



# LIMPOPO

PROVINCIAL GOVERNMENT  
REPUBLIC OF SOUTH AFRICA

## DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT

Ref no: 14/3/1

### National Agro-meteorological Committee (NAC) Advisory on the 2021/22 spring and summer season Statement from Climate Change and Disaster Management February 2022

Limpopo Province Department of Agriculture and Rural Development is highly committed to excellent service delivery through new innovations and advanced technology with implementation of its strategic plan. The Division Disaster Risk reduction and vulnerability Management ensures optimum utilization of all-natural agricultural resources available such as Climate, land, water, etc. 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. **Users are advised to be on the look-out and act on the daily extreme weather warnings as well as the monthly advisory.**

### SEASONAL CLIMATE WATCH: CURRENT CONDITIONS

Figure 1

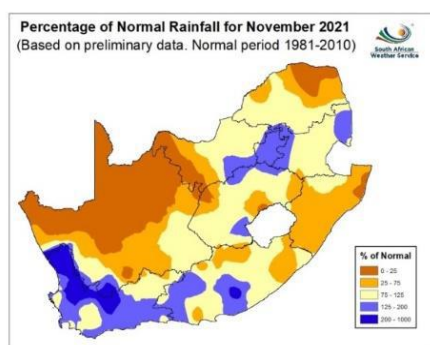


Figure 2

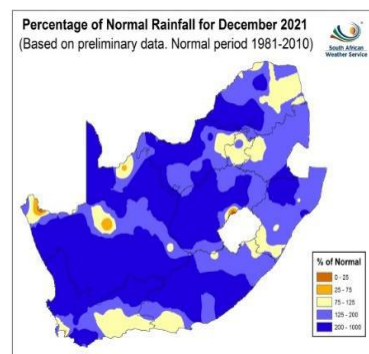


Figure 3

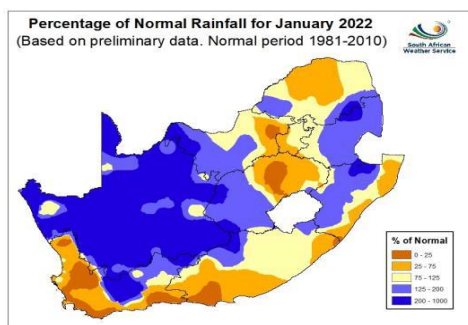
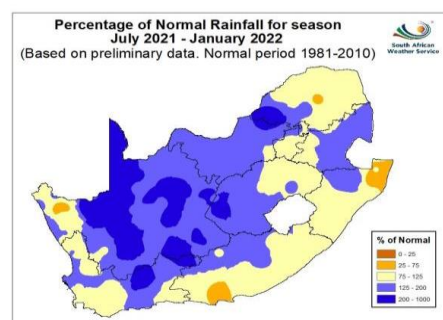
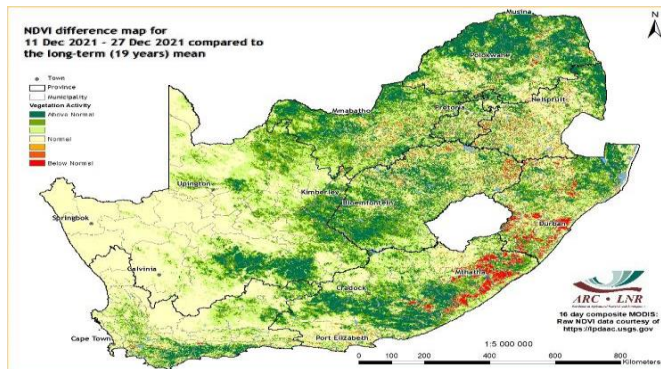


