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2023/2024 SEASONAL RAINFALL FORECAST FOR ZIMBABWE

1. SUMMARY

Much of the country is likely to receive normal to below-normal rainfall for the period October 2023 to March 2024 with the exception of the bulk of Matabeleland North, parts of Midlands covering Gokwe North and South districts, parts of Matabeleland South province covering Bulilima district, which will receive below normal to normal rainfall for the sub-season October-November-December.

2. INTRODUCTION

The Ministry through the Meteorological Services Department (MSD) annually presents the seasonal rainfall forecast for the upcoming season at a National Climate Outlook Forum (NACOF). The NACOF is a platform where stakeholders across climate sensitive sectors are able to discuss the implications of the expected seasonal rainfall outlook. Stakeholders use the seasonal rainfall outlook as a planning tool. Weather and climate information is invaluable to all sectors for socio-economic development, especially as the country works towards achieving an upper middle-class economy by 2030.

3. METHODOLOGY

Using statistical analysis, other climate prediction schemes and expert interpretation (including personnel from academic institutions), the climate scientists determined likelihoods of above-normal, normal-to-above, normal-to-below and below-normal rainfall for each sub-season i.e. October-November-December (OND), November-December-January (NDJ), December-January-February (DJF) and January-February-March (JFM).

The climate scientists took into account oceanic and atmospheric factors that influence the climate over Zimbabwe, including the El Niño-Southern Oscillation (ENSO), which is currently in an El Niño phase. The ENSO is projected to remain in an El Niño phase during the forecast period. There is also an increased chance of a positive Indian Ocean Dipole (IOD) by the end of the March 2024.

4. SEASONAL RAINFALL OUTLOOK FOR ZIMBABWE FOR 2023/24

The seasonal rainfall forecast is divided into four sub-seasons: October to December (OND) 2023, November to January (NDJ) 2023/24, December to February (DJF) 2023/24 and January to March 2024 (JFM).

The country is demarcated into three (3) homogenous rainfall zones according to the climate drivers as illustrated in **Figure 1**.

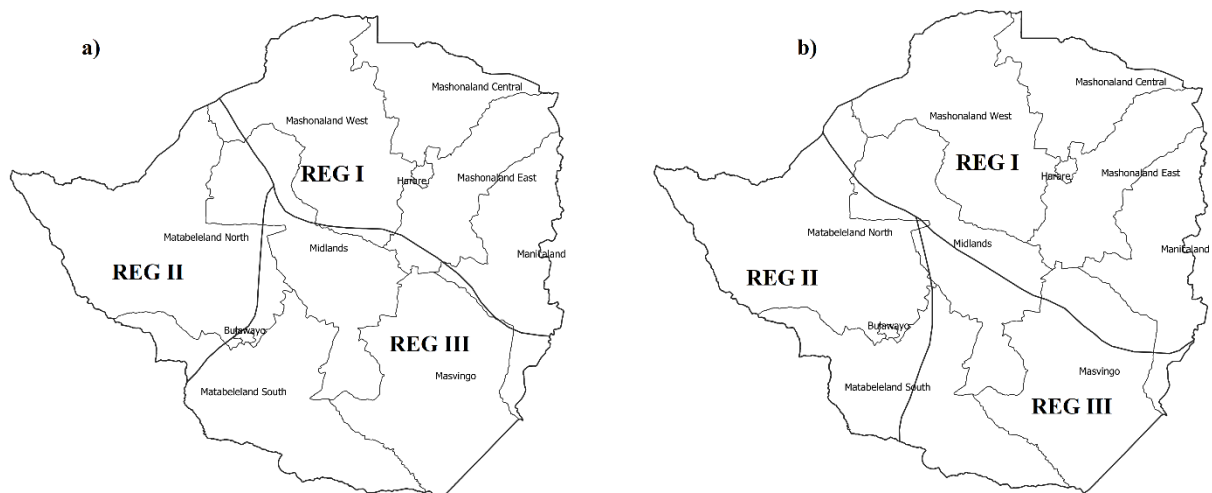


Figure 1: Zimbabwe's Homogeneous Rainfall Zones a) OND b) JFM

NB: It is important to note that the forecast is for cumulative seasonal rainfall amounts and is expressed relative to the long-term averages particular to specific locations. It should be used together with the periodic updates: daily, 3-day and 10-day forecasts, issued by the Meteorological Services Department to account for the distribution of rainfall during the season.

