

Seasonal rainfall forecast (Oct 22 – Mar 23)

Introduction

This article seeks to make growers and other stakeholders of the Eswatini sugar industry aware of the rainfall forecast for the period October 2022 to March 2023 for appropriate decision making.

The rainfall forecast released by the Eswatini Meteorological Service (EMS) for the 2022/23 rain season (October 2022 to March 2023) indicates normal to above normal rainfall in most areas of the country. Rains are expected to range between 200 to 500mm during the October – December 2022 period and 300 to 500mm during the January –March 2023 period (Figures 1 to 3).

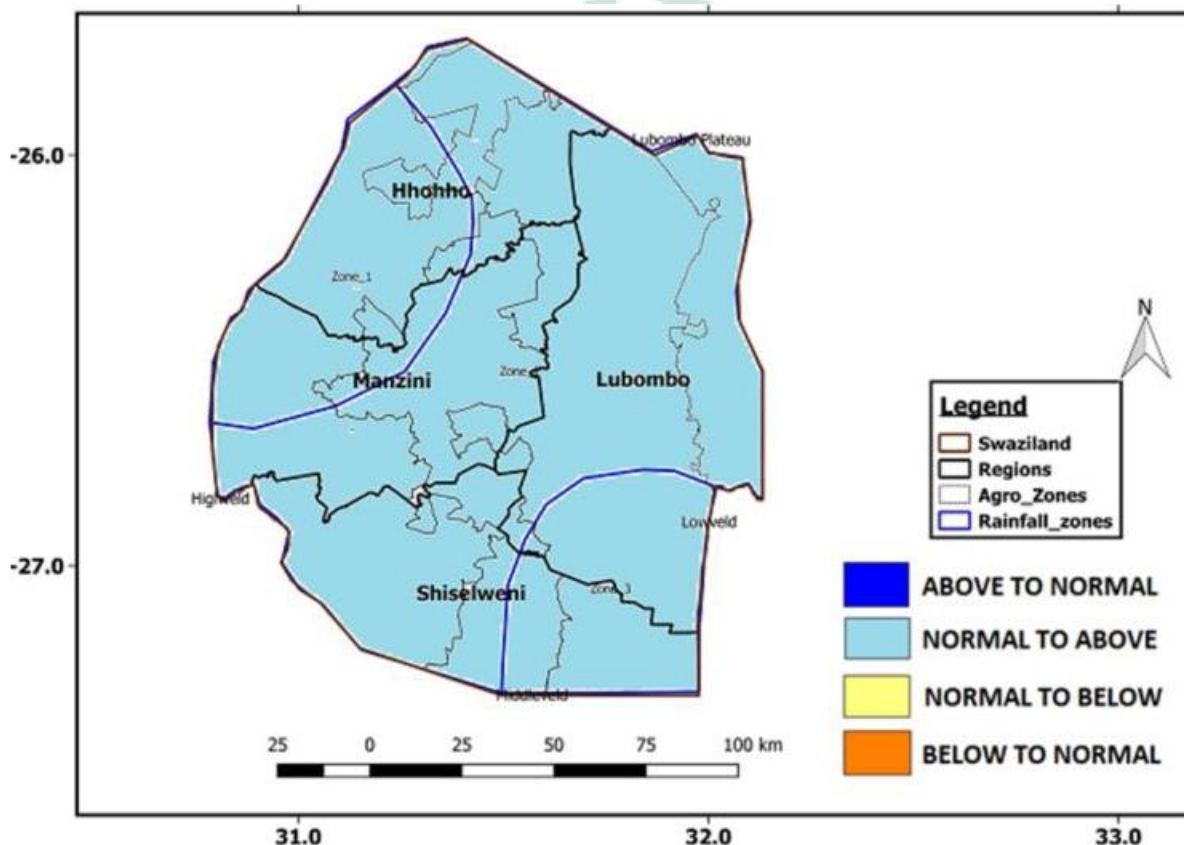


Figure 1: Rainfall forecast for October 2022 - March 2023
(Source: Eswatini Meteorological Service)

