-scale displacement of populations, forcing families to abandon their homes and seek refuge in temporary shelters and crowded camps, where the urgent demand for humanitarian support – including food, water, medical aid, and sanitation – becomes paramount.

Paradoxically, and demanding an equally critical level of vigilance, is the looming possibility of drought conditions at the very outset of the season, where a 'false onset' of rains could lead to premature planting, resulting in devastating crop losses and significantly jeopardizing food security if not met with proper planning and informed decision-making by agricultural communities. Given these diverse and severe meteorological challenges, it is imperative that the disaster risk management sector proactively plans for the upcoming season, not only developing comprehensive response strategies but also paying attention to regular weather updates, advisories, and early warnings that provide crucial, timely information on extreme weather-related hazards, ensuring preparedness can mitigate potential catastrophe.

The proactive engagement of both authorities and communities is paramount in mitigating the anticipated devastation of future flood events. It is not enough to merely react; comprehensive precautionary measures must be implemented to safeguard lives, infrastructure, and livelihoods. Specifically, the integrity of flood barriers – whether permanent levees, dikes, or temporary defenses – must be rigorously ensured, meaning they are not only initially strong enough but also regularly inspected and maintained to withstand the immense pressure of rising waters, prolonged inundation, and potential debris. Equally critical is the diligent clearing of drainage systems; unblocked culverts, storm drains, and natural waterways are essential to allow for the efficient flow of excess water, preventing widespread pooling and the exacerbation of flash flood conditions caused by accumulated silt, debris, or overgrown vegetation.

Furthermore, enhancing the structural resilience of homes is vital. Often, storms are associated with strong winds, therefore robust construction and reinforced roofing can significantly reduce damage, safeguarding occupants and property from the combined onslaught of wind and water. This comprehensive preparedness, involving both governmental planning and civic participation, is a critical investment that saves lives and protects infrastructure from climate extremes.

6.3 Energy and Water resources

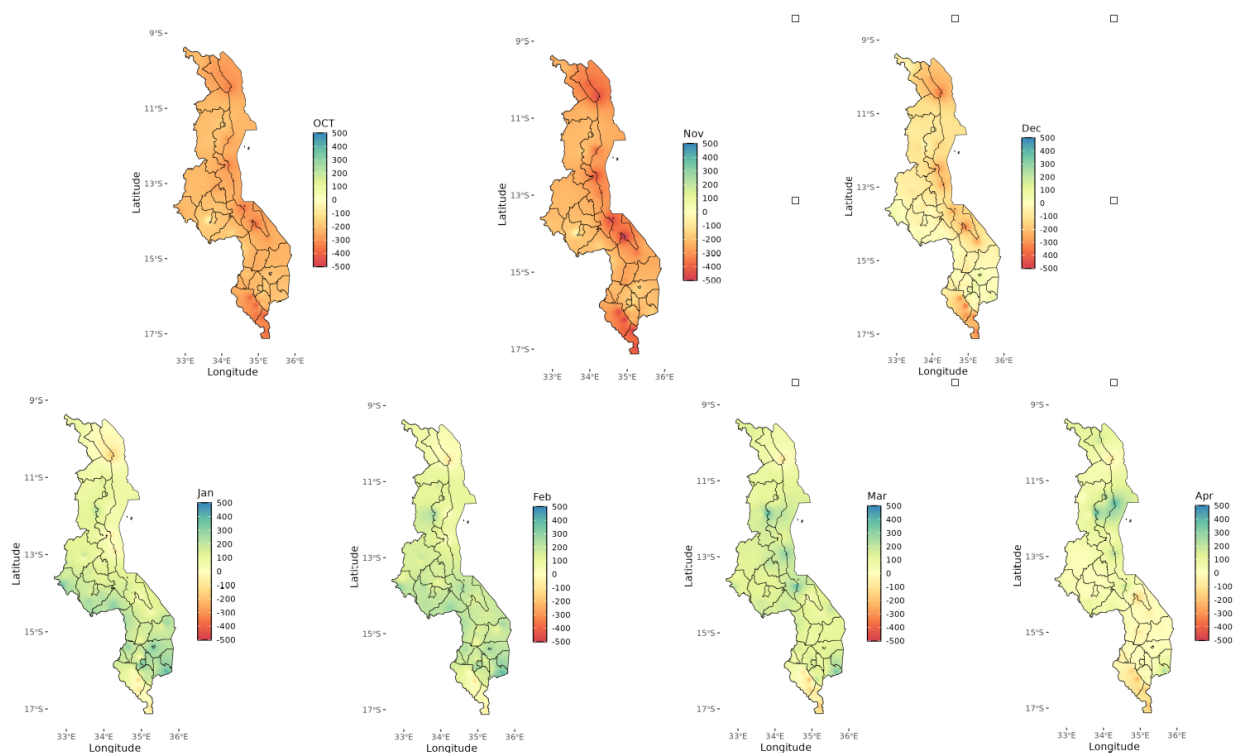
High river inflows and Lake Malawi outflows are essential for supporting hydropower generation along Shire River as well as provision of portable water to cities and towns. Though the forecast is leaning towards normal to above normal, the increase in rainfall is only about 2.8% above average, which may not be adequate to sustain the water balance of the lakes to remain positive. Therefore the seasonal rise in the lake level anticipated is small. The maximum lake level for Lake Malawi anticipated is in the range of 475.95 to 476.25masl, slightly lower than the maximum level attained in 2024/2025 season. And the lowest lake level is anticipated to range between 473.99 to 474.4masl, and again this is likely to be lower than the lowest level attained last season. On average, the lake level will be around a long-term average of 474.9masl.

