

WFP Southern Africa Seasonal Update

Regional Bureau for Southern Africa (RBJ)

Highlights

- Latest El Niño Southern Oscillation (ENSO) updates indicate that La Niña conditions have re-emerged for the second consecutive year. As of October, ENSO forecasts expect these conditions to continue with 87% chance of La Niña in December 2021- February 2022.
- Taking into account oceanic and atmospheric factors and the La Niña occurrence, the bulk of the Southern Africa region is expected to experience above-average rainfall in the 2021/22 season. While this may portend well for overall regional crop production, close monitoring and preparedness is needed as some areas may experience high cyclonic activities, severe weather events and flooding similar to last year. Measures also need to be put in place to ensure the positive outlook can be maximized.
- Key areas of concern for normal to below normal rainfall throughout the October-November-December (OND) and January-February-March (JFM) periods are parts of western Angola and potentially western Namibia according to the regional SARCOF Seasonal Forecast.
- WFP VAM activities to prepare for the season include: 1) data preparedness (e.g. spatial data infrastructure for the 72 hour assessment approach), 2) high frequency monitoring of rainfall, tropical systems, seasonal progress and 3) partnerships for enhanced monitoring and disaster risk intelligence.

La Niña Outlook

As early as July, the CPC/IRI* issued a La Niña Watch and in early October, it was reported that La Niña conditions have re-emerged for the 2021/22 season. The CPC/IRI's latest official forecast indicates 87% chance of La Niña conditions persisting in December 2021 - February 2022, and at its peak could reach a moderate strength La Niña (Box 1).

This year's La Niña conditions come on the back of a moderate La Niña in the 2020/21 season, which was characterized by 12 named tropical storms in the South-West Indian Ocean, of which 7 were tropical cyclones. 5 tropical systems made landfall, primarily affecting countries such as Mozambique, Madagascar, Zimbabwe and Malawi. As a result, parts of the region experienced severe weather and flooding last year, calling for close monitoring and preparedness this year.

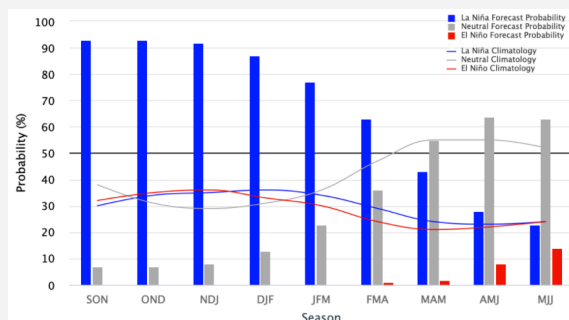
On a positive note, above average rainfall likely implies another year of good cereal production for the region. As seen in the previous season, above average rainfall across much of the region led to favourable end of maize harvest conditions (exceptional in South Africa, Zimbabwe and Malawi, and favourable in Zambia, Tanzania, Mozambique, Eswatini and Lesotho, Figure 1). Favourable livestock conditions were also reported across most of the region. Although there is reason to be cautiously optimistic that a similar scenario could unfold again this season, potential issues such as possible outbreaks of African Migratory Locust (AML) as the weather gets warmer and outbreaks of Avian influenza require continued monitoring. Key

Box 1 La Nina Southern Oscillation (ENSO)

- One of the main climate phenomena that affects weather patterns in the southern Africa region. La Niña is typically associated with bringing a cool and wet season to the bulk of the Southern Africa region.
- The latest IRI/CPC official probabilistic ENSO forecasts indicate approximately 87% chance of a La Niña conditions persisting into December 2021 - February 2022.

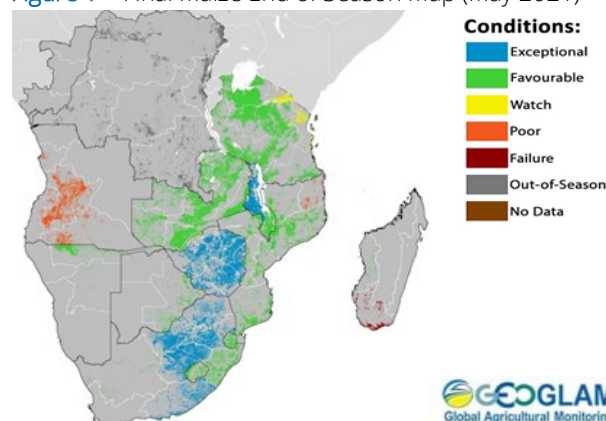
Early-October 2021 CPC/IRI Official Probabilistic ENSO Forecasts