“Proper maintenance of irrigation systems, eliminating leaks in conveyance canals and reservoirs, and proper scheduling of irrigation events are among the key things growers should follow to save water for future use”

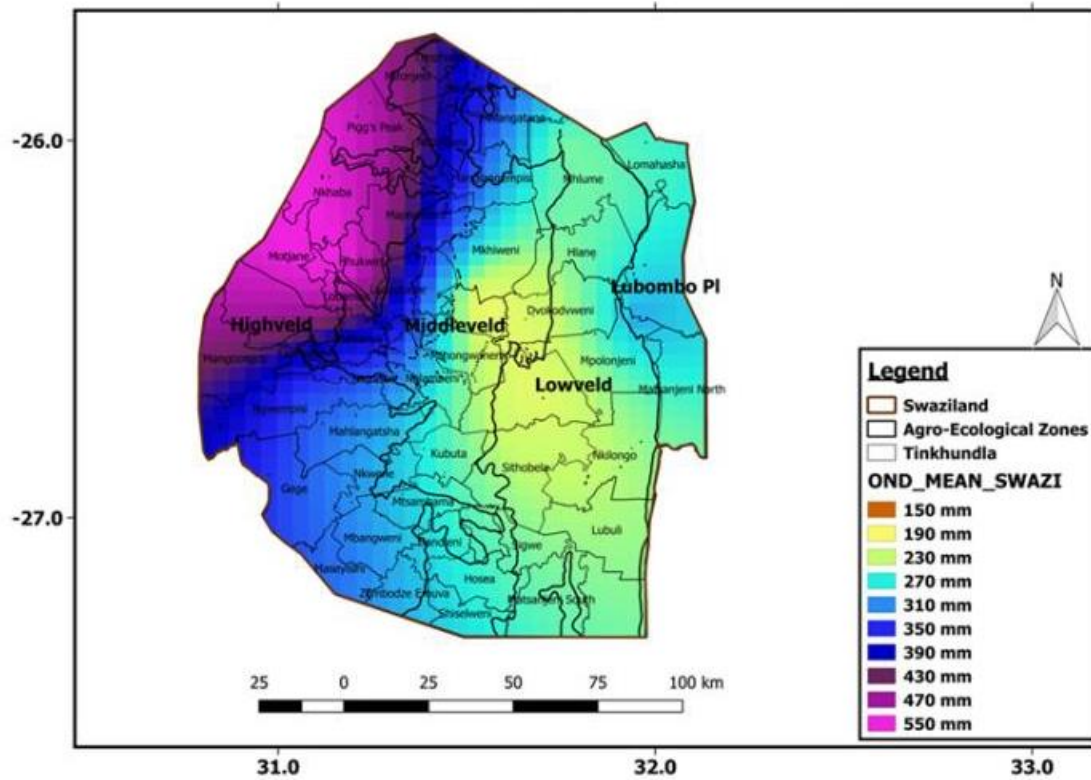


Figure 2: Predicted rainfall forecast for October - December 2022
 (Source: Eswatini Meteorological Service)