The expected normal to above normal rainfall still poses challenges such as localized flooding, debris accumulation and sedimentation risks that may affect energy infrastructure, including power stations and water supply networks which may affect energy production and water supply. This calls for proper management at electricity generation dams through enough budgetary allocations and timely maintenance to ensure continued power generation. In addition, regular dredging of silted dams and the promotion of integrated catchment management strategies may also mitigate these challenges.

Renewable energy systems, particularly solar power, are also vulnerable during the wetter season. Strong winds and hail, and increased cloud cover may damage solar panels and reduce energy output respectively. Strategies to protect renewable energy infrastructure such as promotion of climate resilient designs must be prioritized.

Although cumulative rainfall totals suggest normal to above-normal rainfall conditions for the 2025/26 season, the water balance analysis reveals that certain months may still experience moisture deficits. Such deficits can impede the replenishment of surface and groundwater resources, including reservoirs and dams, potentially affecting water availability for agriculture, domestic use, and hydropower generation.

The figure below illustrates the monthly water balance (expressed in millimetres, mm) across Malawi for the period from October to April. Positive values indicate a water surplus, while negative values represent a deficit. In October, most areas are expected to experience negative water balance values, particularly across the southern and central regions, reflecting limited soil moisture recharge at the onset of the rainy season. Gradual improvement is observed from December through March as rainfall increases, before a decline resumes in April with the seasonal withdrawal of rains.



October

In October, most areas—particularly the **southern and central regions**, including catchments feeding **Kamuzu, Mulanje, and Thyolo dams**—show negative water balance values ranging from approximately **–200 mm to –400 mm (–20 to –40 cm)**. This indicates a substantial moisture deficit typical of the dry-to-wet season transition, when evapotranspiration still exceeds rainfall. During this period, dam inflows remain minimal, and water levels may continue to drop before the onset of effective rains.

November

By November, northern districts such as **Mzuzu and Karonga** begin to register modest improvements, with water balance values approaching neutral or slightly positive (**0 to +100 mm; 0–10 cm**). However, the **southern regions** continue to experience moderate deficits (**–100 to –300 mm; –10 to –30 cm**). Reservoirs in these areas may therefore experience only partial recovery, maintaining below-average storage levels.

December

In December, rainfall intensifies across much of the country, leading to near-balanced or slightly positive conditions in **central and northern regions**. Water balance values range from **–50 to +200 mm (–5 to +20 cm)**. This signals the onset of effective soil moisture recharge and the beginning of increased inflows to key water bodies such as **Kamuzu Dam I & II, Mudi Dam, and Nkula reservoir**.

January

January generally shows widespread positive water balance values, particularly in the **Shire Highlands and northern plateau**, ranging between **+100 and +400 mm (+10 to +40 cm)**. This month typically represents the peak of recharge, meaning most dams and reservoirs start to regain substantial storage levels, improving hydropower generation potential and irrigation water supply.

February

In February, much of Malawi maintains a positive balance (**+50 to +300 mm; +5 to +30 cm**), although localised deficits may appear in rain-shadow zones of **Balaka, Machinga, and parts of the Lower Shire Valley**. Reservoir inflows remain high, supporting full or near-full capacity in major dams such as **Nkula, Kapichira, and Kamuzu**.

March

March marks the beginning of a gradual decline in moisture accumulation as rainfall starts to reduce. Water balance values hover near neutral or slightly positive (**-50 to +150 mm; -5 to +15 cm**). Most dams sustain adequate storage, though declining inflows indicate the transition toward the dry phase.