Figure 4



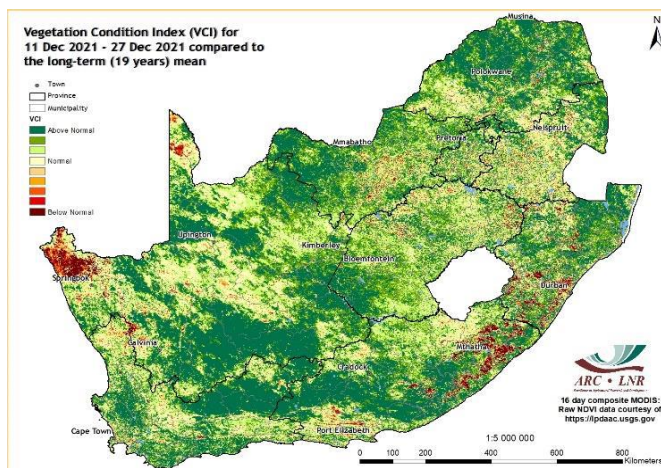
During November near normal to below normal rainfall received in the province (**Figure 1**). Above normal rainfall mostly in southern western parts of the province with the remaining parts of the province receiving near normal rainfall during December (**Figure 2**), most part of the province receive near normal and below normal rainfall hence some patches of above normal rainfall (**Figure 3**). The season July 2021 to January 2022 the province received normal rainfall with some parts of Waterberg district receiving above normal rainfall average Figure 4.

#### NDVI map: 11 - 27 December 2021 compared to the long-term mean



Compared to the long-term mean, the 16-day NDVI difference map for December shows that most part of the province experienced normal to above-normal to normal vegetation conditions with small pockets of below-normal conditions in isolated areas.

#### VCI map: 11 - 27 December 2021 compared to the long-term mean



The VCI map for December indicates above normal to normal vegetation conditions in most parts of the province, hence some patches below normal vegetation parts of the province.

(The VCI is a better indicator of water stress than the NDVI).

### **AGRICULTURAL MARKETS**

#### **livestock domestic markets**

According to FNB good rainfall encouraged good grass cover and producers have held back on their stock for herd rebuilding. However, this comes with its own risks with animal health costs likely to increase due to increased incidences of animal pests and diseases. Sheep showed gains across all categories; however, feeder lambs are still 3% higher than above 3 years average for this time of the year. The pork market indicated downward pressure on prices due to the seasonal decline in demand and increased availability. The broiler market remains higher compared to last year; limited stock and increased in tariff and lower imports continue to provide upside support for the poultry market.

<b>Producer prices for selected livestock commodities</b>	<b>Beef</b>	<b>Mutton</b>	<b>Pork</b>	<b>Poultry</b>
Open market: Class A / Porker / Fresh whole birds (R/kg)	57.08	87.96	26.67	30.47
Open market: Class C / Baconer / Frozen whole birds (R/kg)	47.10	70.24	27.39	29.28
Contract: A2/A3* / Baconer/ IQF (*includes fifth quarter) (R/kg)	54.89	85.13	32.82	27.95
Import parity price (R/kg)	53.63	97.15	-	29.31
Weaner Calves / Feeder Lambs (R/kg)	41.05	40.82	-	-

ABSA: 2022/02/03

### Major grain commodities

ABSA indicated that local maize prices traded sideways. The Crop Estimates Committee published the preliminary area planted estimate that indicated a 5.29% decrease in area planted for maize compared to the previous season because of delayed plantings and crop damage in certain regions due to excessive rains. Wheat prices traded sideways and the Crop Estimates Committee forecast indicated a 2.59% increase in the production for wheat at 2.153 million tons. If realized this will be the largest wheat crop since 2002. Soybean prices increased and the Crop Estimates Committee indicated that the preliminary area planted for Soybeans is 10.02% higher than the previous season.

Future Prices ((2022/02/01) R/ton					
<b>Commodity</b>	<b>Feb-22</b>	<b>Mar-22</b>	<b>May-22</b>	<b>Jul-22</b>	<b>Sep-22</b>
White maize	3 652,00	3 609,00	3 549,00	3 557,00	3 615,00
Yellow maize	3 790,00	3 773,00	3 663,00	3 657,00	3 714,00
Wheat	5 840,00	5 887,00	5 920,00	5 938,00	5 880,00
Sunflower	10 600,00	9 670,00	8 994,00	9 065,00	9 129,00
Soybeans	8 494,00	8 410,00	8 284,00	8 393,00	8 490,00

