



**National Agro-meteorological Committee (NAC) Advisory on the
2024/25 summer season
Statement from Climate Change and Disaster Risk Reduction
4 DALRRD 2024**

24 December 2024

Considering the seasonal climate watch as produced by the South African Weather Service (SAWS), the following advisory guidelines are suggested. It is emphasized that these advisories are broad guidelines and should be interpreted considering the local aspects of the region such as soil types, cultural preferences, and farming systems. Depending on the region, the prioritization of the guidelines will differ. The basic strategy to follow would be to minimize and diversify risk, optimize soil water availability and to manage the renewable resources (rainwater and grazing) to uphold sound farming objectives. Long-term mitigation strategies should be considered by implementing techniques to enhance in-field water harvesting by reducing run-off and improving infiltration. Reduced tillage methods are very important in this regard, as is basin tillage, to capture rainwater in the drier areas. **The provinces should further simplify, downscale and package the information according to their language preference and if possible, use local media and farmers' days to disseminate the information. Users are advised to be on the look-out and act on the daily extreme weather warnings as well as the monthly advisory.**

I. CURRENT CONDITIONS

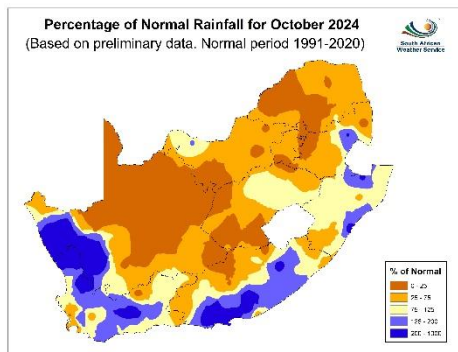


Figure 1

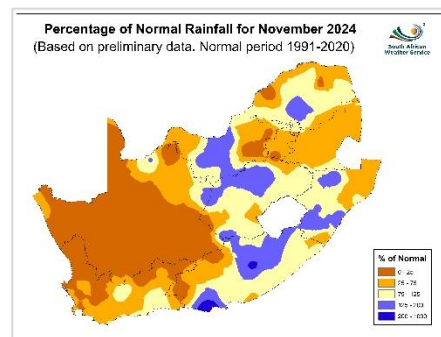


Figure 2

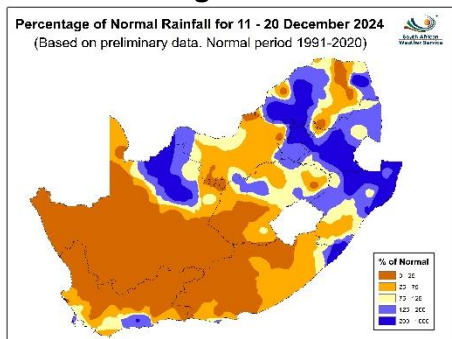


Figure 3

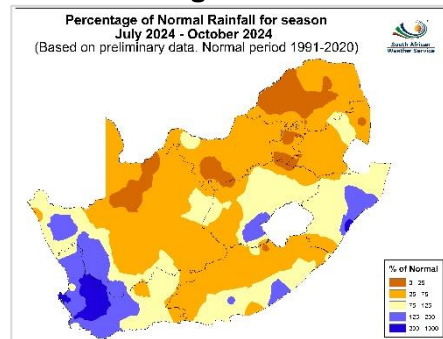
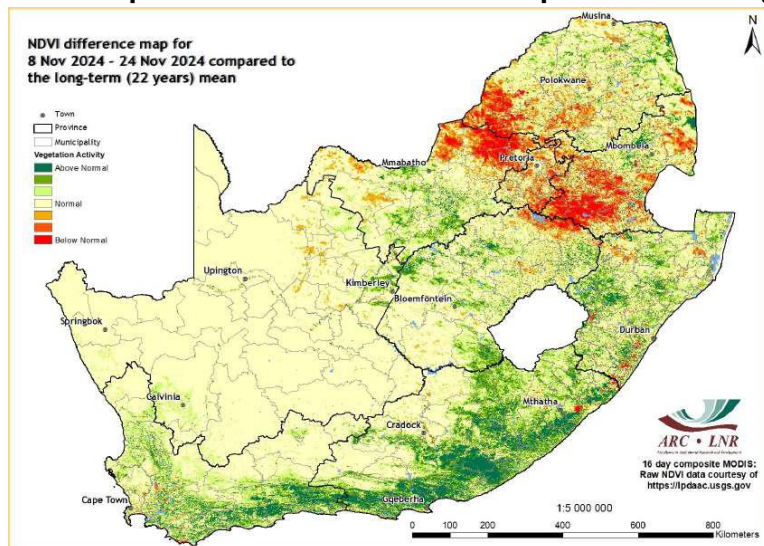


