

# WFP Southern Africa Seasonal Outlook

## Regional Bureau for Southern Africa (RBJ)

November 2023

### Highlights

- The ongoing El Niño event is predicted to severely influence weather patterns across Southern Africa, contributing to a delay in the onset of the 2023/24 main rainfall season (November to April) and result in below-average rainfall for most countries throughout the season. Given the region's reliance on rainfed agriculture, below average rainfall will negatively impact harvests and exacerbate existing acute food insecurity;
- Areas with high levels of food insecurity that are expected to receive below average rains include southern Madagascar, Zimbabwe, Mozambique and the Namibia-Angola border, while Malawi is also expected receive poor rains during the latter part of the season;
- Above average rains are expected in Tanzania, northern Mozambique, and north-eastern Madagascar, which could contribute to an increased risk of flooding;
- WFP preparedness activities include monitoring, resource mobilization and designing appropriate national responses, including anticipatory action and climate risk insurance.

## El Niño Outlook

In August, the U.S. National Oceanic and Atmospheric Administration (NOAA) Climate Prediction Center and Columbia University's Earth Institute, International Research Institute (CPC/IRI) issued an El Niño Advisory indicating that key oceanic and atmospheric conditions were consistent with El Niño conditions for the 2023/2024 season, typically associated with a warm and dry season for most countries in Southern Africa (Box 1). This El Niño year follows the first "triple-dip" La Niña event of the 21st century, where there were three consecutive years of La Niña conditions, which were wetter and cooler than average.

The predicted normal to below normal rainfall for most of the region will likely result in reduced crop yields given the reliance on rainfed agriculture, including the main crop of the region - maize. Previous seasons with below average rainfall have led to unfavorable end of season maize harvest conditions. However, it is important to note that the 2023/24 El Niño follows a La Niña year, meaning that soil is moist and the crop production from last season was favourable overall (Figure 2). Notably, the projected total cereal production for South Africa in 2023 is anticipated to reach 19.6 million tons, surpassing the five-year average by 2.2 million tons and marking the second-highest output on record, which is generally beneficial for the neighbouring countries that are import reliant for cereals.<sup>1</sup>

The warm and dry conditions associated with an El Niño season also mean that areas expecting lower than normal rainfall may be at risk of drought, crop failures, livestock losses, increased vulnerability to food insecurity and increased risk of wildfires.

### Box 1 El Niño Southern Oscillation (ENSO)

ENSO is one of the main climate phenomena that affects weather patterns in the Southern Africa region. El Niño is typically associated with bringing hot and dry season to the bulk of the Southern Africa region, while La Niña is typically associated with bringing a cool and wet season.

The CPC/IRI's latest official forecast indicates 100% chance of El Niño conditions in October – December 2023 and 99% chance of persisting in January – March 2024 (Figure 1), which is the planting season for Southern Africa.

Figure 1 Official ENSO probabilities for the Niño 3.4 sea surface temperature index (5°N-5°S, 120°W-170°W).

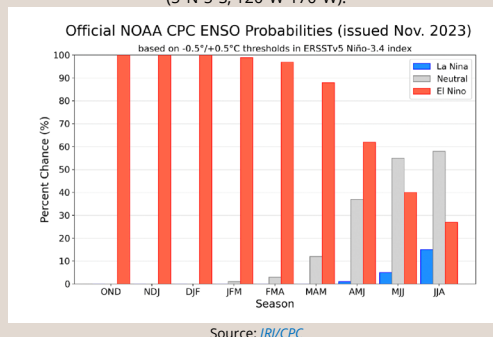
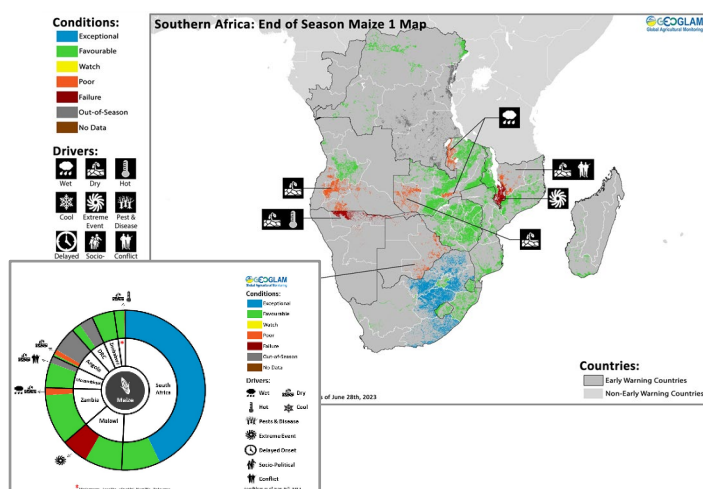


Figure 2 Maize End of Season Map (June 28th 2023)



<sup>1</sup> FAO/GIEWS; Gro Intelligence

## 2023/2024 Regional Rainfall Season Outlook

According to the consensus rainfall outlook of the twenty-seventh Southern Africa Regional Climate Outlook Forum (SARCOF-27), issued in September 2023 (Figure 4), most of the region is expected to receive normal to below normal rainfall for the first half of the season and normal to above normal rainfall for the second half of the season, with some notable exceptions.<sup>2</sup>

More specifically, according to SARCOF, the bulk of the Southern Africa region is likely to receive normal to below-normal rainfall for most of the period October to December 2023. However, there are some areas of certain countries that are likely to receive normal to above normal rainfall during the October to December period, namely in Angola, the Democratic Republic of Congo, Tanzania, Zambia, Malawi, Mozambique, Madagascar. The northern part of Tanzania is expected to receive above average rainfall.