ENSO state based on NINO 3.4 SST Anomaly
Neutral ENSO: -0.5°C to 0.5°C



Source: IRI/CPC

Figure 1 Final Maize End of Season Map (May 2021)



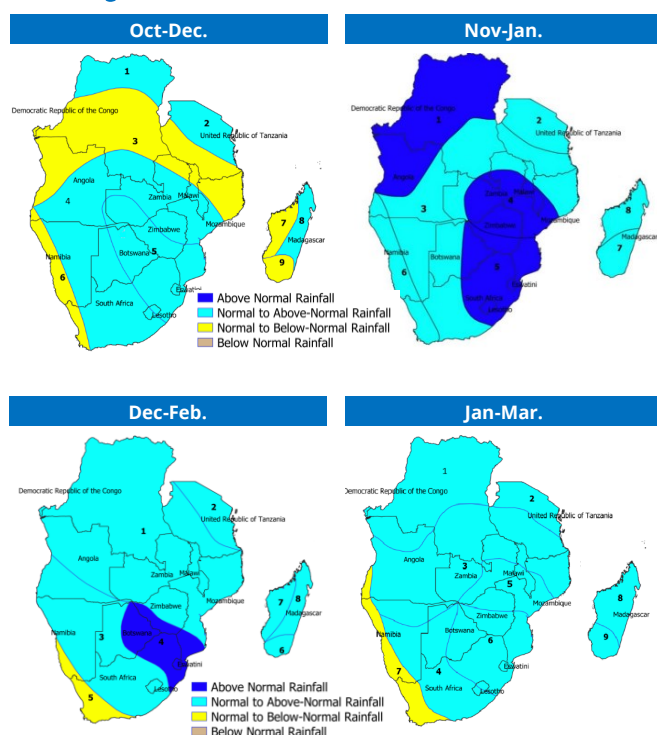
areas of concern for normal to below normal rainfall throughout the October-November-December (OND) and January-February-March (JFM) periods are parts of western Angola and potentially western Namibia according to the regional SARCOF Seasonal Forecast.

2021/22 Regional Rainfall Season Outlook

The Southern Africa Regional Climate Outlook Forum (SARCOF) forecasts the bulk of the region to receive normal to above normal rainfall during the initial October-November-December (OND) period and also during the final January-February-March (JFM) period (Figure 2). Exceptions to this during the OND period are the north-western part of Angola, bulk of DRC, western and southern Madagascar, northern Malawi, northern Mozambique, western fringes of Namibia and South Africa, south-western Tanzania and north-eastern Zambia; these areas are expected to receive normal to below normal rainfall. During the JFM period, the south-western fringes of Angola and the western parts of Namibia and South Africa are expected to receive normal to below normal rainfall.

During the middle of the season, parts of the region are expected to receive above normal rainfall. In the November-December-January (NDJ) period, large areas across DRC and northern Angola, Zambia, Zimbabwe, eastern Botswana, southern and central Mozambique, Eswatini, Lesotho and eastern South Africa are forecast to receive above normal rainfall. During the December-January-February (DJF) period, eastern Botswana, north-eastern South Africa, Eswatini and the southern fringe of Zimbabwe are also forecast to receive above normal rainfall.

Figure 2 SARCOF Rainfall Outlook 2021/2022



Source: *Statement from the 25th Annual Southern Africa Regional Climate Outlook Forum (SARCOF-25), September 2021*