Figure 4

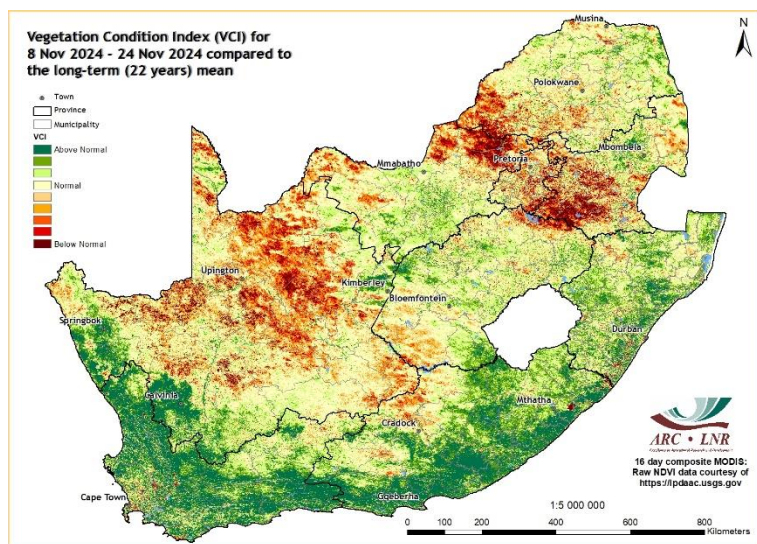
During October, above normal rainfall was received over the western, southern, and eastern coastal areas while the remaining parts of the country received normal to below normal rainfall (**Figure 1**). In November, normal to below normal rainfall was received over most parts of the country with patches of above normal rainfall over Eastern Cape, KwaZulu-Natal, Free State, North West, and Limpopo (**Figure 2**). Mid-December received above normal rainfall in the eastern parts of the country and northern regions of the Northern Cape. The remainder of the country received below normal rainfall (**Figure 3**). For the season July – October, normal to below normal rainfall was received over most of the country with patches of above normal rainfall over the extreme western parts of the country, as well as over Free State, KwaZulu-Natal, and Eastern Cape (**Figure 4**).

NDVI map: 8 – 24 November 2024 compared to the long-term mean



Compared to the historical averaged vegetation conditions, the 16-day NDVI map for November shows that many parts of the country continued to experience mostly normal to above normal vegetation conditions. An exception was the northern parts which experienced below normal activity.

VCI map: 8 – 24 November 2024 compared to the long-term mean



The VCI map for November indicates below normal vegetation conditions in much of the Northern Cape, parts of North West, Gauteng, south-western Limpopo, north-eastern Free State and Mpumalanga. The remainder of the country experienced normal to above normal vegetation conditions.

II. CONDITIONS IN THE PROVINCES DURING NOVEMBER/DECEMBER

Eastern Cape

NIL REPORT.

Free State

Normal to above normal rainfall was received over most parts in November. The veld condition is improving due to rainfall received in late spring. However, supplementary feeding is still highly recommended particularly for breeding, lactating and pregnant livestock especially sheep and cattle. Summer pastures are doing well. Planting of early sunflower has been taking place. The window period for maize is slowly closing. Veld fires were reported in Xhariep District Municipality including in Oppermansgronde, Petrusburg and Koffiefontein. Mangaung Metropolitan also experienced veld fires in Botshabelo and Dewetsdorp. Assessments are being conducted to verify damages. Heat waves caused damages to crop and grass on the rangeland. Also, other farmers had paused planting operations due to lack of soil moisture caused by heatwaves. There is premature falling and drying of grass seeds and rapid growth of invader and unpalatable species of plants. Yellow locust caused damages to pumpkin in Mangaung. Assessments are being conducted. The average level of dams has decreased as compared to the previous year (71% in 2024; 86% in 2023).

Gauteng

Most parts received below normal rainfall in November; however, grazing is emerging in the Eastern Region due to some rain. Most grain farmers finished planting. Natural pastures have also gradually improved despite heatwaves that occurred. Livestock is in poor to reasonable condition. In the West Rand region, vegetable producers have planted summer crops. The average level of major dams has decreased as compared to last year (84% in 2024; 92% in 2023).