In contrast, for most countries, the December 2023 to January 2024 period will bring normal to above normal rainfall. Botswana, Zambia, Zimbabwe, Malawi, Lesotho and Mozambique will be expected to receive more rainfall than normal. However, parts of Zimbabwe, Botswana, Mozambique and eSwatini will continue to receive less rainfall than normal. Southern Madagascar, in particular, is expected to receive below normal rainfall.

The SARCOF forecast is superseded by the National Climate Outlook Forecasts (NACOFs) below, which contain more recent and granular information for most countries.

The multi-system seasonal forecast (Figure 3) echoes the SARCOF conclusions that most of the region is likely to receive below average rainfall while Tanzania in particular is likely to receive above average rainfall.

Figure 3 C3S multi-system seasonal forecast – NDJ 2023/24

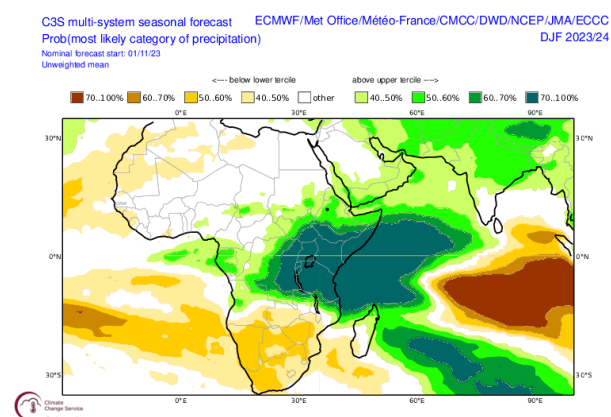
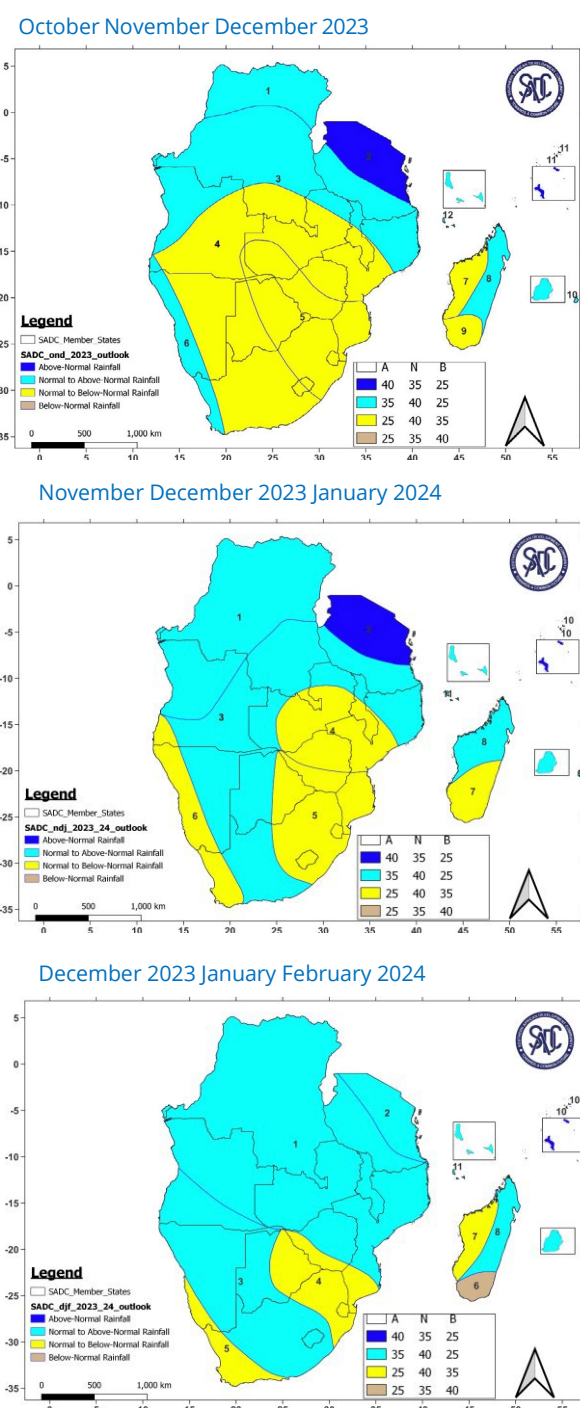


Figure 4 The SARCOF-27 Forecast



According to the Fourth Miniforum on Tropical Cyclone Outlook in the South West Indian Ocean,<sup>3</sup> there is likely to be below normal cyclonic activity overall during the 2023-2024 tropical cyclone season. The forecast estimates that there will be between 5-8 named storms, with 2-4 reaching tropical cyclone intensity. In terms of chronology, the first half of the season (Nov-Jan) is expected to have strongly reduced activity with late onset of tropical cyclone activity. The second half of the season (Jan-Apr) is likely to bring cyclonic activity in the South West Indian Ocean, but there is likely to be reduced risk

<sup>2</sup> SARCOF-27

<sup>3</sup> WMO

of tropical cyclone impacts over south-eastern Madagascar and southern Mozambique (Figure 5 + Figure 6). Those systems that form are likely to have south to south-easterly tracks. While reduced risk is expected, any system that makes landfall in inhabited areas can have catastrophic consequences.