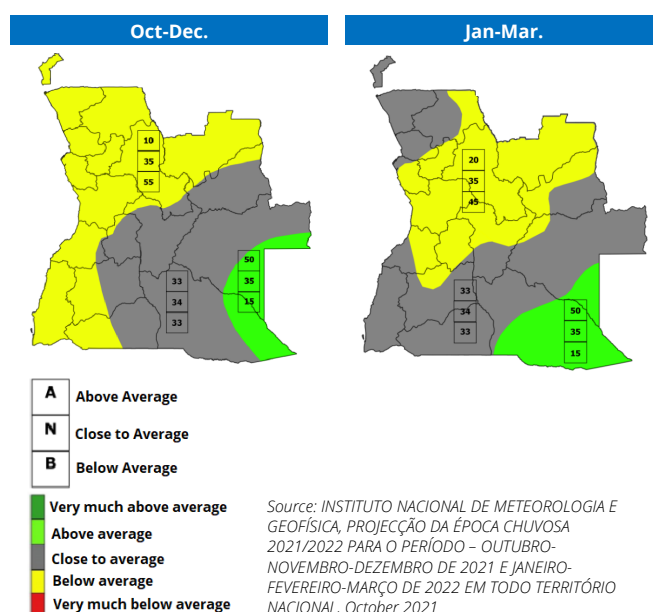
2021/22 Rainfall Season Outlook by Country

ANGOLA

From October to December, Angola's National Institute of Meteorology and Geophysics (INAMET) forecasts that the northern and western parts of the country will receive below normal rainfall, the central part will receive close to average rainfall, and the south-eastern fringe will receive above normal rainfall (Figure 3).

From January to March, large areas of the north central part of the country is forecast to receive below normal rainfall; the north-western corner and much of the south central part of the country is forecast to receive close to average rainfall; the south-eastern corner is again forecast to receive above normal rainfall.

Figure 3 Angola: Rainfall Outlook 2021/22

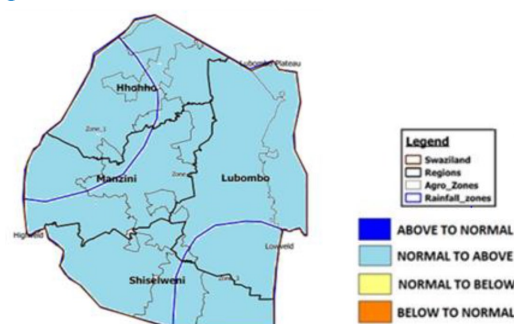


Source: INSTITUTO NACIONAL DE METEOROLOGIA E GEOFÍSICA, PROJEÇÃO DA ÉPOCA CHUVOSA 2021/2022 PARA O PERÍODO - OUTUBRO-NOVEMBRO-DEZEMBRO DE 2021 E JANEIRO-FEVEREIRO-MARÇO DE 2022 EM TODO TERRITÓRIO NACIONAL, October 2021

ESWATINI

Eswatini is forecast to receive normal to above normal rainfall from December 2021 – March 2022 across the entire country (Figure 4). In the OND period, normal to above normal rainfall ranging between 200 - 500mm is expected, while during the JFM period, normal to above normal rainfall ranging between 300 - 500mm is expected.

Figure 4 Eswatini: Rainfall Outlook Oct. 2021 - Mar. 2022

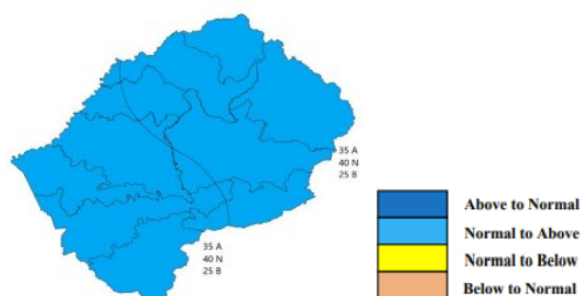


Source: Swaziland Meteorological Service, Seasonal Forecast Outlook September 2021

LESOTHO

Lesotho is projected to receive normal to above normal rainfall throughout October 2021 to March 2022 (Figure 5) with normal to below normal temperatures. For the NDJ period, however, above normal rainfall is forecast for the entire country. Onset of rainfall is expected towards the end of October in the highlands, and in mid-November in the lowlands. Against the backdrop of climate change, occurrences of strong winds, lightning, severe thunderstorms, flash floods and hailstorms could increase in frequency and intensity during the season, and close monitoring of potential weather hazards is needed.