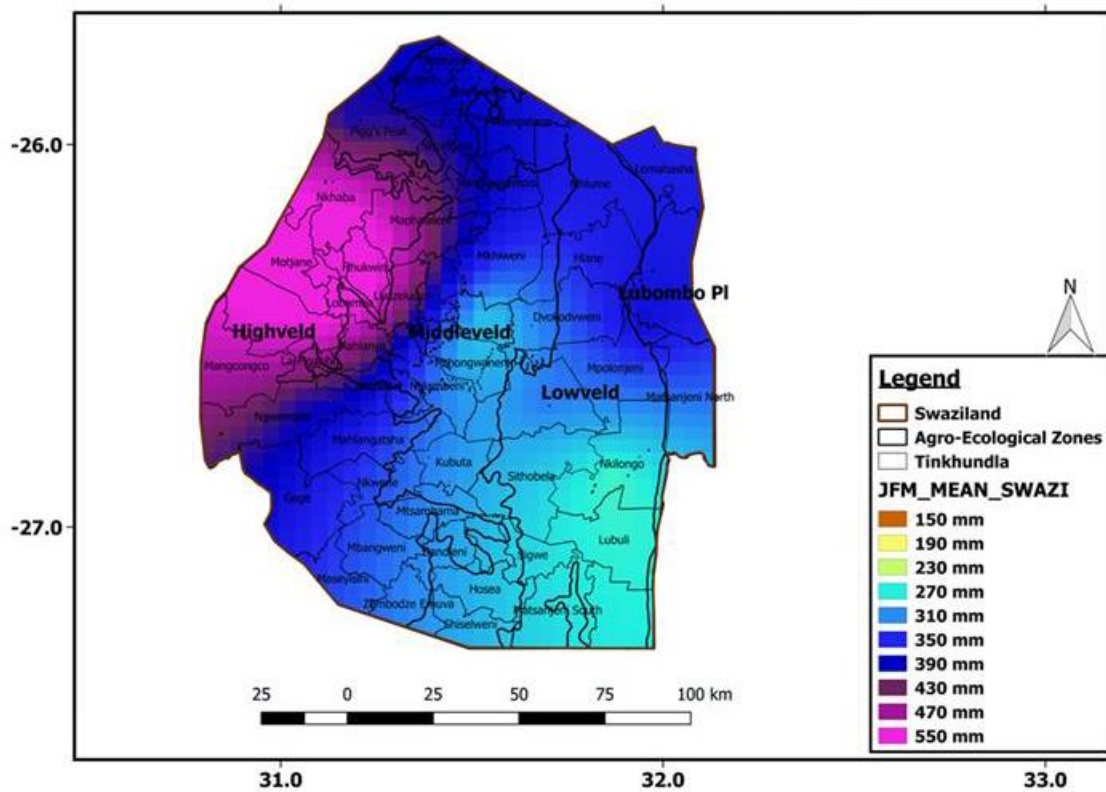


Figure 3: Predicted rainfall forecast for January - March 2023
 (Source: Eswatini Meteorological Service)

The El Niño Southern Oscillation (ENSO) Outlook

The ENSO Outlook indicates a 70% chance of La Niña. El Niño and La Niña are climate patterns in the Pacific Ocean that influence weather patterns worldwide. El Niño influences warm and dry conditions, while La Niña influences cool and wet conditions. The La Niña condition is predicted to gain strength later this year (2022), suggesting an increase in the likelihood of rainfall to be above normal. That is good news to growers as water shortage will not be a challenge again this season. However, the forecasted rainfall does not call for laxity on water management by growers. Extreme conditions (i.e., dry spells) within the summer season can still occur due to climate change effects. Secondly, rainfall distribution is seldomly spread evenly over all areas. Therefore, saving water for the future remains important despite the current good water levels in major dams used by the sugar industry (**Figure 4**). Proper maintenance of irrigation systems, eliminating leaks in conveyance canals and reservoirs, and proper scheduling of irrigation events are among the key things growers should follow to save water for future use.