Figure 5 Tropical Cyclone Distribution 2023-2024 Season / South-West Indian Ocean

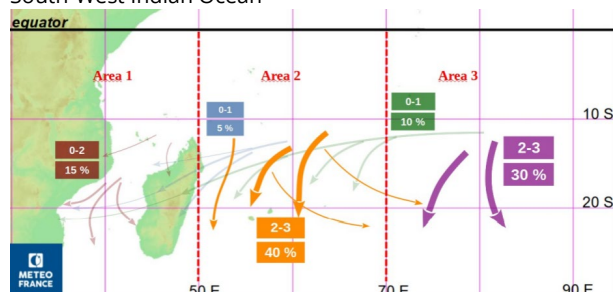


Figure 6 ECMWF Seasonal Forecast Standardized Tropical Storm Density

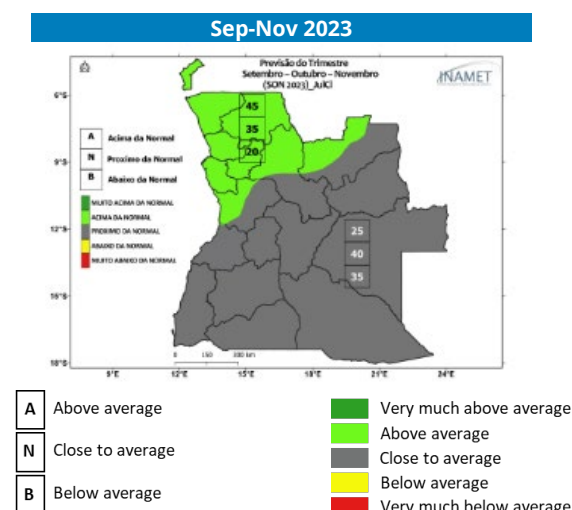


## 2023/24 Rainfall Season Outlook by Country

### ANGOLA

Angola's National Institute of Meteorology and Geophysics (INAMET) forecasts that the rainfall is expected to be close to the average for most of the country during September-October-November 2023, with the exception of the northwest region, including Cabinda, Zaire and Luanda, where above-average rainfall is predicted (Figure 7). During December-January- February 2023/2024, irregular rains may occur in the southern region of the country.

Figure 7 Angola: Rainfall Outlook 2023/24

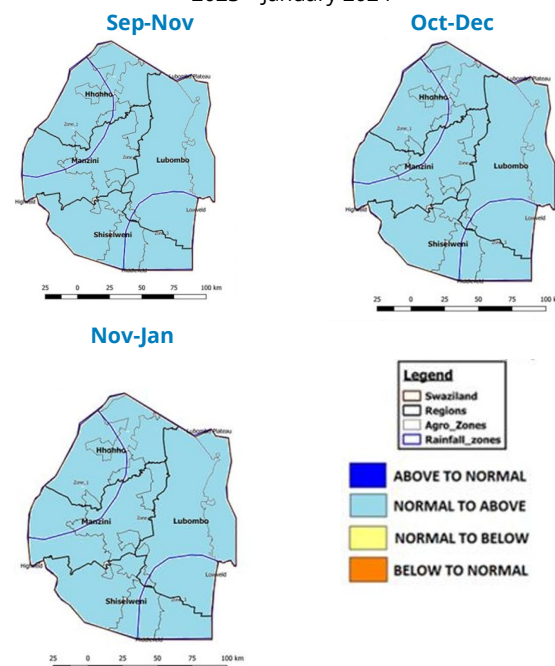


Source: Instituto Nacional de Meteorologia e Geofísica, projecção da época chuvosa 2023/2024 para o período - Setembro - Outubro - Novembro - Dezembro de 2023

### ESWATINI

The Eswatini Meteorological Service reported having received above normal rainfall in the previous 2022/2023 season (Figure 8). Similarly, for the upcoming 2023/2024 season, a forecast of normal to above normal rainfall for both the October to December and November to January periods across the entire country are forecasted. The rains are expected to range from 200 – 500mm during the OND 2023 period.

Figure 8 eSwatini: Seasonal Forecast Outlook September 2023 – January 2024



Source: eSwatini Meteorological Service, Seasonal Forecast Outlook September 2023



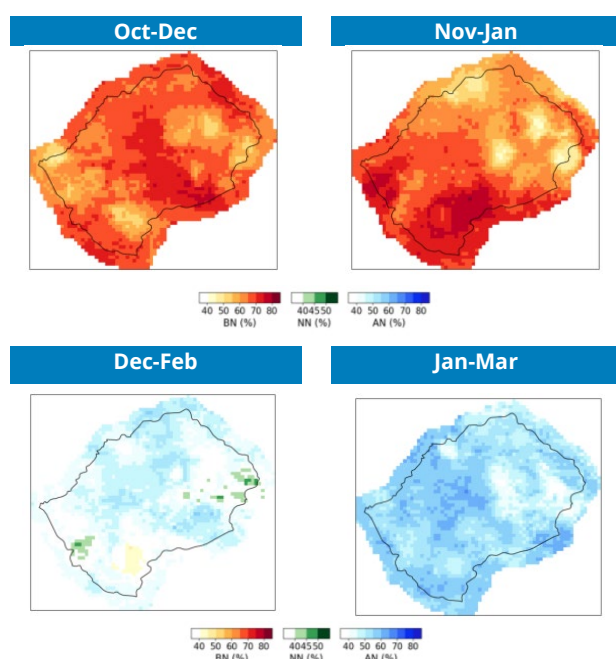
## LESOTHO

Lesotho is projected to receive below normal rainfall for the first half of the 2023/2024 rainy season and normal to above normal rainfall in the second half of the season (Figure 9). Normally the onset of rains for the cropping season is approximately 15th October - 2nd November. This year, the Lesotho Meteorological Services is expecting a delayed onset of the rainfall.

According to the forecast, the whole country is expected to receive below normal rainfall in the October to December period. However, in the January to March period, the country should receive above normal rainfall.

The anticipated temperatures are forecasted to exceed the usual levels for the entire rainy season. This period is characterized by frequent instances of strong winds, lightning, severe thunderstorms, flash floods, and hailstorms.