Figure 5 Lesotho: Rainfall Outlook Oct. 2021 - Mar. 2022



Source: Ministry of Energy and Meteorology, Climate Outlook for October 2021 to March 2022, September 2021

MADAGASCAR

Overall, Madagascar is forecast to receive favourable rainfall during the 2021/22 season which is a welcome development (Figure 6). However, temperatures are generally forecast to be above average for much of the country (Figure 7) which could result in heat waves and exacerbated water stress, especially in the south. Southern Madagascar remains an area of key concern as below average rainfall is expected at the start of the season in October and November, and this could also indicate a possible delayed onset of rainfall and a poor start to the season in this region. Having experienced its worst drought in 40 years in 2021, the cumulative effects of drought and past dry spells are likely to persist in the 2021/22 season, affecting crop and livestock conditions as more than one season will be needed to put back the drought ravaged population back on a recovery path.

It is also important to note that favourable rainfall for the country could also potentially indicate enhanced flood and tropical storm risk in the upcoming season.

Figure 6 Madagascar: Rainfall Outlook 2021/22

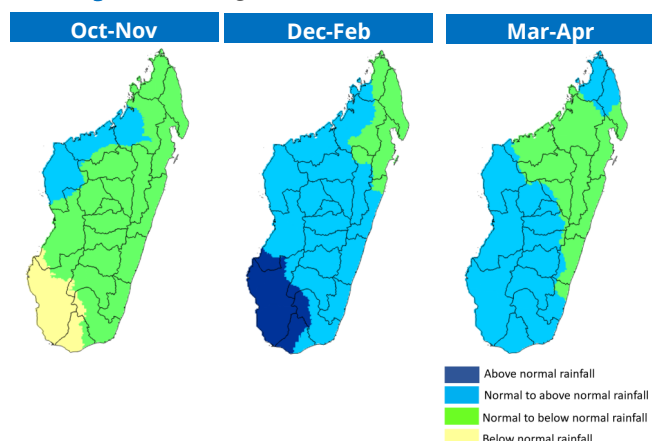
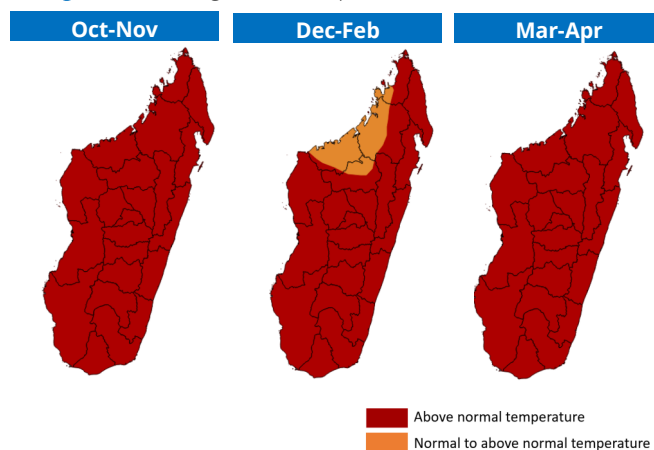


Figure 7 Madagascar: Temperature Outlook 2021/22



Source: Météo Madagascar, Perspectives Climatiques Saison Chaude et Humide 2021-2022, September 2021

MALAWI

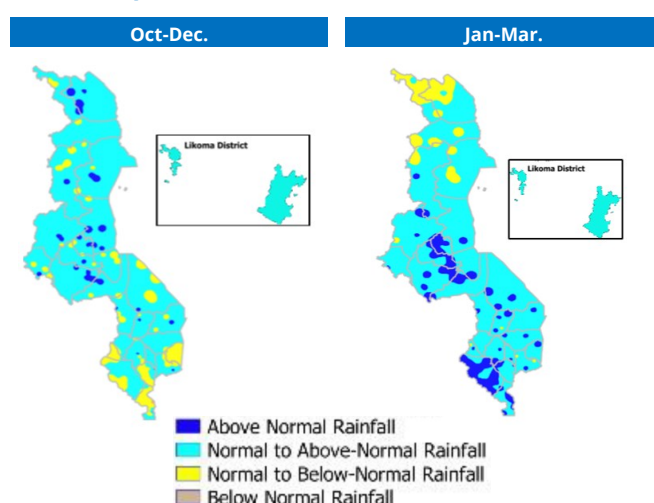
According to Malawi's Department of Climate Change and Meteorological Services, normal to above normal rainfall is expected for most parts of the country during the 2021/22 season (Figure 8).

There are a few pockets of areas primarily in the south that are forecast to receive normal to below normal rainfall in the OND period. Yet, overall, normal to above normal rainfall is forecast for most of the country. While the general forecast is for early rainfall onset, many places are likely to experience onset between the end of November and mid-December.