April

By April, rainfall diminishes significantly, and water balance values revert to mild deficits in most regions (**-100 to -300 mm; -10 to -30 cm**). Dams in the **southern region**, particularly **Mudi, Walker's Ferry intake, and Kamuzu**, may start losing stored water as evapotranspiration overtakes inflows, signaling the end of the recharge season.

6.3 Health

The health sector is poised to face immense pressure as it anticipates a significant increase in various water and vector-borne diseases. Flooding, a primary catalyst, often contaminates clean water sources, leading to an escalated incidence of illnesses such as cholera, typhoid, and various diarrhoeal diseases, which can quickly overwhelm medical facilities. Moreover, the formation of widespread stagnant water bodies in the aftermath of heavy rains creates ideal breeding grounds for disease vectors, potentially causing a surge in cases of malaria and other mosquito-borne ailments.

Beyond the spread of disease, the immediate physical hazards are equally grave; torrents of floodwater present a direct risk of drowning, while the force of the water and debris can cause severe injuries. Furthermore, natural phenomena like lightning strikes can result in electrocution or burns, and intense

weather can cause trees to fall and structures to collapse, leading to traumatic injuries, entrapment, and fatalities.

Compounding these immediate threats are the anticipated warmer temperatures during October, November and December, which significantly elevate the risk of heatstress, characterized by fatigue and dizziness, and more critically, heatstroke – a severe medical emergency that can lead to organ damage or death, particularly among vulnerable populations such as the elderly, young children, and outdoor workers.

With the implications discussed, health workers and facilities should prepare for climate-sensitive diseases outbreaks as mentioned above. Surveillance systems that detect and respond to outbreaks should be strengthened along with activation of early warning systems for climate-sensitive diseases. In addition, communities are advised to follow disease preventive measures such as; boiling or treating of drinking water to prevent diarrhea diseases, sleeping under insecticide-treated nets to reduce malaria risk, keeping surroundings clean and draining stagnant water to reduce mosquito breeding. Monitoring and evaluation is also vital particularly in tracking disease trends and climate impacts using real-time data systems and conducting post-season reviews to assess effectiveness and improve future preparedness.

6.4 Education

The education sector is highly climate-sensitive, regularly encountering significant challenges each rainfall season, including heatwaves, stormy rains, strong winds, and flash floods. With the 2025-2026 season anticipated to be warmer than normal from October to December, heatwaves are a particular concern, alongside an increased likelihood of flash floods, stormy rains, and strong winds that can severely damage school infrastructure. Deaths may also occur due to lightning strikes.

Property damage due to hydrometeorological disasters in communities within school vicinity often necessitate schools to serve as evacuation centers, ultimately leading to temporary closures and disruptions to learning. Therefore, a critical plan is needed to avoid the use of school structures as disaster shelters.

Further crucial measures include reinforcing school infrastructure to ensure they can withstand the anticipated strong winds and stormy rains, thereby safeguarding educational continuity and the well-being of students and staff. Early warning systems should be strengthened in schools in addition to the promotion of Climate Smart Education systems Strengthening initiative(CSESI) – Already in action with support from Global Partnership Education. In addition, rolling out of National school curriculum frameworks that stress the significance of incorporating climate change issues in curriculum along with standard operating procedures for School safety and Education continuity during emergencies in the event of a disaster (under pilot CSESI).

6.5 Forestry and environment

The upcoming season pattern is likely to have both positive and challenging impacts on forestry and the environment. On the positive side, periods of above-normal rainfall can enhance forest growth by providing abundant water, supporting the regeneration of trees and other plant life, especially in previously dry or degraded areas. Improved soil moisture will sustain a variety of plant species, while aquatic ecosystems, including wetlands and riverine forests, are expected to thrive as water sources are replenished, benefiting both flora and fauna.

Nevertheless, erratic or heavy rainfall, particularly during short intense periods, could lead to soil erosion in deforested or vulnerable landscapes, washing away topsoil and nutrients and affecting forest health. Flooding and waterlogging may damage sensitive seedlings and certain tree species, while hilly and mountainous areas may face landslides, altering forested landscapes. Additionally, wet conditions may favor the spread of invasive species, pests, and fungal diseases, which could threaten native vegetation and reduce overall ecosystem resilience.

To mitigate these risks, implementing soil and water conservation practices will be essential. Measures such as terracing, contour planting, cover crops, and gully reclamation can help stabilize soils, retain nutrients, and prevent excessive erosion. Careful management of forested and degraded areas will be critical to sustaining biodiversity, protecting ecosystems, and ensuring that forests remain resilient throughout the season and beyond.

