EL NIÑO 2026/27: ZIMBABWE SUGARCANE INDUSTRY PREPAREDNESS OUTLOOK

WHAT IS EL NIÑO?

El Niño is the warm phase of a natural climate pattern in the tropical Pacific Ocean known as the El Niño–Southern Oscillation (ENSO). It changes normal ocean temperatures and wind patterns and can influence rainfall and temperature across many parts of the world. In Southern Africa, El Niño is often associated with increased risk of high temperatures, prolonged dry spells and below-normal rainfall. But every El Niño is different. A season can still receive thunderstorms, heavy rainfall and even local flooding while receiving below-normal rainfall overall. WMO therefore stresses that El Niño changes the *likelihood* of weather conditions; it does not determine exactly what will happen at every location. Based on the latest WMO, NOAA and Zimbabwe Meteorological Services Department (MSD) climate information available as of August 2026;

A strong El Niño is developing and is expected to strengthen during the second half of 2026. The World Meteorological Organization (WMO) expects the event to strengthen during August–October 2026, while NOAA gives a 97% probability that El Niño will persist into early 2027 and an 81% probability of a very strong event during October–December 2026.

> ***The message for the Lowveld is that the risk of a hotter, water-constrained and highly variable 2026/27 season is sufficiently high for the industry to start preparing now.***

A FEW MISCONCEPTIONS ABOUT EL NIÑO WORTH CORRECTING

- **"El Niño means it definitely won't rain."** Not true. El Niño shifts the odds toward below normal and erratically distributed rainfall; it does not mean that there will be no rainfall entirely.
- **"Every El Niño behaves the same way."** El Niño events differ substantially in strength, in how quickly they develop, and in exactly when they peak.
- **"Irrigated sugarcane is unaffected by El Niño."** Irrigation is a genuine buffer, not immunity. Dam levels, water allocations and hydropower availability are negatively affected by the wider drought conditions.
- **"The forecast will probably flip again before the season starts."** This was a reasonable caution earlier in the year. Seasonal ENSO forecasts are less reliable when they are made across the first half of the year, a well-documented limitation meteorologists call the spring predictability barrier. That barrier has now passed. The World Meteorological Organization has alerted that a strong El Niño is developing and expected to strengthen during August–October 2026.

WATER SECURITY: THE FIRST LINE OF DEFENCE IN AN EL NIÑO SEASON

For Zimbabwe's irrigated sugarcane industry, the greatest El Niño risk is not simply reduced rainfall, but the possibility that irrigation demand rises while reservoir inflows, river flows and available water allocations decline. Hot, dry conditions increase crop-water requirements, making efficient irrigation particularly important. The starting position is comparatively favourable. ZINWA reported that Zimbabwe's major dams averaged approximately 89.3% full on 27 July 2026, following the strong 2025/26 rainfall season. However, the national average does not describe the water-security position of every irrigation system. This is particularly important for Mkwasine, where the Manjirenji–Siya water system provides approximately one season of water cover when at full storage. High opening storage should therefore not be interpreted as a guarantee of adequate irrigation water throughout 2026/27. Stored water must support dry-season irrigation, evaporation, conveyance losses, competing water uses and, ideally, sufficient carry-over should the next rainy season provide poor reservoir inflows.

> ***The critical question is therefore not simply: "How full are our dams?" but rather: "How much usable water do we have compared with what the crop will require until the next dependable recharge?"***

➢ *Move from dam levels to a seasonal water balance*

Before peak summer demand, growers, millers, ZINWA and catchment-management institutions should establish a Lowveld seasonal water balance. This should consider opening dam storage, usable water, expected inflows, irrigation allocations, evaporation, canal and conveyance losses, other water commitments and expected sugarcane demand. Farm water requirements should also be calculated from the actual area under cane, crop age, growth stage, soil type, effective rainfall and crop-water use, rather than relying only on a standard seasonal average. FAO irrigation guidance emphasises that crop-water demand changes with climate, crop type and growth stage. Where possible, irrigation scheduling should use ET_0, crop stage, soil-moisture measurements and actual water applied to the field. Simply irrigating according to a fixed calendar may waste water in some periods and leave the crop short of water in others.

➢ Prepare for different water-availability scenarios

The industry should agree in advance what will happen if available irrigation water begins to fall below planned crop demand. Table 1 can be used as planning scenarios and refined according to actual ZINWA allocations and individual estate water balances.

If water becomes restricted, it should not simply be reduced equally across every field. Water stress affects sugarcane differently depending on crop stage, stress duration and field condition. Growers should therefore rank fields according to crop stage, yield potential, ratoon age, soil type, irrigation efficiency and economic value.

Table 1: Water planning scenarios

Water-security situation	Available water compared with planned irrigation requirement	Management response
Normal / Secure	≥90%	Maintain normal irrigation, minimise losses and protect carry-over storage.
Moderate Water Stress	70–89%	Tighten irrigation scheduling, prioritise water-sensitive crop stages and eliminate unnecessary water use.
Severe Water Deficit	<70%	Activate formal rationing, prioritise strategic fields and reconsider the area that can realistically be fully irrigated.

➢ Every megalitre lost before reaching the crop matters

During a water-constrained season, losses from leaking canals and farm dams, damaged structures, poorly managed furrows, excessive runoff, leaking pipelines or poorly maintained pumps mean that less water is available elsewhere. Canal and dam inspection and repair, accurate flow measurement, correct furrow cut-off times, pump servicing and rapid repair of leaks should therefore be completed before peak summer demand. Water should ideally be measured at four points:

Reservoir → Main conveyance → Farm distribution → Field application

This allows the industry to identify where water is being lost and where improvements will give the greatest return.