SAGIS: 2022/02/03

### SADC REGION

The Famine Early Warning Systems Network (FEWS NET) issued in January 2022 reported that the October to December rainfall in much of the northeastern sector of the region as well as Madagascar was among the driest on the historical record. January rainfall, while erratic, did result in some decreases in rainfall deficits. Meanwhile, rainfall in the central and southern sectors of the region has been average to above average. Planting in central and southern Madagascar, much of Malawi, central and northern Mozambique, and northern Zimbabwe has been delayed by over a month. For those crops planted in January, consistent rainfall through the end of the rainy season in March is needed for crops, specifically maize, to reach maturity. High concern persists for households' ability to access food and income in southern Madagascar as most households are heavily reliant on humanitarian assistance for food due to consecutive droughts. Most households are experiencing Crisis (IPC Phase 3). These outcomes are expected to continue through April with large-scale planned humanitarian aid. The ongoing drought conditions and poor vegetation during the ongoing rainy season are driving poor 2022 harvest prospects and further declines in livestock body conditions are expected.

FEWS NET further reported that agricultural labor typically provides income for poor households to purchase market foods. Currently, in areas where rainfall through January was poor and erratic, these opportunities, including planting and weeding have been significantly impacted. Overall, in much of Madagascar, parts of Zimbabwe, Malawi, and Mozambique have lower than average agricultural labor opportunities. Due to these limited opportunities, labor supply is likely to increase, resulting in a decrease in labor wage for many poor households. As labor wages decrease and prices of basic commodities increase, households likely have weak purchasing power facing difficulty accessing market foods. Households in areas of Zimbabwe, central Mozambique, and southern Malawi where rainfall was poor for the 2020/21 season are market reliant on food during the ongoing lean season. Due to the delays in the start of the season, income from agricultural labor is below average, with many poor households in these areas experiencing Crisis (IPC Phase 3) outcomes. In some areas of Zimbabwe, Mozambique, and Malawi, humanitarian assistance is decreasing food consumption gaps and Stressed (IPC Phase 2) outcomes are ongoing. Crisis (IPC Phase 3) outcomes are ongoing and expected to persist in northern Mozambique, and Ituri, Tanganyika, North and South Kivu, and Kasaï provinces of DRC as conflict disrupts livelihood activities.

[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.]

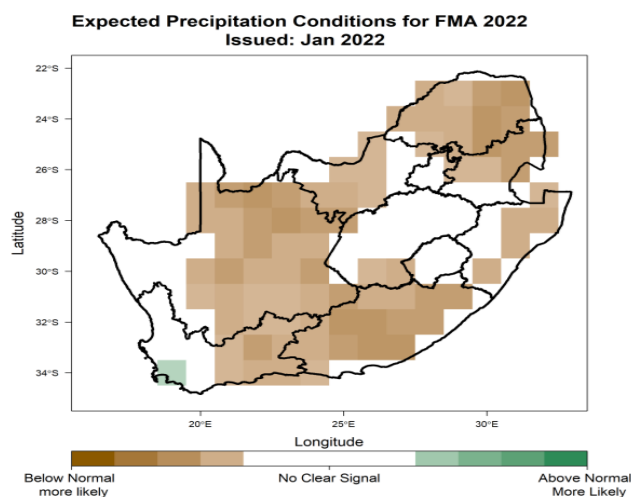
Source: <http://www.fews.net/southern-africa>



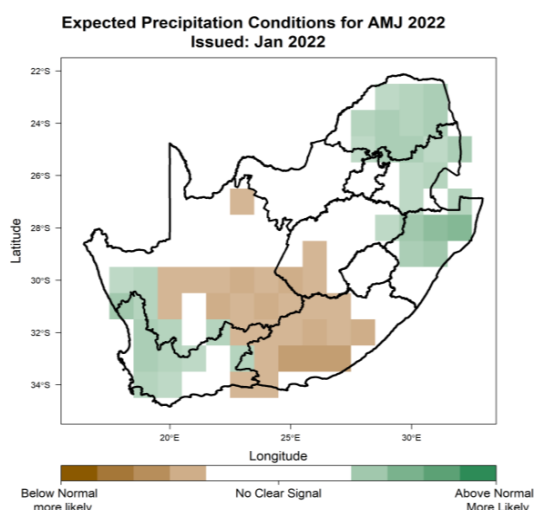
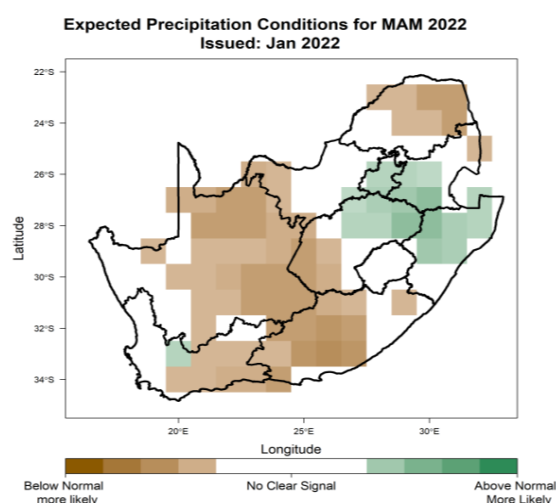
## MONTHLY CLIMATE OUTLOOK