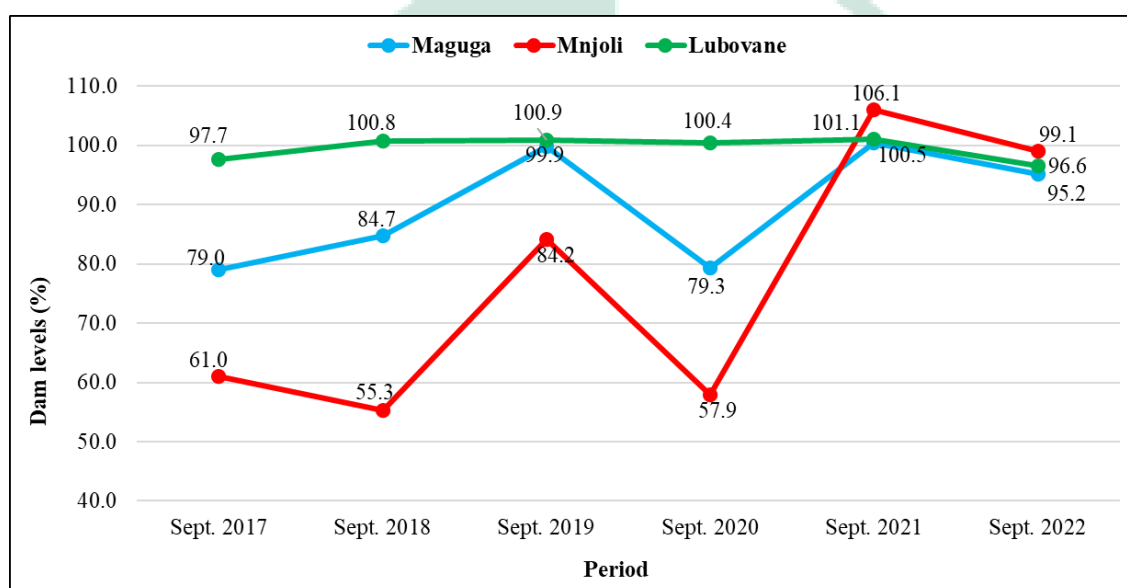


Figure 4: Six years period dam levels during September months

Influence of radiation and temperature in this forecast

With the La Niña condition predicted to gain dominance during the summer season, cool and cloudy conditions are expected to dominate as well. Such conditions lower temperatures and radiation values. The 2022/23 season rainfall forecast is similar to the 2021/22 season actuals where temperatures and radiation values were lower than the long-term-mean (LTM) and the 2020/21 season during the active crop growing period (**Figures 5 & 6**). Similar conditions may be experienced this season, yet radiation plays a significant role in promoting plant growth and sucrose accumulation in the stalks. Low radiation values could lead to reduced cane yields. Also, cool temperatures have adverse effects on cane growth. Such unconducive growing conditions may be worsened by overirrigation and improper application of fertilizers. Growers should contact Eswatini Sugar Association Technical Services for help and advice on proper irrigation scheduling techniques and fertilizer applications particularly where above normal rainfall is envisaged.