6.6 Fisheries

As the rainfall season is expected to be wetter, water levels of lakes and rivers are likely to rise. Flooding and soil erosion in areas near water bodies might lead to destruction of fish habitats and displacement of various fish species. Fish feed on aquatic plants and animals (phytoplanktons and zooplanktons). These events could significantly alter feeding and breeding areas leading to reduced fish production.

Furthermore, increased incidences of floods and soil erosion may reduce water quality by increasing turbidity which limits oxygen intake by fish and could result in the loss of aquatic life. Spawning areas might also be negatively affected.

Strong winds associated with heavy rainfall are likely to disrupt fishing activities, leading to reduced catches as fish retreat to deeper, calmer waters. The drought conditions at the beginning of the season in October and November may affect the aquaculture farmers due to increased water loss from the ponds due to evaporation.

In this regard, the fisheries sector should take measures to protect fish habitats and reinforce ponds, cages, and enclosures against flooding. Monitoring water quality and maintaining oxygen levels is essential, as floods and soil erosion can increase turbidity and stress fish. Adjusting stocking

densities, considering flood-tolerant species, and harvesting early where necessary can reduce losses. Fishing activities should be limited during storms and strong winds, and equipment should be secured. Staying alert to weather forecasts and early warnings will help communities safeguard fish populations and sustain production throughout the season.

6.7 Transport and infrastructure

As heavy stormy rains and also more than normal flood events are expected during the 2025–2026 rainfall season, transport and infrastructure sectors are likely to be affected. Flooding may cut off roads and railway lines, while bridges, culverts, and houses in vulnerable areas could be damaged or washed away, significantly impacting the infrastructure sector.

The forecasted warmer temperatures may enhance convective processes that induce development of cumulonimbus clouds which poses threats of thunderstorms, turbulence, reduced visibility, hail which may result in delay, diversion and cancellation of flights.

Stakeholders are advised to inspect and reinforce infrastructure, plan alternative routes, and secure housing in flood-prone areas. Airlines should monitor storm activity and prepare for delays, diversions, or cancellations, while emergency services should preposition rescue and repair equipment. Maintenance and installation of modern navigation systems in the aviation sector is vital in making sure that aircraft operations are not disrupted during stormy weather and other weather related hazards. Similarly, advanced and innovative technology such as surveillance drones can help to reduce accidents in road and marine transport during the season. Proper policy direction on infrastructure planning, maintenance, and construction is another important measure to make sure that the transport sector is well safeguarded during the rainy season. Staying updated with weather forecasts and early warnings will help reduce risks, ensure safety, and maintain continuity of transport and infrastructure operation.

7 CONCLUSION

Spatial and temporal distribution of rainfall and temperature have been presented. Sector specific implications of the climate outlook for 2025/2026 season have been discussed. It is expected that the relevant sectors, communities and the public will act accordingly by ensuring that necessary plans are in place to support response during the times of need.

The importance of information provided in this booklet cannot be over-emphasized. Efforts have been made to have this information ready in good time for communities and sectors to be engaged and sensitized to make decisions out of it and prepare in advance for the opportunities and threats that will come with the season.

It is hoped that the various climate-sensitive sectors will make efforts to disseminate the information further, and ensure that the communities and systems that contribute to sector development and resilience are well prepared to respond effectively. The Department of Climate Change and Meteorological Services will continue to provide weather updates, warnings and advisories throughout the season, and encourages the public and sectors to reach out whenever there is a need for clarity or more information. It is through joint efforts in accessing information, communicating the information and utilizing this information that a robust early warning system for Malawi is achieved.

PRESS RELEASE

9 District Seasonal Rainfall Forecasts Posters

- 9.1 Balaka
- 9.2 Blantyre
- 9.3 Chikwawa
- 9.4 Chiradzulu
- 9.5 Chitipa
- 9.6 Dedza
- 9.7 Dowa
- 9.8 Karonga
- 9.9 Kasungu
- 9.10 Likoma
- 9.11 Lilongwe
- 9.12 Machinga
- 9.13 Mangochi
- 9.14 Mchinji
- 9.15 Mulanje
- 9.16 Mwanza
- 9.17 Mzimba
- 9.18 Neno
- 9.19 Nkhata Bay
- 9.20 Nkhotakota
- 9.21 Nsanje
- 9.22 Ntcheu
- 9.23 Ntchisi
- 9.24 Phalombe
- 9.25 Rumphu
- 9.26 Salima
- 9.27 Thyolo
- 9.28 Zomba



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