### Seasonal Climate Watch: February to June 2022

#### Rainfall



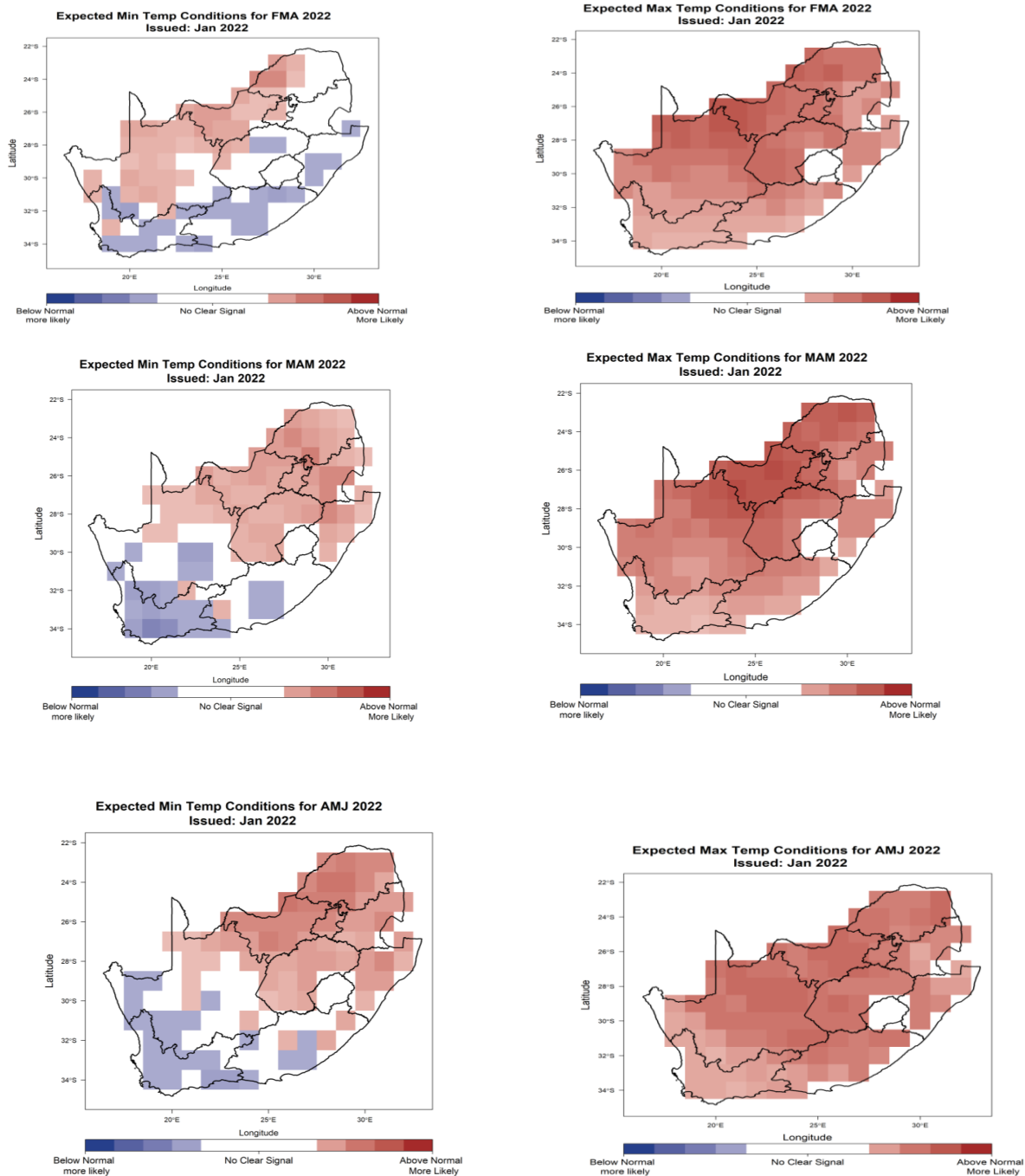
The multi-model rainfall forecast indicates mostly below-normal rainfall for the entire province during the early-autumn (FMA), and during mid-autumn (MAM). The likelihood of above normal rainfall is during late autumn (AMJ).