In contrast, during the JFM period, pockets of areas forecast to receive normal to below normal rainfall are concentrated in the north, while pockets of areas forecast to receive above normal rainfall are scattered across central and southern Malawi.

Overall, while favourable rainfall is expected throughout the season, certain areas may experience heavy rainfall and flooding, while others may experience prolonged dry spells, particularly in the months of January and February. The rainfall season is forecast to end from around the end of March from the southern districts.

Figure 8 Malawi: Rainfall Outlook 2021/22



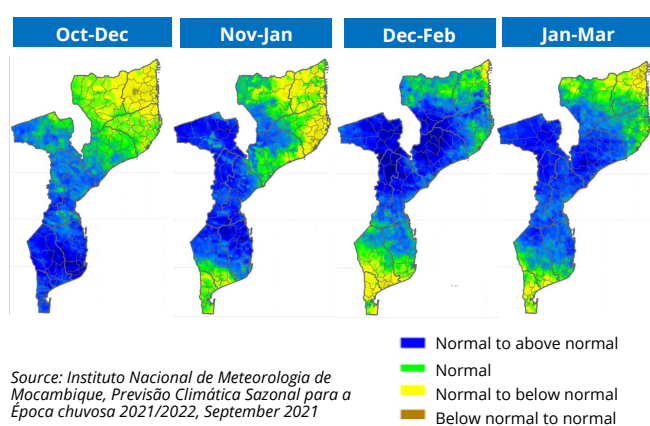
Source: Department of Climate Change and Meteorological Services, Prospects for the 2021/2022 Rainfall Season in Malawi, September 2021

MOZAMBIQUE

According to the Mozambique National Meteorology Institute (INAM), normal to above normal rainfall is projected for much of the country during the 2021/22 season (Figure 9).

In the OND period, there is a higher likelihood of normal to above normal rainfall in the provinces of Maputo, Gaza, Inhambane, Manica, Sofala and a large extension of the province of Tete and the districts to the south of the province of Zambézia. In the JFM period, there is a higher likelihood of normal to below normal rainfall in the districts north of Cabo Delgado, the coastal strip of Gaza and parts of the province of Maputo. Throughout the season, due to oceanic and atmospheric conditions, the northern part of the country could experience long dry spells (i.e. periods without rainfall or below normal rainfall).

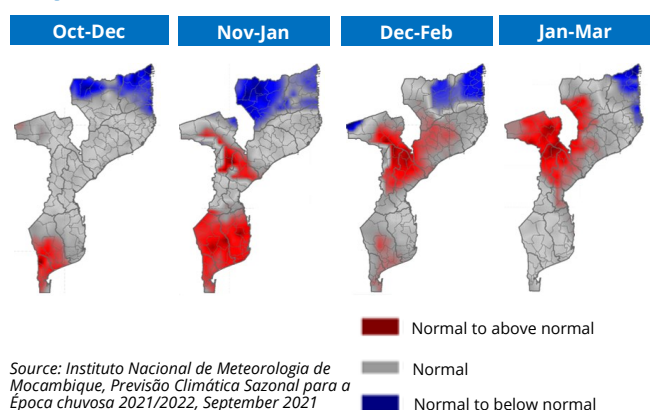
Figure 9 Mozambique: Rainfall Outlook 2021/22



In terms of temperature, parts of northern Mozambique is forecast to experience normal to below temperatures throughout the season, while parts of central and southern Mozambique are forecast to see normal to above normal temperatures during different periods of the season (Figure 10).

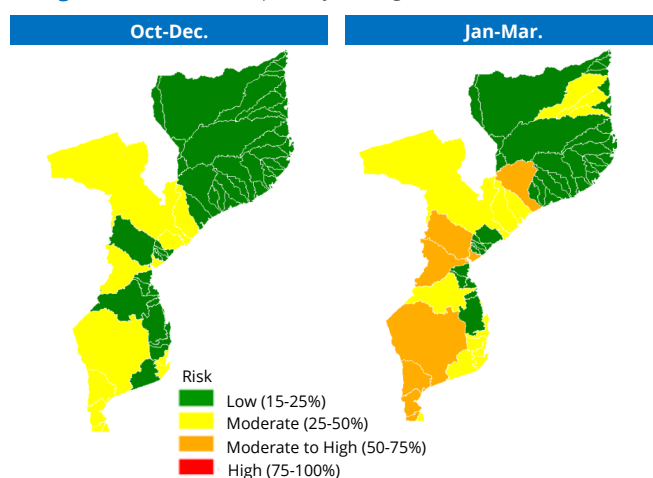
During the OND period, there is a higher likelihood of warmer than normal temperatures in the southern districts of Gaza province and Maputo province. In the JFM period, there is a higher likelihood of warmer than normal temperatures in the southwestern districts of Niassa, central and southwestern Zambézia, the province of Tete, the central and northern districts of Manica and Sofala.