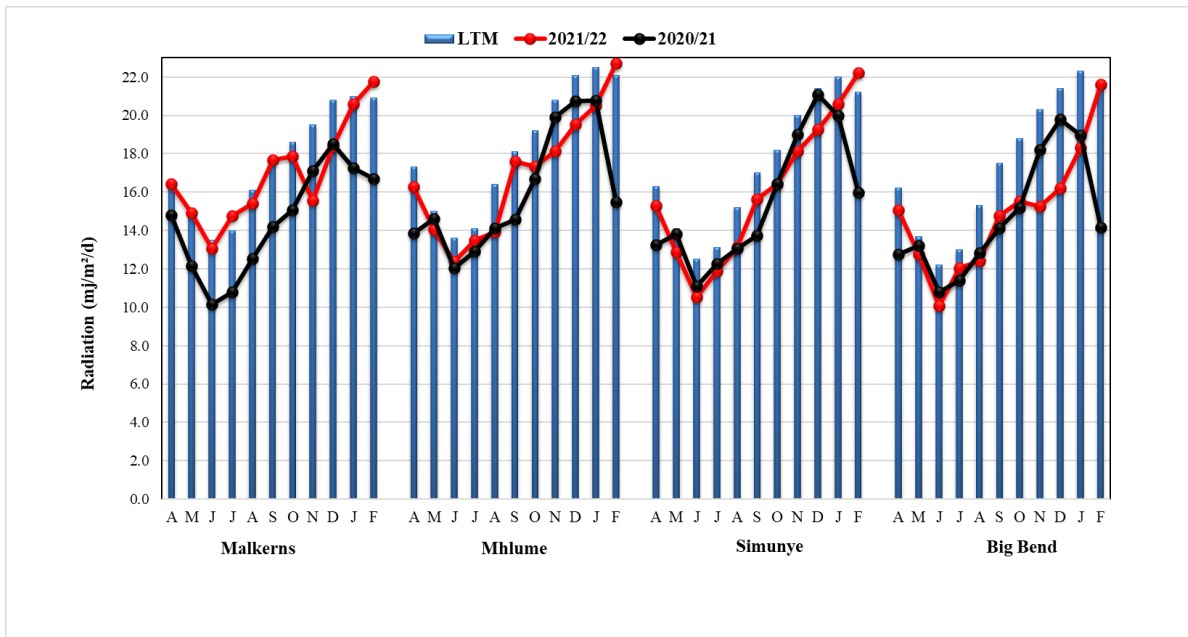


Figure 5: Eswatini sugar industry radiation values

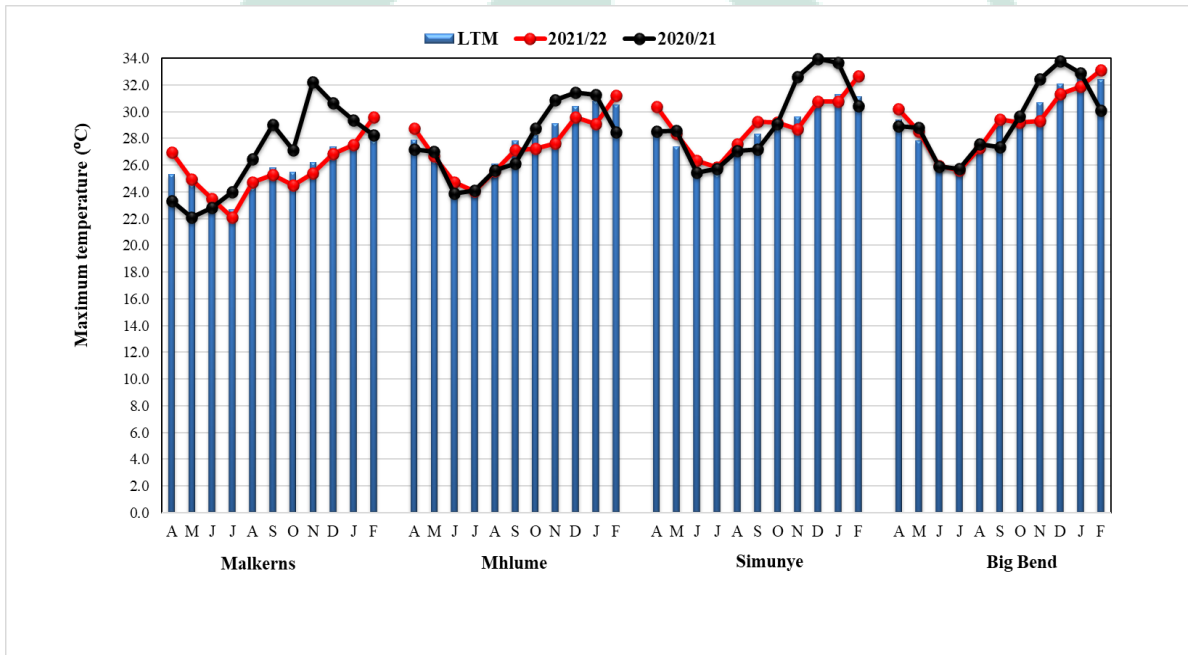


Figure 6: Eswatini sugar industry maximum temperatures

Conclusion

In the summer of 2022-23, rainfall may be above normal, cloudy days may increase, while radiation and maximum temperatures may drop below LTM. Large volumes of rain within a short period of time could leach nutrients, cause soil erosion and waterlogged conditions. Thus, growers should be on the alert and contact EMS for further details about the weather forecast updates (monthly, weekly and daily), interpretation, finer details, and additional guidance at 2404 8859 / 2404 6274.

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