KwaZulu-Natal

Normal rainfall was received over most parts of the province in November with patches of above normal rainfall. Summer pastures are in good condition. Farmers are preparing croplands, and, in some areas, planting has taken place. Wheat is in good condition. Livestock condition is good across the province. There were veld fires in some areas, while in others, flooding. Severe thunderstorms occurred in other places that resulted in strong winds damaging property. Assessments are underway to determine the extent of damages. The average level of major dams has slightly decreased as compared to the previous year (80% in 2024; 81% in 2023).

Limpopo

The province received normal to below normal rainfall in November. Many farmers on dryland have not yet started cultivating their fields, however there are some who started planting maize after the rain that was received during November. Those that farm under irrigation have planted crops such as spinach, beetroot, green peppers, and sweet potatoes. Crops that were already cultivated continue to suffer heat stress. Grazing has deteriorated due to lack of rain coupled with heat waves. Veld fires experienced during late spring aggravated the situation, especially in Waterberg and Mopani districts. Livestock and veld conditions are very poor especially in communal areas. Farmers were advised to reduce livestock and to remain with only livestock that they can feed to avoid mortalities. The average level of major dams has decreased to 67% in 2024, as compared to 79% of 2023.

Mpumalanga

NIL REPORT.

Northern Cape

Most parts received below normal rainfall in November. The winter crop harvest is now complete, and farmers have begun planting summer crops. The veld is in poor condition. The livestock conditions on various farms are average. The effect of dry conditions on production has been visible and the districts that still suffer the largest impact are ZF Mgcawu and Namakwa districts. Rotational grazing practices and proper livestock management strategies including, avoiding overstocking is encouraged. Borehole water levels, especially in ZF Mgcawu, are declining due to lack of rainfall. The Calvinia dam level is currently very low level, and the town uses borehole water. The average level of major dams has decreased (68% in 2024; 80% in 2023).

North West

Normal to above normal rainfall was received in November but below normal in the east. Most crop farmers are preparing land for the summer grain crops such as sunflower and maize. The grazing and livestock condition is fair to poor in most areas. The average level of dams is decreasing as compared to last year this time due to below normal rainfall and heat stress. The average level of major dams is at 54% as compared to 79% of 2023.

Western Cape

Rainfall in November was below normal in most areas of the province, while the coastal regions of the Overberg and Garden Route received normal rain. Temperatures were normal, with instances of extreme heat in the West Coast and Central Karoo. Crop conditions remain favourable overall; however, the late November rain delayed the harvest, affecting seed quality negatively in some areas. The canola harvest was concluded. Wheat and barley yield is lower than expected. Stone fruit harvest is underway. Onion seed, tobacco and lucerne production are progressing well. Livestock and veld conditions are good, supported by sufficient grazing. Water levels in major dams decreased by 2.8% month-on-month to 91.7%, this is 2.8% higher than the previous year.

Information on level of dams is obtained from the Department of Water and Sanitation

Available: <https://www.dwa.gov.za/Hydrology/Weekly/Province.aspx>

Dam levels as at 16/12/2024

III. SADC REGION

According to the September Famine Early Warning Systems Network (FEWS NET) report, Crisis (IPC Phase 3) outcomes are expected in parts of Zimbabwe, southern Malawi and southern Mozambique due to poor rainfall. Areas experiencing conflict in Mozambique and parts of the Democratic Republic of Congo (DRC) are also expected to experience Crisis (IPC Phase 3) outcomes. Food price increases have also continued in most countries in the region as stocks are depleted and demand is increasing.

[The Integrated Food Security Phase Classification (IPC) is a set of standardized tools that aims at providing a "common currency" for classifying the severity and magnitude of food insecurity.]

Source: <http://www.fews.net/southern-africa>

Summary of the reports

Some summer rainfall areas received good falls. Mid-December received heavy rainfall in many areas in the eastern parts of the country. Summer crop farmers on dryland have planted where there was moisture and others are still waiting for sufficient moisture. The veld and livestock are in poor to reasonable condition. Heatwaves resulted in damages to planted crops and grazing. There were veld fires in the Free State and KwaZulu-Natal. Severe thunderstorms caused damages in KwaZulu-Natal.

The average level of major dams in most provinces has decreased. Assessments are being undertaken to determine the extent of damages. Over SADC, food price increases have continued in most countries in the region as stocks are depleted and demand is increasing.