Figure 9 Lesotho: Probabilistic Forecast 2023/2024



Source: Seasonal Climate Outlook October 2023 to March 2024

## MADAGASCAR

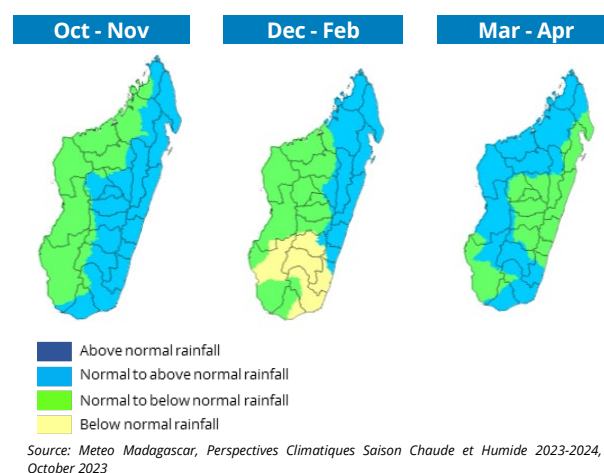
For the 2023/24 season, Madagascar is largely forecasted to receive approximately normal rainfall, except for during the December to February period where the south is expected to receive below normal rainfall. (Figure 10). In October and November, the western part of Madagascar will see slightly lower than seasonal average rainfall, while the eastern part will experience normal to above normal rainfall. In general, average temperatures during this period will be above normal for most of the island and normal to above normal for the northwest and southern parts of the island. (Figure 11).

From December to February, the heart of the Madagascar rainy season, the northern part of the island will receive

around normal rainfall whereas the southern part of the island is expected to receive below normal rainfall, including parts of the regions of Atsimo Andrefana, Haute Matsiatra, Ihorombe, Atsimo Atsinanana, Anosy and Androy. In the north west, rainfall is expected to be normal to below normal and in the north east rainfall is expected to be normal to above normal. The above normal rainfall in this area may be contributed to by tropical systems that develop during these months. Average temperatures will remain higher than the average over most of Madagascar, except in the south-eastern part, where they will be normal to above normal.

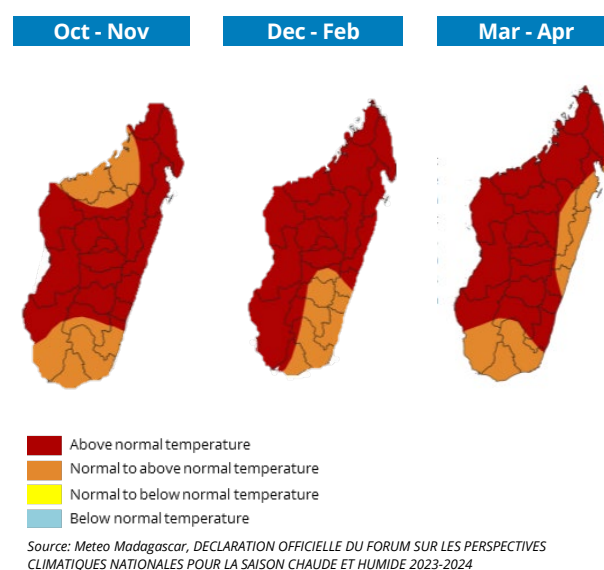
Towards the end of the season (March-April), precipitation is predicted to be normal to below normal on the highlands, the eastern part of the island, and Atsimo Andrefana, while it will be normal to above normal in other areas. Average temperatures are expected to be above normal in all regions of the island, except on the southern and eastern slopes, where temperatures will be normal to above normal.

Figure 10 Madagascar: Rainfall Outlook 2023/24



Source: Meteo Madagascar, Perspectives Climatiques Saison Chaude et Humide 2023-2024, October 2023

Figure 11 Madagascar: Temperature Outlook 2023/24



Source: Meteo Madagascar, DECLARATION OFFICIELLE DU FORUM SUR LES PERSPECTIVES CLIMATIQUES NATIONALES POUR LA SAISON CHAUDE ET HUMIDE 2023-2024

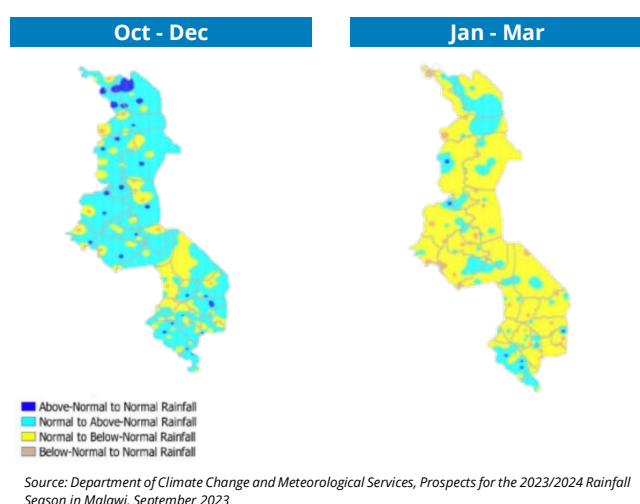
## MALAWI

According to the Department of Climate Change and Meteorological Services, Malawi should largely expect normal to above normal rainfall for the first half of the season and normal to below normal rainfall for the second half of the season (Figure 12).

From October to December, normal total rainfall amounts are expected over most areas of the country. However, there is a high chance of below normal rainfall in November in certain areas and a delayed onset of rains by around two weeks in some areas.

During the JFM period, normal to below-normal rainfall is expected across most of the country, with the possibility of above-normal rainfall in January. The chance of prolonged dry spells in February is high.