Figure 10 Mozambique: Temperature Outlook 2021/22



According to Mozambique's National Directorate of Water Resources Management (DNGRH), in terms of hydrological forecasts, in the OND period, the Maputo, Umbeluzi, Incomáti, Limpopo, Inhanombe, Mutamba, Búzi, Zambeze and Savane basins are at moderate risk (25-50%) and in the JFM period, the Futi, Inharrime, Inhanombe, Mutamba, Save, Zambeze, Namacurra, Megaruma, Montepuez and Messalo basins are at moderate risk while the Maputo, Umbeluzi, Incomáti, Limpopo, Búzi, Púngoé, Savane and Licungo basins are at moderate to high risk (50-75%) (Figure 11). The forecast of possible areas of impact are: Maputo, Umbeluzi, Incomáti and Limpopo in the south, Save, Búzi and Pungue in the central region and Licungo and Zambeze in the central-north region.

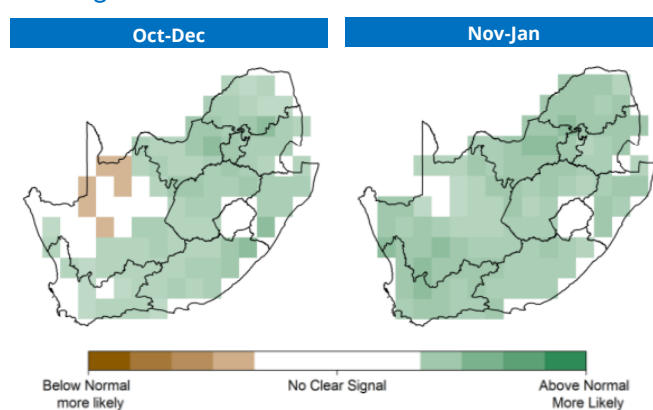
Figure 11 Mozambique: Hydrological Forecast 2021/22



SOUTH AFRICA

According to the South African Weather Service, mostly above normal rainfall is forecast for the north-eastern half of the country (i.e. main maize production area) between the September-October-November (SON) period and the NDJ period (Figure 12). The south-western parts of the country are expected to receive below normal rainfall for the OND period and above normal rainfall for the NDJ period. Across South Africa, above-normal minimum and maximum temperatures are expected throughout from the SON period to NDJ period.

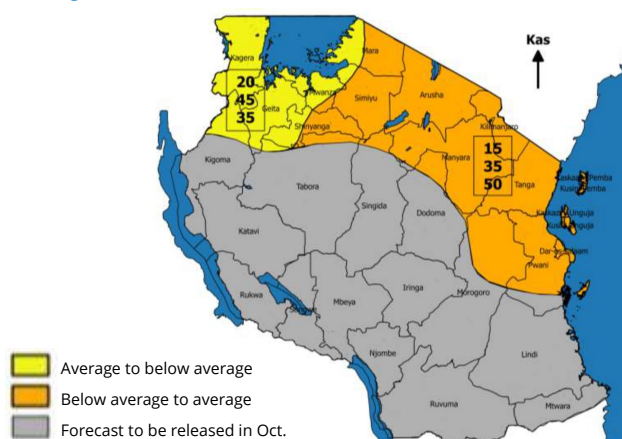
Figure 12 South Africa: Rainfall Outlook 2021/22



TANZANIA

According to the Tanzania Meteorological Agency, the 'Vuli' rain season (Oct-Dec in bimodal rainfall areas: northeast highlands, northern coast, Dar es Salaam and Tanga, as well as the islands of Unguja and Pemba, Lake Victoria Belt and northern Kigoma region) is expected to begin in earnest in the latter half of October. In general, below average to average rainfall and long dry spells (i.e. erratic distribution of rainfall) are expected (Figure 13), along with periods of extreme heat. In these areas, there is concern of depletion of soil moisture, disease outbreaks due to shortage of clean/safe water, possible emergence of conflicts between pastoralists and other land users due to lack of feed and water, and possible occurrences of forest fires.