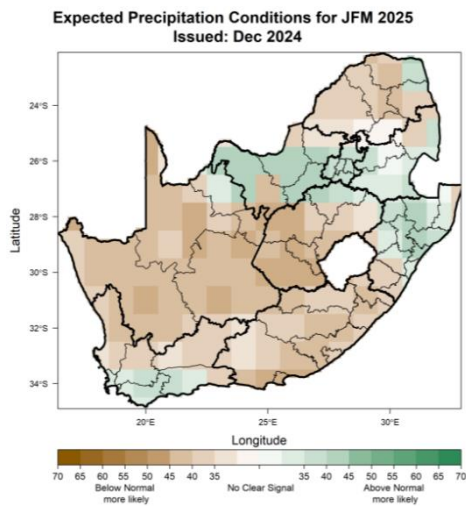
IV. MONTHLY CLIMATE OUTLOOK

Seasonal Climate Watch: January to May 2025

State of Climate Drivers

The El Niño-Southern Oscillation (ENSO) is currently still in a Neutral state and is predicted to weaken further. Current predictions indicate the development of a weak La Niña state only during mid-summer and therefore may only affect South Africa’s summer rainfall during the latter parts of the summer season. There is also still significant uncertainty in the predictions at this stage on whether a La Niña event will occur. It is advised to monitor the ENSO system throughout the summer season, as it may change the rainfall outlook for the summer rainfall regions if and when the La Niña event materializes.

Figure 1 – Rainfall



Current predictions indicate above normal rainfall for parts of the north-eastern central and coastal areas during late summer, shifting to only an expectation of above-normal for parts of eastern regions of South Africa during autumn. Currently the global models are struggling to predict the potential effect of the La Niña event due to the significant uncertainty whether and when the event will take place.

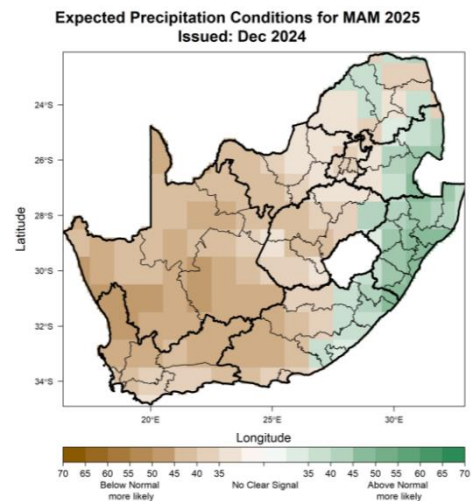
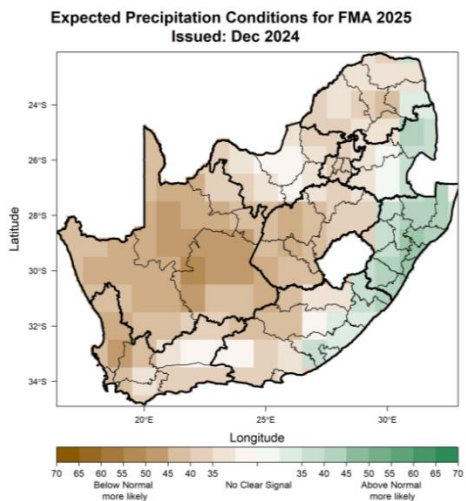
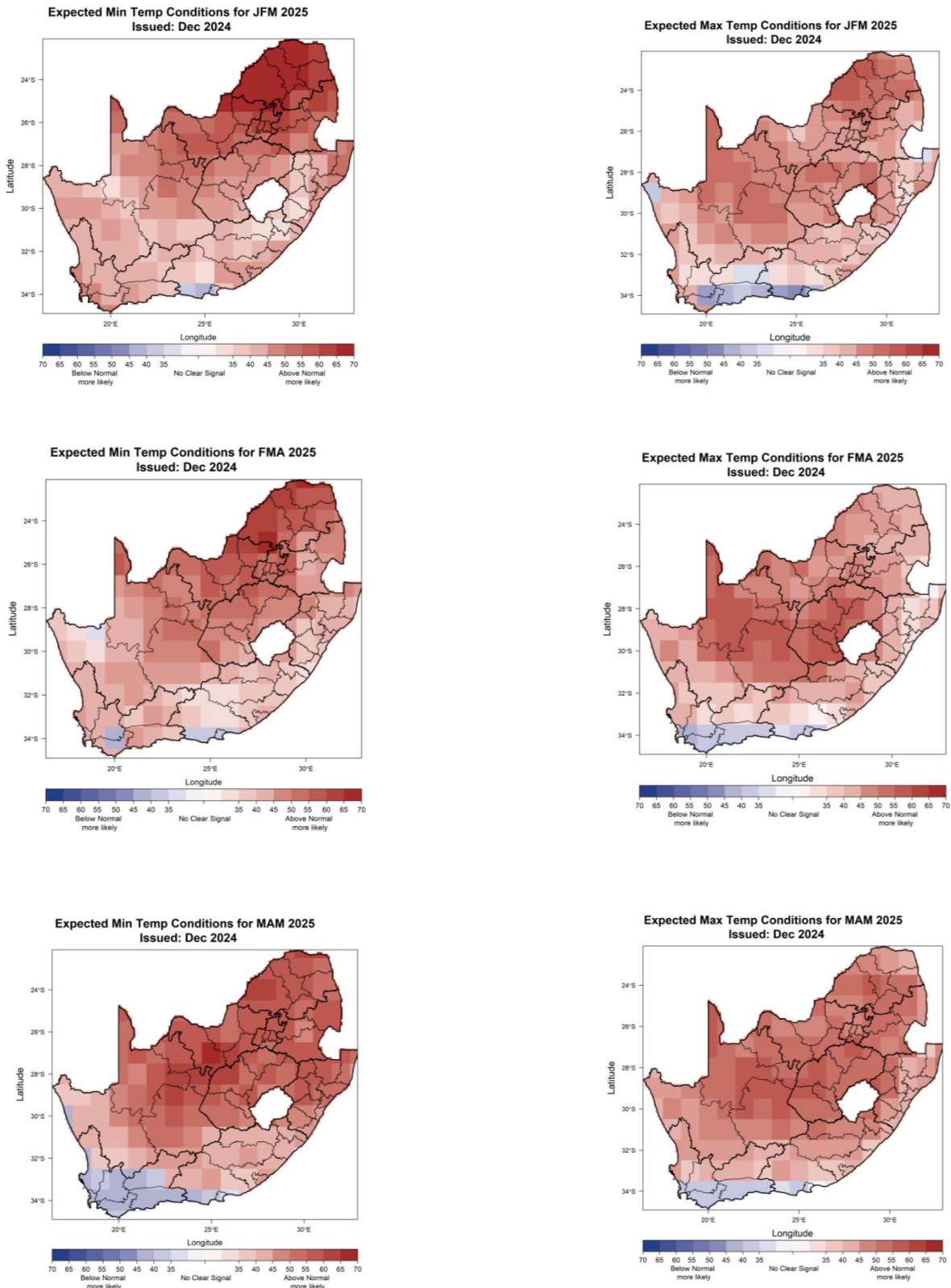