Terminology

- i. **Normal** – long-term average rainfall received in an area
- ii. **Normal to below-normal** – cumulative rainfall **most** likely to be within the long-term average range with a chance of going **below** this range
- iii. **Normal to above-normal** – cumulative rainfall **most** likely to be within the long-term average range with a chance of going **above** this range
- iv. **Above normal** - cumulative rainfall **most** likely to be **above** the long-term average range with a chance of falling within the long-term average range
- v. **Below normal** - cumulative rainfall **most** likely to be **below** the long-term average range with a chance of falling within the long-term average range

Outlook

The period October to March is the main rainfall season over most parts of the country. Owing to the differences and evolution patterns in the predominant rainfall-bearing systems, the rainy season has been subdivided into two three-month periods (i.e. OND and JFM as defined below).

The **October 2023 to March 2024 forecast** is as follows:

a) Rainfall outlook for the October to December (OND) 2023 period

Increased chances of normal-to-below normal rainfall for most of the country except the greater part of Matabeleland North, parts of Bulawayo Metropolitan, parts of Midlands and parts of Mashonaland West which have increased chances of below normal-to-normal rainfall

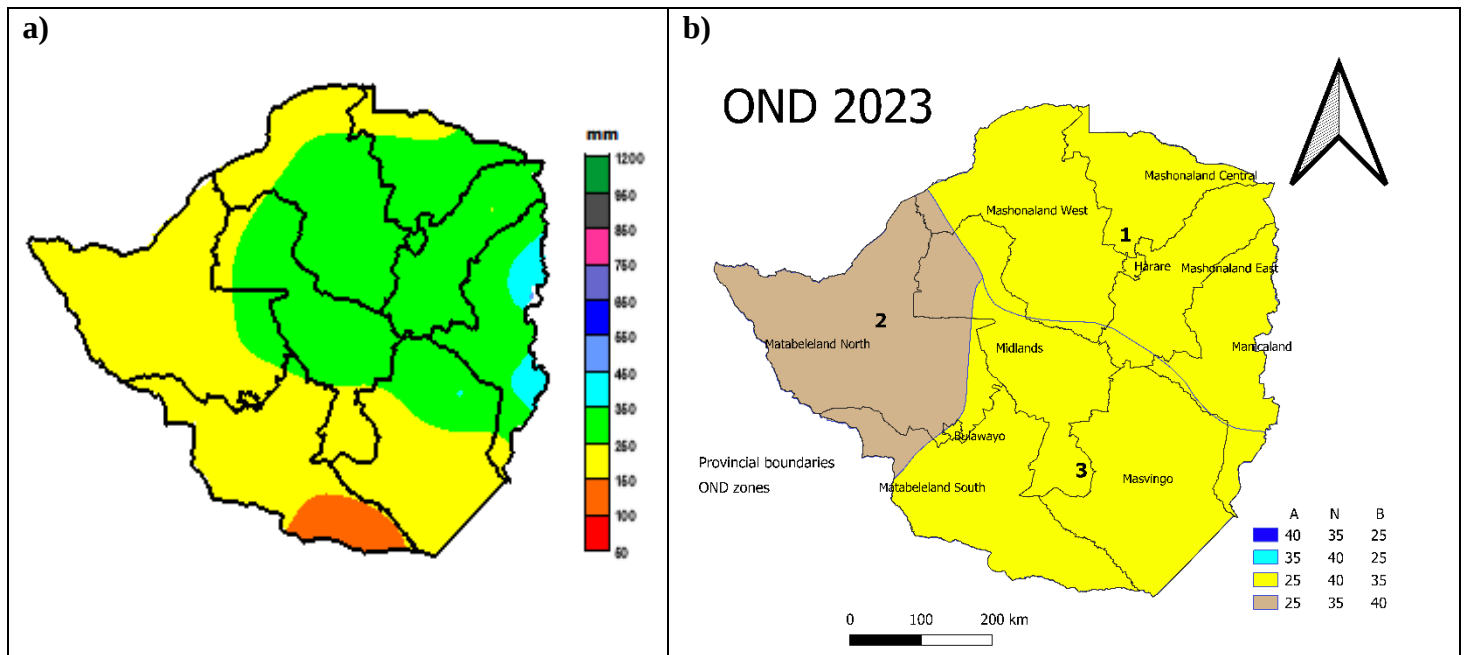


Figure 2(a) Long term mean rainfall for October-November-December (1981-2010) (b) Seasonal outlook for October-November-December 2023