Figure 12 Malawi: Rainfall Outlook 2022/23



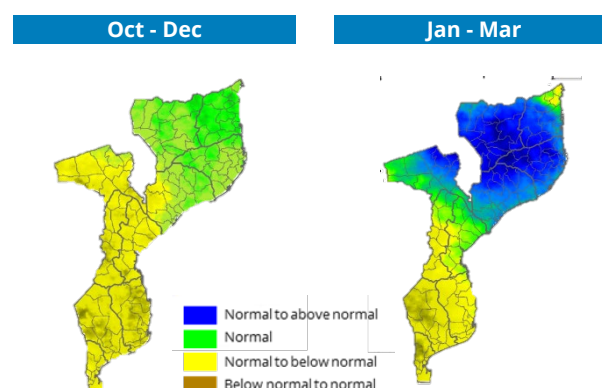
## MOZAMBIQUE

According to the Mozambique National Meteorology Institute (INAM), the country is expecting to receive normal to below normal rainfall in the south and normal to above normal rainfall in the north (Figure 13).

In the period October to December 2023, normal rainfall is predicted for Cabo Delgado, Niassa, Nampula and the districts north of Zambezia and along the strip coastal province of Zambezia. Whereas normal to below normal rainfall is expected in Maputo, Gaza, Inhambane, Manica, Sofala and Grande extension of Tete province and the southwestern extension of Zambezia province.

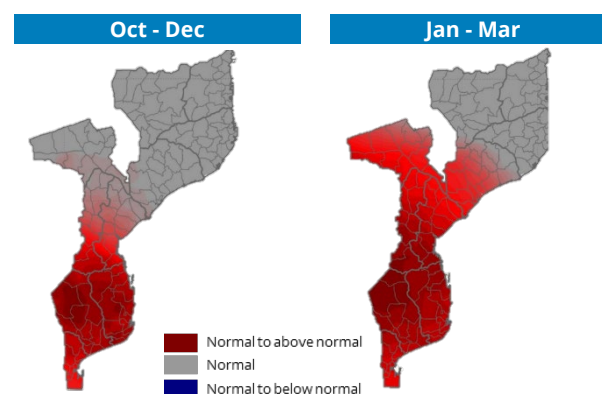
In the period January to March 2024, above normal rainfall is expected in the north and northwest in Niassa, Nampula, Zambézia provinces and most of Cabo Delgado and Tete provinces. Normal rainfall is predicted for the extreme northeast of Cabo Delgado, the southern-western part of Tete, the extreme north of Manica and the districts along the coastal strip of Sofala. Normal to below normal rainfall can be expected in Manica, Sofala, Inhambane, Gaza and Maputo.

Figure 13 Mozambique: Rainfall Outlook 2023/24



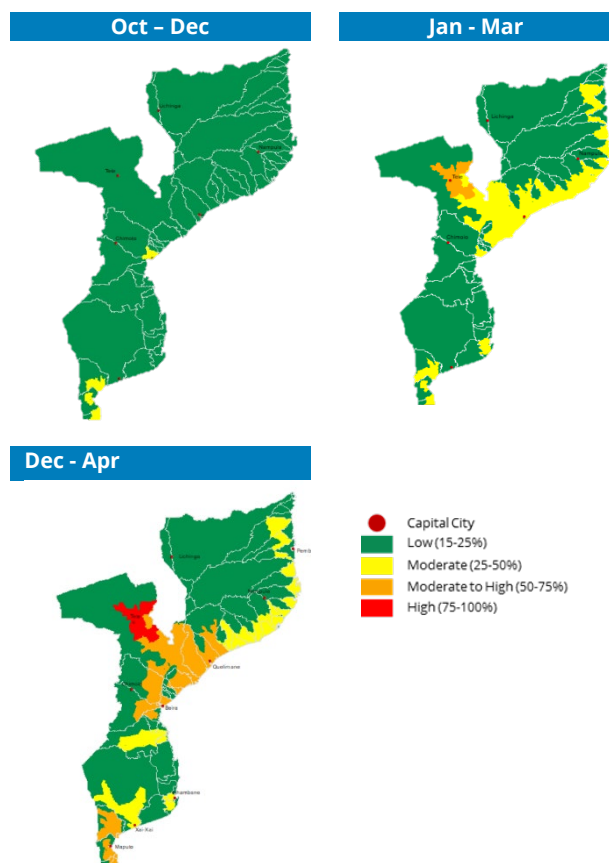
In terms of temperature during the October to December period, normal to above normal temperatures are expected in Maputo, Gaza, Inhambane, southern Manica and southern Sofala. In the January to March period the above normal temperatures extend to Tete and the northern parts of Manica and Sofala (Figure 14).

Figure 14 Mozambique: Temperature Outlook 2022/23



With regard to the hydrological forecast for the country considering rainfall forecasts, soil moisture, levels of reservoirs and basins and cyclone trajectories, during the October to December period, there is a moderate risk of floods in the river basins of Maputo, Umbeluzi, Incomati and Savane. During the January to March period, moderate to high risk of flooding is expected in the river basins of Zambeze, in the sub-basins of Revubwe and Louie. High risk of flooding may be expected in the Zambeze river basin in the case of a tropical cyclone (Figure 15).

Figure 15 Mozambique: Flood Risk Forecast 2022/23

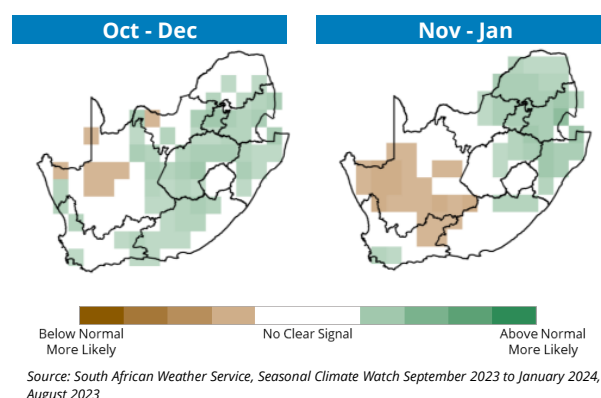


Source: Instituto Nacional de Meteorologia de Mocambique, Previsão Climática Sazonal para a Época chuvosa 2023/2024, September 2023

## SOUTH AFRICA

The South African Weather Service (SAWS) predicts above-normal rainfall for most parts of the country during mid-spring (September to November) and late spring (October to December) (Figure 16). During the early summer (November to January), however, below-normal rainfall is predicted for the central parts of the country and above-normal rainfall is expected in the north-east. Minimum and maximum temperatures are anticipated to be mostly above-normal across South Africa for the forecast period.