Figure 2 – Minimum and Maximum temperatures



Minimum and maximum temperatures are expected to be mostly above normal countrywide for the forecast period. However, the southern coastal areas indicate that below normal maximum temperatures are more likely throughout the summer period.

In summary, above normal rainfall is expected in the north-eastern parts of the central interior and coastal areas in late summer but above normal for the eastern regions in autumn. Temperatures are expected to be above normal but below normal daytime temperatures are anticipated along the south coast. Farmers are encouraged to continually check updates i.e., seasonal forecasts and utilize 7-day weather forecasts for short term planning.

With the above forecasts in mind, the following strategies are recommended:

V. **SUGGESTED STRATEGIES**

A. **Soil choice:**

- Choose suitable soil type.
 - ✓ Suitable soil and land use management practices that would control wind and water erosion in cultivated lands are suggested.
- Roughen the soil surface to enhance rain water penetration and reduce runoff.
- Minimise compaction by reducing the passing of heavy machinery in the field.

Land preparation:

- Avoid where possible soils with pronounced plough pans.
- For sequestration of atmospheric carbon in the soil, for increased biological activity, and to better conservation of water, zero or minimum tillage is advised where possible.
- Do not expand land under crop production unnecessarily.
- Prioritise fallow land.

Crop choice and planting:

- Choose short season, locally adapted cultivars as a precautionary measure.
- Provide flexibility and diversification.
- Stick to normal planting dates if appropriate and follow the weather and climate forecast regularly.
- Consider staggered planting-spreading over weeks.
- Do not experiment with new and unknown cultivars and also avoid unnecessary capital investments.
- Always practice crop rotation.
- Consider intercropping for improved soil structure and pest/diseases control.
- Planting in a controlled environment (e.g. green house) is advisable where possible.