➢ Do not neglect drainage and salinity

Preparing for drought does **not** mean drainage can be ignored. In poorly drained fields with shallow or saline groundwater, prolonged high temperatures and evaporation can increase upward movement of salts and aggravate **root-zone salinity**. Drought and salinity together can severely restrict sugarcane growth. At the same time, an El Niño season can still produce isolated heavy storms. Poorly drained fields may therefore move from water shortage to temporary waterlogging within a short period. Known problem fields should enter the season with **functional drains**, while groundwater levels, soil salinity and drainage performance should be monitored throughout the season.

➢ Set water triggers before the crisis

The industry should establish clear **decision thresholds before water becomes scarce**. Dam-storage levels, monthly allocations, forecast irrigation demand, canal-delivery performance and soil-moisture conditions should trigger predetermined actions rather than emergency decisions after cane has already become severely stressed. A strong opening water position gives the industry an important buffer, but it should be treated as **strategic storage not permission for business-as-usual water use**.

> ***The water-security message is simple: conserve water before it becomes scarce, measure it before it is allocated, and prioritise it before shortages force the decision.***

WHAT COULD EL NIÑO MEAN FOR THE SUGARCANE CROP?

◆ Heat and prolonged dry spells

Higher temperatures increase the amount of water lost through evaporation and crop transpiration. The hotter and drier the weather becomes, the faster soil moisture is depleted and the greater the pressure placed on irrigation systems. Sugarcane exposed to prolonged water stress reduces growth and biomass production, particularly when stress occurs during important vegetative growth periods. Growers should therefore watch **soil moisture, crop condition, irrigation intervals and weather forecasts**, rather than waiting for visible wilting before taking action.

◆ Heavy storms and hail can still occur

Heavy rain falling over a short period can cause **waterlogging, erosion and nutrient losses**, particularly in poorly drained fields. Growers should therefore keep drains open and consider weather forecasts when timing fertiliser and other field operations.

◆ Pest and disease pressure may change

Changes in temperature, rainfall and crop stress can change pest and disease pressure. Heat stress tends to favor certain pests, notably borers and aphids, whose populations can build quickly in hot, moisture-stressed cane. Growers should **intensify regular field scouting**. Unusual pest outbreaks or unfamiliar pests should be reported promptly to ZSAES for identification and appropriate management advice.

WHAT SHOULD GROWERS DO NOW?

The most effective response is not one single intervention. It is a combination of water management, good agronomy, soil protection, reliable energy supply and early monitoring (Table 2). Management should remain appropriate to individual field conditions.

Table 2: Decision making guide for different El Niño related risks

Risk	Monitor	When is action needed	What to do
Water shortage	Dam position, allocation and field demand	Allocation falls below crop requirement	Rank fields and prioritise critical crops
High crop-water demand	ET_0, soil moisture and irrigation interval	Soil dries faster than expected	Adjust irrigation timing and frequency
Water losses	Canals, furrows, pipes and meters	Delivery is lower than release	Repair leaks and improve water control
Pump/power failure	Pumps and backup power	Repeated interruptions during irrigation	Prepare diesel, solar or hybrid contingency
Salinity/waterlogging	Water table, EC and drains	Rising salts or shallow water table	Improve drainage and apply field-specific management

Risk	Monitor	When is action needed	What to do
Nutrient losses	Crop condition and weather	Heavy rain forecast, dry spells or deficiency confirmed	Time applications carefully; correct confirmed deficiencies
Pests/diseases	Regular scouting	Unusual increase or threshold reached	Use appropriate integrated pest management
Fire	Firebreaks, trash load and equipment	Hot, dry and windy periods	Strengthen fire preparedness

EL NIÑO IS MORE THAN JUST A WATER PROBLEM: COMPOUNDING AND CASCADING RISKS

An El Niño season reduces the maize and grain harvest across Southern Africa, driving up local food prices especially staple foods. Hunger years coincide with general food and nutritional insecurity in surrounding communities. El Niño conditions accelerate the spread of vector borne and water borne diseases like Cholera and Malaria. El Niño seasons have been associated with aggressive migrations of transboundary pests and altered migration routes hence the industry should be on high alert for new potentially harmful pests into the Zimbabwe Sugarcane industry. Where prolonged drought reduces water and forage availability in neighbouring wildlife areas, increased wildlife movement onto irrigated agricultural land may also become a local operational risk.

This means that **field agronomy alone cannot manage the entire El Niño risk**. Preparedness must involve:

Water security → Energy security → Crop management → Soil and drainage resilience → Business and community resilience

ZSAES, growers, millers, ZINWA, government agencies and other industry stakeholders should therefore plan together rather than respond separately once conditions deteriorate.

Climate and Risk Information Sources

- **World Meteorological Organization (WMO).** Global Seasonal Climate Update, 31 July 2026: strong El Niño developing and expected to strengthen during August–October 2026.
- **NOAA Climate Prediction Center.** ENSO Diagnostic Discussion, 9 July 2026: 97% probability of El Niño continuing into early 2027 and 81% probability of a very strong event during October–December 2026.
- **Meteorological Services Department of Zimbabwe.** Preliminary warning for the 2026/27 rainy season, 8 May 2026: historical association between El Niño and increased probability of below-normal rainfall in Zimbabwe.
- **Zimbabwe National Water Authority (ZINWA).** Major Dam Water Levels Update, 27 July 2026: national major dam storage average of approximately 89.3%.
- **IPCC, 2022:** Climate Change: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press. Cambridge University Press, Cambridge, UK and New York, NY, USA, 3056 pp., doi:10.1017/9781009325844.

This ZSAES preparedness outlook interprets available climate and water information for the sugarcane industry. Growers should continue to follow official MSD, SADC and ZINWA updates as the 2026/27 season develops.