Figure 16 South Africa: Rainfall Outlook 2023/24



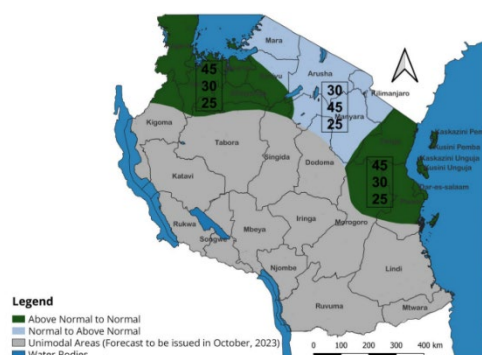
Source: South African Weather Service, Seasonal Climate Watch September 2023 to January 2024, August 2023

## TANZANIA

According to the Tanzania Meteorological Agency, rainfall is expected to be above normal for large parts of the country. Tanzania has two rainfall seasons. The 'Vuli' rains are from October to December and 'Msimu' rains are from November to April.

For the October to December 'Vuli' rains, above normal to normal rainfall is expected over most parts of the northern coast and Lake Victoria basin. However, most areas of the northeastern highlands and few areas of the eastern part of Lake Victoria basin are expected to receive normal to above normal rains (Figure 17).

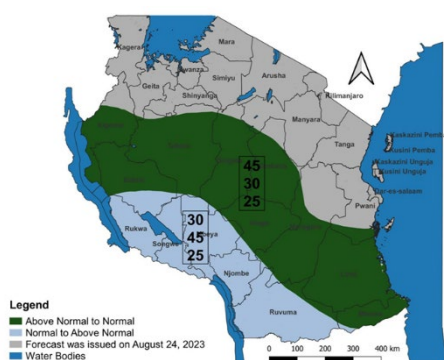
Figure 17 Tanzania: Vuli Rainfall Outlook Oct - Dec 2023



Source: Tanzania Meteorology Authority, Mwelekeo Wa Msimu Wa Mvua Za Oktoba-Disemba 2023 (Vuli), October 2023

For the November to April 'Msimu' rains, above normal to normal rainfall is expected over most parts of the Morogoro region, Iringa, Lindi, Mtwara, Singida, Dodoma, northern part of Katavi, Kigoma and Tabora regions. However, some areas are likely to be characterized by periods of dry spells especially during February, 2024 (Figure 18).

Figure 18 Tanzania: *Msimu* Rainfall Outlook Nov 2023 - Apr 2024



Source: Tanzania Meteorology Authority, 2023 (*Msimu*), October 2023

## ZAMBIA

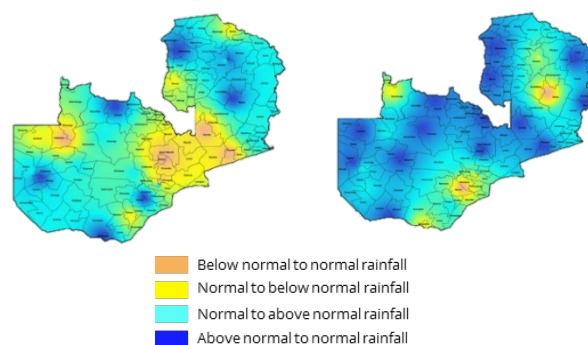
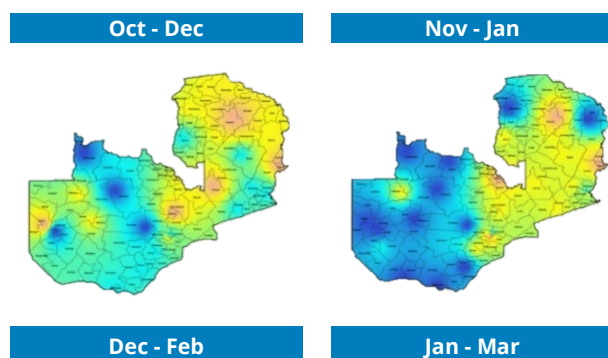
For the 2023/24 rainfall season, Zambia's Meteorological Department forecasts normal to below normal rainfalls across most of the country and the possibility of prolonged dry spells and episodes of heavy rainfall. (Figure 19).

Onset of rains is expected in October over the Northwestern province, the northern parts of Luapula and Western provinces. Onset of rains over most parts of Zambia is expected in November, however in the southern regions rains are likely to begin at the end of December. The first half of the season will be drier and the second half of the season should be wetter.

From October to December, Luapula, Northern, Muchinga, Lusaka, Central, and Copperbelt provinces, along with specific districts, are anticipated to experience normal to below normal rainfall, while Southern, Western, Northwestern, and Eastern provinces, including certain districts, are likely to witness normal to above normal rainfall.

From January to March, normal to above normal rainfall is likely across most of Zambia, excluding the districts of Ikelenge, Mwinilunga, Mpika, Kasama, Livingstone, Mazabuka, Monze, Kafue and Siavonga, which are expected to receive normal to below normal rainfall.