Crop management:

- Adjust planting density accordingly.
- Consider mulching to minimise evaporation.
- Control weeds regularly.
- Consider a conservative fertilizing strategy during dry conditions.
- Consider organic fertilization.
- Scout for pests and diseases regularly and control where necessary.
- Wheat: The strategy proposed is to scout the plants regularly, correctly identify any pests or diseases and make informed decisions regarding reaction.

B. Irrigation farming

- Remove all weeds containing seeds but keep other vegetative rests on the land because that will reduce evaporation.
- Check and repair all tools and machinery especially where there are water leaks.
- Be aware of the state of regional water resources and whether it will be adequate for irrigation.
- Timing of irrigation - rather late afternoon or early evening to reduce evaporation.
- Manage irrigation so that the plant receives water only when needed.
- Consider using drip irrigation as it saves water by allowing it to drip slowly straight to the roots.
- Avoid over irrigation because that can create problems e.g., water logging and diseases.
- Adhere to water restrictions when issued.

C. Domestic and home garden water use

- Conserve existing water supplies.
- Eradicate water weeds.
- Limit water waste and losses.
- Repair leaking pipes.
- Re-use water and retain high quality.
- Harvest water during rainy days.

D. Stock farming

- Keep stocking rates conservative and even lower to protect grazing.
- Never exceed carrying capacity of plant associations.
- Provide lots of drinking points where possible.
- Provide additional fodder and enhance nutritional value of dry grazing/feed with licks:
 - Phosphorous deficiency is a major problem.
 - Licks should (in most cases) provide:
 - Phosphorous.
 - Urea (to help with the break-down of dry vegetation).
 - Salt.
 - Molasses.
- Deficiencies differ according to vegetation composition/soil properties/climate.
- Analysis of vegetation/soil samples can benefit the decision for supplement composition.
- Sell mature, marketable animals (to help prevent overstocking/ overgrazing).
- If grazing is in danger, herd animals into pens where different animals can be segregated and fed separately.

E. Grazing

- Subdivide your grazing area into camps of homogeneous units (in terms of species composition, slope, aspect, rainfall, temperature, soil and other factors) to minimise area selective grazing as well as to provide for the application of animal management and veld management practises such as resting and burning.
- Determine the carrying capacity of different plant associations.
- Calculate the stocking rate of each, and then decide the best ratios of large and small animals, and of grazers or browsers.

- Provide periodic full growing-season rests (in certain grazing areas) to allow veld vigour recovery to maintain veld productivity at a high level as well as to maintain the vigour of the preferred species.
- Do not overstock at any time to avoid overgrazing.
- Eradicate invader plants.
- Periodically reassess the grazing and feed available for the next few months and start planning.
- Spread water points evenly.

F. Pests and diseases

Crops

- Fruit crop farmers should regularly scout for pests and diseases and contact the local agricultural office for advice on best control measures. Farmers should further implement phytosanitary measures.

Livestock

- Follow the vaccine routine and consult with the local veterinarian.

G. Veld fires

Provinces and farmers are advised to maintain firebreaks in all areas. An owner of the land who is obliged to prepare and maintain a firebreak must ensure that, with due regard to the weather, climate, terrain and vegetation of the area, the following is taken care of in terms of installing firebreaks (Chapter 4 of the National Veld and Forest Fire Act No. 101 of 1998):

- It must be wide enough and long enough to have a reasonable chance of preventing a veld fire from spreading to or from neighbouring land.
- It does not cause soil erosion and
- It is reasonably free of flammable material capable of carrying a veld fire across it.
- Firebreaks may be temporary or permanent.
- Firebreaks should consist of fire-resistant vegetation, non-flammable materials, bare ground or a combination of these.
- Firebreaks must be in such a way as to minimize risk to the resources being protected.
- Erosion control measures must be installed at the firebreak.

Firebreaks can be made through the following methods:

- Mineral earth firebreak:
 - Through ploughing, grading, other earth movement.
- Use of herbicides.
- Use animals to overgraze specifically to minimise fuel.
- Strategic placement of burned areas,
 - Not to be done on days with fire hazard (windy and dry/hot).
- Plant fire resistant plants.
- Plant species selected for vegetated firebreaks must be non-invasive and capable of retarding the spread of fire.

Maintaining firebreaks:

- Mow, disk, or graze vegetative firebreaks to avoid a build-up of excess litter and to control weeds.
- Inspect all firebreaks for woody materials.
- Inspect firebreaks at least annually and rework bare ground firebreaks as necessary.