Figure 13 Tanzania: Rainfall Outlook Oct - Dec 2021

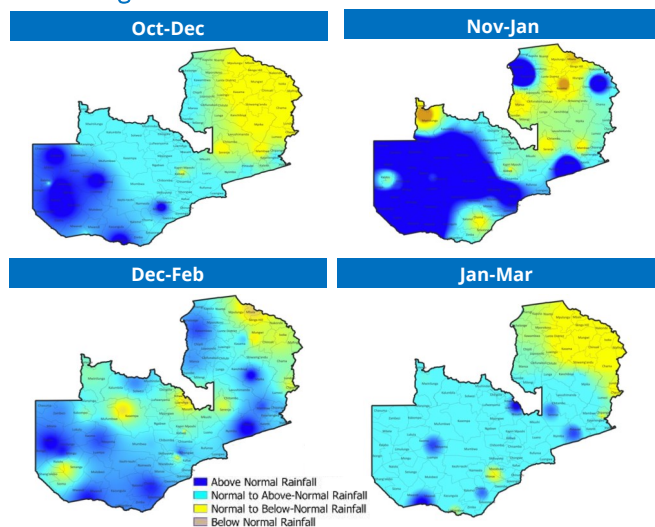


Source: Tanzania Meteorology Authority, Mwelekeo Wa Msimu Wa Mvua Za Oktoba-Disemba 2021 (Vuli), September 2021

ZAMBIA

For the 2021/22 rainfall season, Zambia's Meteorological Department forecasts normal to above normal rainfalls across much of the country with the exception of the north-eastern region which is forecast to receive normal to below normal rainfall throughout the season (Figure 14). This could affect crop production in the northeast, which forms part of the country's cassava belt and require close monitoring during the season.

Figure 14 Zambia: Rainfall Outlook 2021/22

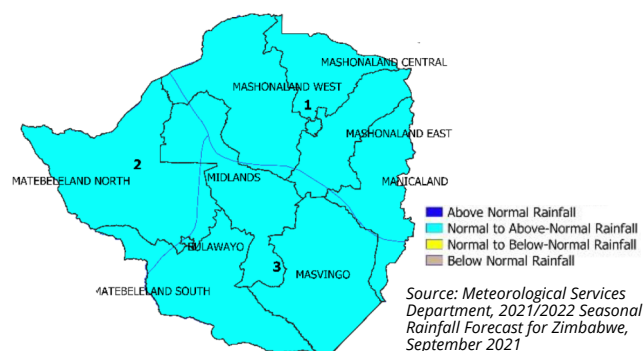


Source: Zambia Meteorological Department, Zambia Seasonal Rainfall Forecast for 2021/2022 season, September 2021

ZIMBABWE

The Meteorological Services Department of Zimbabwe forecasts normal to above normal rainfall across the whole country for the 2021/22 season (Figure 15). Possible implications of this outlook include heavy storms followed by periods of elevated temperatures, flash floods, spilling of dams, increase in livestock diseases and soil leaching among others. Based on historical data analysis by WFP, La Niña's effect of bringing higher rainfall is more pronounced in a region extending along a line Chiredzi-Masvingo-Gweru-Bulawayo-Francistown. Despite the forecast for normal to above normal rainfall, the possibility of prolonged dry spells also remains in parts of the south.

Figure 15 Zimbabwe: Rainfall Outlook 2021/22



Source: Meteorological Services Department, 2021/2022 Seasonal Rainfall Forecast for Zimbabwe, September 2021

WFP VAM: KEY ACTIONS IN PREPARATION FOR THE SEASON

WFP VAM activities to prepare for the 2021/22 season center around 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 on watch a tropical system is approaching)
- Seasonal progress monitoring (e.g. rainfall, vegetation, crop conditions)



PARTNERSHIPS

With

- Cloud to Street: flood mapping, analysis of local flood exposure and near real-time monitoring of floods
- PDC Global for disaster risk intelligence (early warning and preparedness)



vam
food security analysis