Figure 19 Zambia: Rainfall Outlook 2022/23



Source: Zambia Meteorological Department, Zambia Seasonal Rainfall Forecast for 2023/2024 season, October 2023

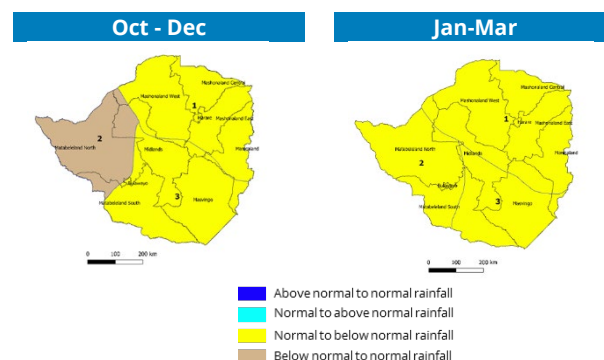
## ZIMBABWE

The Meteorological Services Department of Zimbabwe forecasts mostly normal to below normal rainfall across the whole country for October 2023 to March 2024 (Figure 20).

In the October to December period, below normal rainfall is expected in the bulk of Matabeleland North, parts of Midlands covering Gokwe North and South districts, and parts of Matabeleland South province covering Bulilima district. Normal to below normal rainfall is highly likely for the remaining provinces.

In the January to March period, normal to below normal rainfall is expected across the country

Figure 20 Zimbabwe: Rainfall Outlook 2023/24



Source: Zimbabwe Meteorological Services Department, 2023/2024 Seasonal Rainfall Forecast, 2023



## The Season So Far

The first two months of the rainy season in Southern Africa have been mixed, bringing rains in October and dryness in November that appears to be persisting into December.

The month of October brought above average rains to southern South Africa, southern Mozambique, most of Zimbabwe, western Zambia and northeastern Madagascar (Figure 21).

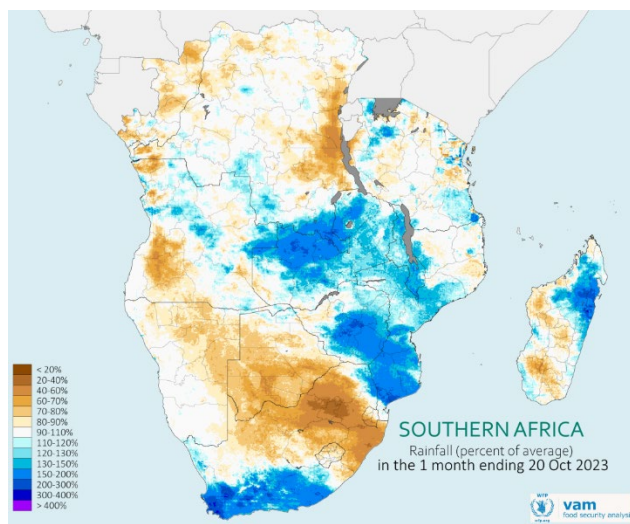


Figure 21 Rainfall (anomaly) from 20 September to 20 October 2023

In contrast, in November the eastern part of the region was drier than normal. Southern Mozambique, Zimbabwe, western Zambia, western Botswana and western Madagascar contain areas with less than 40% of normal rainfall.

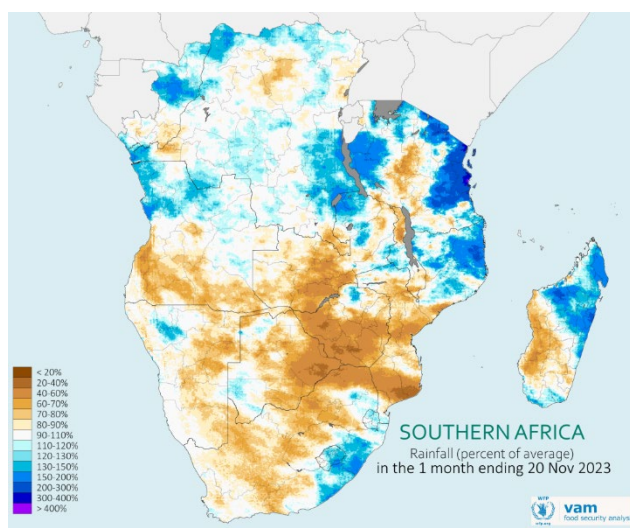


Figure 22 Rainfall (anomaly) from 20 October to 20 November 2023

The rainfall forecast in the dekad ending 10 December 2023 show that more dryness in the west of the region is to come.

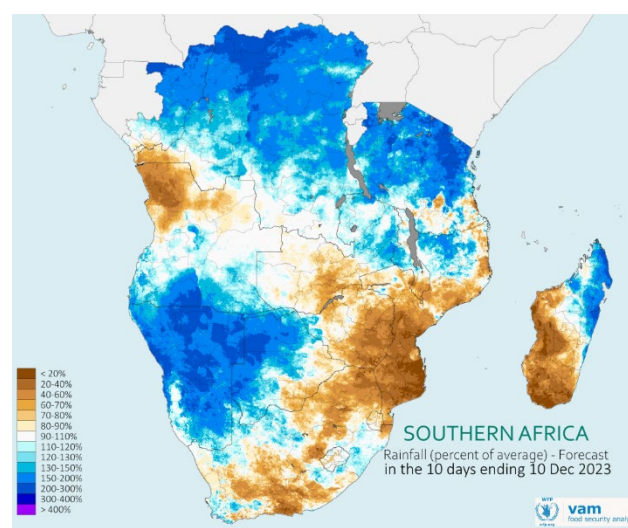


Figure 23 Rainfall forecast (anomaly) in the 10 days ending 10 Dec 2023



## WFP VAM: KEY PREPAREDNESS ACTIONS

WFP VAM activities to prepare for the 2023/24 season includes data preparedness, high frequency monitoring, and partnerships for enhanced monitoring and disaster risk intelligence.