- Repair erosion control measures as necessary.
- Access by vehicles or people must also be controlled.
- Bare ground firebreaks, which are no longer needed must be stabilized i.e.
 - Sow grass.
 - Mulch.

What to do when conditions favorable for veld fire are forecast:

- Prohibit fires in the open-air during periods of high fire hazard and establish a fire control committee.
- To control fires, an alarm system, firefighting teams, and beaters must be organized in advance and plans prepared.
- Livestock should be moved out of grazing land to a safe place.

What to do during a veld fire:

- Water is generally not available in sufficient quantities or at adequate pressure for the control of major fires; however, sand, or other loose mineral soil material can be an effective method of control.
- Tree branches can be used to beat fire.

H. Flooding

Heavy rainfall raises the water level. When the water level is higher than the riverbanks or the dams, water flows out from the river and flooding occurs.

Preventive measures:

- Construction of proper drainage systems. Drains must be cleaned constantly as they ensure proper water irrigation.
- Mechanical land treatment of slopes such as contour ploughing or terracing to reduce the runoff coefficient.
- Construction of small water and sediment holding areas.
- Construction of floodways (man-made channels to divert floodwater).
- Terracing hillsides to slow flow downhill.
- Water pumps in rivers likely to be affected should be lifted from the riverbanks when a warning for heavy rain has been issued.

What to do when flooding is forecasted:

Avoid:

- Cutting grass in the rainy season as this can result in nutrient depletion.
- Applying fungicides and pesticide (plants and animals).
- Applying Nitrogen fertilizer as this can burn plants. Dumping fertilizer in one spot can cause the roots below the fertilizer to be burnt and die.
- Irrigation, this can result in waterlogging leading to nutrient depletion.

Other measures to implement:

- Cover Urea licks to prevent them from becoming toxic.
- Provide shelter for animals (young ones can die easily).
- Leave cultivated areas coarse.
- Relocate/ move animals to a safe place.

- Be extra cautious for pest and diseases after rain has fallen, as high moisture content and high temperatures may trigger these.
- Assume that flood water contains sewage and might be harmful for human and livestock consumption.
- Before leading livestock across a river, check whether the water level is rising. This is especially necessary if it is already raining.

Erosion

Erosion is the wearing of soil and rocks by the action of natural forces, for example, water and wind. The loose and dissolved materials move from one location to another. Erosion therefore may reduce agricultural production potential.

Preventative measures for erosion:

- Do not burn vegetation.
- Keep vegetation cover – e.g., shrubs, grass, small trees; a cover crop may be used to increase organic material and increase soil structure.
- Plant permanent vegetation e.g., perennial grasses where possible.
- Maintain any remaining vegetative cover, e.g. maize stubble during winter wheat sowing, as it acts as a blanket, traps eroded particles and reduces the wind speed at ground level.
- Plant evergreen trees growing densely and perpendicular to the typical wind direction during winter and spring as wind breaks.
- Increase water infiltration by correct management of soil e.g. reduce frequency of plough and use minimum tillage.
- Mulch: to increase infiltration, reduce evaporation, and reduce raindrop impact as well as wind erosion.
- Construct retaining walls around gardens.
- Avoid soil compaction by roughening the soil surface,
 - Furrows and tillage ridges can trap loose soil.
- Farm along contours as this reduces slope lengths.
- Prevent overgrazing.
- Practice conservation farming
 - Maximize retention of crop residues.

I. Heat stress – bad for productivity

- Signs of heat stress:
Bunching in shade, high respiratory rates, open mouth breathing.
- What to do:
 - Offer shade.
 - Offer water- keep good quality water in front of animals.
 - Wet with sprinklers/fire hose.
 - Water ground.
 - Avoid overworking animals.
 - Control insects. Biting insects, such as flies can further stress livestock and interrupt their cooling. If pastures or buildings draw insects to livestock during times of extreme heat, provide proper insecticides or considering relocating your livestock.

Poultry

- Provide cool, clean, quality drinking water to your poultry. Water will help keep your birds cool.

- Always make sure your poultry is in a well-ventilated area in which there is nothing to obstruct the airflow.
- Provide feed during the coolest part of the day.
- Supplement drinking water with electrolytes.
- Reduce the number of birds kept in a house or in an area.
- Avoid excessive activity during the hottest part of the day.