(b) Rainfall outlook for the January to March (JFM) 2023 period

Increased chances of normal-to-below normal rainfall across the country

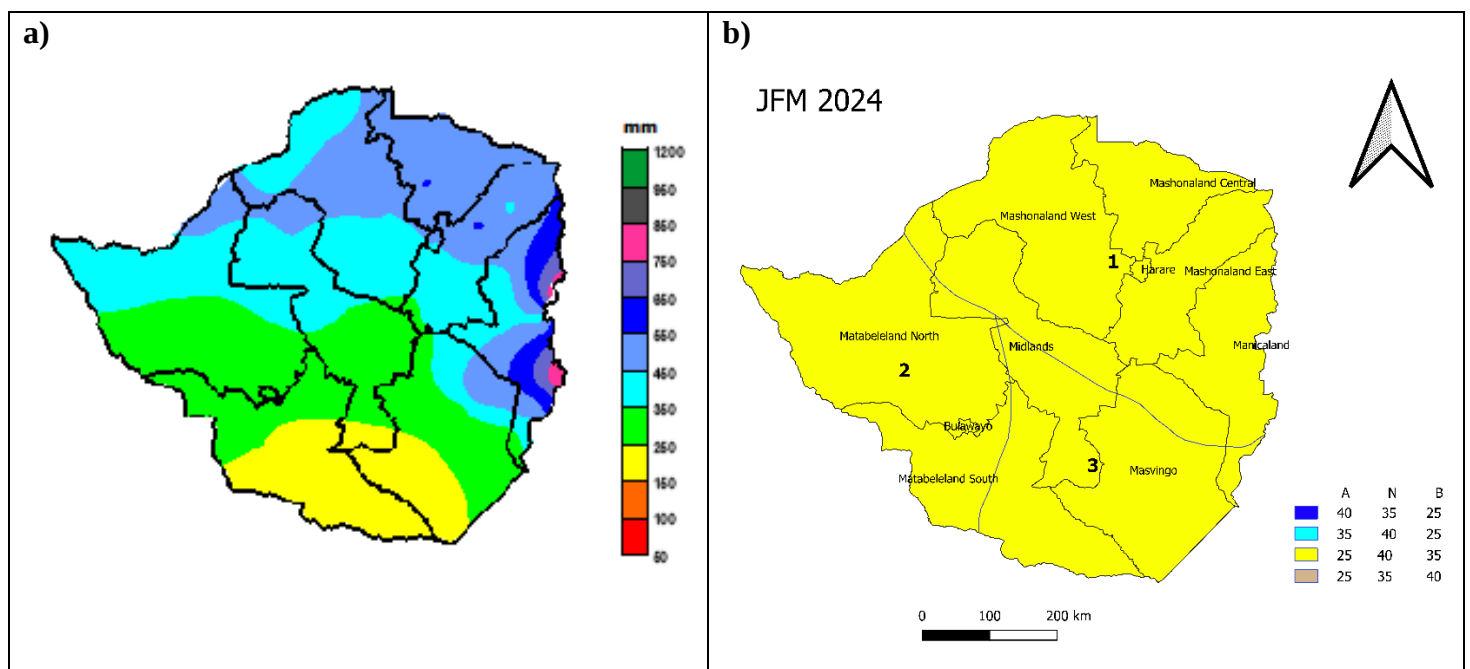


Figure 3(a) Long term mean rainfall for January-February-March (1981-2010), (b) Seasonal outlook for January-February-March 2024.

Please Note: The Meteorological Services Department will continue to monitor all the available seasonal climate indicators which influence Zimbabwe's rainfall as they evolve. Thus, the seasonal rainfall predictions will be updated on a monthly basis beginning end of October. In addition, there will be daily weather forecasts and 10-day weather bulletins that will take into account any changes.

5. IMPLICATIONS/ADVISORIES FOR THE 2023/24 RAINFALL SEASON OUTLOOK

- The forecast is for total seasonal rainfall amount. However, the rainfall is expected to be erratic in space and time.
- It would be prudent to put in place measures for early cloud seeding programme in light of the expected erratic rainfall season throughout the country.
- Those with irrigation facilities should not wait for the main rains to fall. They can plant any suitable time from now, taking into account the temperature thresholds needed for germination as may be guided by Extension Officers.
- Violent storms, prolonged dry spells, flash floods and tropical cyclones cannot be ruled out as the season progresses.
- There is need to intensify water harvesting and conservation programmes. Dam construction and borehole drilling/ deepening, conservation and protection of wetlands should continue.
- Agricultural activities such as planting and fertilizer application should be guided by the 10-day weather forecasts as well as advice from Agricultural authorities.