## DATA PREPAREDNESS



- 72 Hour Assessment Approach / Spatial Data Infrastructure
- Data Standardization and Data Library

## HIGH FREQUENCY MONITORING

As the season starts in earnest,



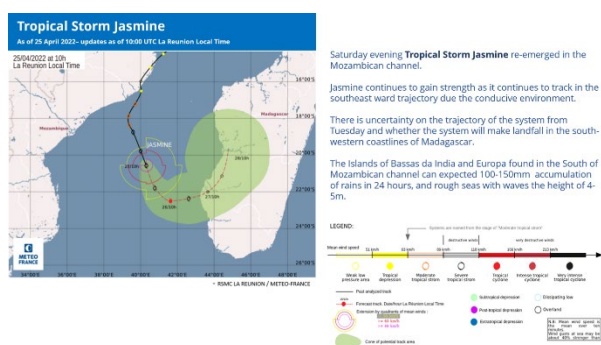
- Weekly rainfall forecast
- High frequency tropical storm/cyclone monitoring (multiple updates per day when a tropical system is approaching)
- Seasonal progress monitoring (e.g. rainfall, vegetation, crop conditions)

## PARTNERSHIPS



- Pacific Disaster Center (PDC): Global for disaster risk intelligence (early warning and preparedness)
- Centre Météorologique Régional Spécialisé (CMRS): for cyclone data sharing

**Figure 24** Example of monitoring products issued by WFP  
RBI VAM



## WFP PROGRAMME: KEY PREPAREDNESS ACTIONS

WFP in Southern Africa is undergoing a strategic shift from traditional humanitarian or lean season assistance to forecast-based early action and integrated resilience building. This is a multi-year process that varies in level of implementation from country to country, as each has differing priorities, contexts, and resources.

WFP's programmatic response to the expected impact of EI

Niño on food insecurity in Southern Africa is in keeping with this shift: expanding anticipatory action, resilience building, and the provision of insurance products.

## RESPONSE PLANNING

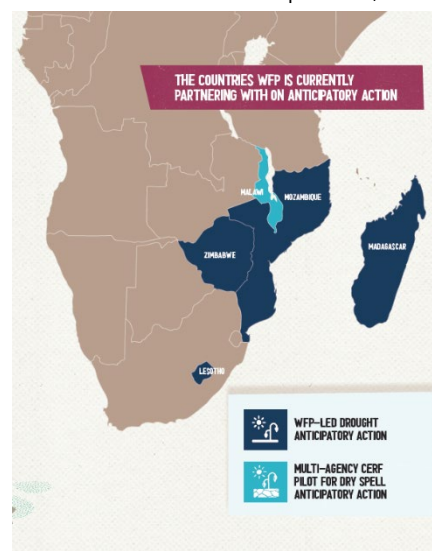
WFP Country Offices in Southern Africa will develop “no regrets” early response plans based on national forecasts. Plans will be resilience-focused to protect incomes and assets, as once these are lost, communities quickly become dependent on lean season assistance.

Even if the acute crisis predicted (in this case, El Niño-induced droughts and floods) does not materialize, our actions will still benefit communities. Response plans will also seek to address the region's high rates of chronic malnutrition and gender inequality, as well as its severe and widespread protection concerns. Reference will also be made to other WFP programme instruments such as integrated context analysis, integrated climate risk management plans, anticipatory action plans, forecast-based financing, and CSPS/ICSPS.

The early response plans will span the humanitarian-development continuum to yield immediate, medium- and long-term benefits. Connecting, layering, and sequencing ongoing interventions will ensure that resilience building momentum is only increased. WFP interventions will, wherever possible, align with and complement those of partners and other stakeholders, not least in the areas of health and education, so as to optimize scale and impact.

## ANTICIPATORY ACTION

WFP recently activated and commenced anticipatory action in Lesotho, Madagascar, Mozambique, and Zimbabwe. In partnership with governments and humanitarian partners, these actions aim to safeguard over 550,000 people and their livelihoods from the projected impacts of El Niño-induced drought. Actions include the dissemination of early warning messages, anticipatory cash transfers, provision of safe water, and distribution of agricultural inputs, along with training sessions on planting practices. The



actions was initiated in October 2023, initiating the tiered delivery of packaged anticipatory actions throughout the agricultural season, with the last actions ending in March 2024.

Based on seasonal forecasts and pre-defined drought risk thresholds, WFP has triggered its first regional activation with four SADC member states, disbursing a total of USD 13.8 million in anticipatory finance, made possible through the generous co-funding of Germany, the European Union, and

Norway, In Mozambique, anticipatory finance is channeled for the first time directly to government entities for fully government-led implementation of anticipatory actions at community level.

#### **DISASTER RISK FINANCING – CLIMATE RISK INSURANCE**

Climate adaptation and resilience building in the agricultural sector is increasingly becoming a crucial area of focus for governments within the SADC region to ensure national food security against the growing threat of climate variability. There is keen interest from governments to adopt Disaster Risk Management (DRM) strategies that can help them better address, mitigate and effectively respond to the growing frequency and impact of climate shocks.

During this 2023/24 season, at macro level, WFP is working with the governments of Madagascar, Mozambique, Zambia and Zimbabwe through ARC Replica to provide cover for an estimated (and additional) 1.2 million vulnerable people against droughts and tropical cyclones (Madagascar and Mozambique). At micro level, WFP is also supporting over 1.06 million smallholder farmers' direct access to risk transfer in Madagascar, Mozambique, Malawi and Zambia through micro insurance as part of integrated climate risk management (ICRM) programs in the respective countries.

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CHANGING  
LIVES