J. Severe thunderstorms/flash floods

Building resilience:

- Identify resources/facilities within 50 km that can be utilized and can be of help during emergencies.
- Be sure to have legal and adequate markings to identify your livestock.
- Stay well informed about livestock in your possession and conduct an inventory after the event.
- Monitor television and local radio stations for information regarding severe storms/flash floods in your region.
- Identify natural or built areas/shelters where animals can be kept during such conditions:
 - Sufficient height to be above water level,
 - Sheltered from strong winds and wetness,
- Restrict access to high-risk areas such as low-lying fields close to streams.
- Store food in safe areas sheltered from wetness to be used after storms/flash floods.
- Keep pesticides and other chemicals in areas where water will not be contaminated during extreme rainfall/storm events.
- Inspect/repair farm dams before rainy season, and after each event.

Some dryland crop farmers have planted while others are waiting for sufficient moisture. The veld and livestock are in reasonable to poor condition. The seasonal forecast anticipates above normal rainfall in the north-eastern parts of the central interior and coastal areas in late summer but above normal for the eastern regions in autumn. Temperatures are expected to be above normal but below normal daytime temperatures are anticipated along the south coast. However, the South African Weather Service cautions that there is uncertainty in the predictions on whether a La Nina event will occur. Therefore, it is important to keep updated on the monthly seasonal forecast as the El Nino Southern Oscillation may change the rainfall outlook if the La Nina event occurs.

Farmers are advised to remain cautious considering current conditions and the seasonal forecast. Farmers should follow the weather and climate forecasts regularly to make informed decisions and wait for sufficient moisture before planting. Areas that have been constantly experiencing dry conditions should prioritise drought tolerant cultivars. In regions that are in reasonable to good condition, farmers are advised to prepare in line with the expected conditions i.e., in line with the seasonal forecast. However, they should not expand planting land unnecessarily. Moreover, farmers should consider short season cultivars. It should be noted that rainfall distribution continues to remain a challenge, therefore not all areas in the north-eastern parts of the central and coastal regions might receive the anticipated above normal rainfall that is well distributed.

Farmers are also advised to put measures in place for pests and diseases associated with wet and hot conditions as above normal rainfall and high temperatures are anticipated in the north-eastern parts of the central regions. Farmers using irrigation should comply with water restrictions in their areas. Also, farmers must continually conserve resources in accordance with the Conservation of Agricultural Resources Act 1983, (Act No. 43 of 1983).




Although rain has been received in many parts of the summer rainfall area, the veld remains dry in some summer rainfall areas and therefore livestock should be kept in balance with carrying capacity of the veld and provided with additional feed such as relevant licks. Farmers are encouraged to reduce livestock in line with available grazing to prevent mortalities. Also, the livestock should be provided with enough water points on the farm as well as shelter during bad weather conditions. Veld fires have been reported in several provinces. Therefore, the creation and maintenance of fire belts should be prioritised along with adherence to veld fire warnings. Episodes of heatwaves have occurred as well as localized flooding and severe thunderstorms. These occurrences remain likely for the remainder of summer. Therefore, measures should be in place. Farmers are encouraged to implement strategies provided in the early warning information issued.

The users are urged to continuously monitor, evaluate, report, and attend to current Disaster Risk Reduction issues. It is very important and mandatory for farming communities to always implement disaster risk measures and maintain good farming practices.

The climate advisory should be disseminated widely. Users are advised to be on the look-out and act on the daily extreme weather warnings as well as the monthly advisory. Information sharing groups are encouraged especially among farming communities for sustainable development. In general, effective communication among all stakeholders in the sector will enhance effective implementation of risk reduction measures/early warning services. It is the responsibility of farmers to implement disaster risk measures.

The Disaster Management Act 2002, (Act No. 57 of 2002) urges Provinces, individuals, and farmers, to assess and prevent or reduce the risk of disasters using early warning information. The current advisory can be accessed from the following websites: <https://www.dalrrd.gov.za/>.

For more information contact:-

<p>DALRRD, Directorate: Climate Change and Disaster Risk Reduction Private Bag X250 Pretoria 0001 Tel: 012 319 6775/ 6794 Email: MittaA@Dalrrd.gov.za</p> 	<p>SAWS: Private Bag X097 Pretoria 0001 Tel: 012 367 6000 Fax: 012 367 6200 http://www.weathersa.co.za</p> 	<p>ARC: Institute for Soil, Climate and Water Private Bag X79 Pretoria 0001 Tel: 012 310 2500 Fax: 012 323 1157 Email: iscwinfo@arc.agric.za, http://www.arc.agric.za</p> 
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