#### State of Climate Drivers

The El Niño-Southern Oscillation (ENSO) is currently in a La Niña state and the forecasts indicate that it will likely remain in a La Niña state throughout the autumn seasons. During autumn, the presence of ENSO has less of an impact on rainfall. However, it may still affect summer rainfall areas up to the mid-autumn season. Thus, the presence of a La Niña during mid-autumn may still be favorable for above-normal rainfall for the summer rainfall areas.

## Temperature minimum and maximum



Mostly above-normal minimum temperatures are expected across Province and below-normal during autumn. Maximum temperatures are expected to be above normal in Limpopo for all of the autumn season

In summary, rainfall is expected to decrease becoming below normal at the beginning of autumn in summer rainfall areas. During mid-autumn some parts of Limpopo might receive above-normal rainfall. Temperatures are expected to be above-normal, but also anticipate to be below-normal minimum temperatures during autumn. Farmers are encouraged to continually check updates i.e. seasonal forecasts and utilize 7 day weather forecasts for short term planning

Take into consideration the above forecast, the following strategies were recommended

### **SUGGESTED STRATEGIES**

#### **A. Rain-fed crop production**

##### **Crop management**

- Adjust planting density accordingly.
- Consider mulching to minimize 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.
- Practice water harvesting techniques e.g. construction of basins, contours, ridges.

#### **B. Irrigation farming**

**The current drought is having a negative impact on irrigation.**

- 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.
- Obtain the relevant seeds to be planted considering the climate forecast.
- Be aware of the state of regional water resources and whether it will be adequate for irrigation.
- Irrigate with the correct amount, never over-irrigate.
- Timing of irrigation - rather late afternoon or early evening to reduce evaporation.
- Be aware of current and expected weather conditions and re-look at the area to be planted as there are already water restrictions in some areas.
- 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.

#### **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 separate

### **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 in order 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 in advance.

### **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.
- Irrigation farmers should monitor for pests and diseases especially those associated with humid and hot conditions.

#### **Livestock**

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

### **G. Veld fires**

**NOTE:** 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 has to 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 inflammable material capable of carrying a veld fire across it.
- Firebreaks may be temporary or permanent.
- Firebreaks should consist of fire-resistant vegetation, inflammable materials, bare ground or a combination of these.
- Firebreaks must be located 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. o Sow grass.

#### **What to do when conditions favourable 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, fire fighting 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. 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.

### **I. Severe thunderstorms/flash floods**

#### **Building resilience:**

- Identify resources/facilities within 50km 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, after each event.

### **Wind Erosion/ Water Erosion**

**Many areas have low biomass associated with the drought, and as a result there is potential for wind/ water erosion. Erosion reduces agricultural production potential.**

✓ Preventative measures for wind/ water 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 can act as blanket, trap eroded particles and reduce wind speed at ground level.
- Plant evergreen trees growing densely and perpendicular to 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 over grazing.
- Practice conservation farming
- Maximize retention of crop residues.

### **J. 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.

Above-normal rainfall was received in summer rainfall areas and has resulted in flooding that in turn damaged crops and infrastructure. The veld and livestock are in reasonable to good condition. Below-normal rainfall is expected at the beginning of autumn. However, some parts of the province can anticipate above-normal rainfall during mid-autumn. Temperatures are expected to be above normal. In the southern parts of the country, below normal minimum temperatures can be expected. With the current conditions in mind as well as the seasonal forecast, farmers are advised to continue to put measures in place for pests and diseases particularly those associated with wet and hot conditions. It is also important for farmers to follow the weather forecast regularly so as to make informed decisions. Farmers using irrigation should comply with water restrictions in their areas. Farmers must continually conserve resources in accordance with the Conservation of Agricultural Resources Act 1983, (Act No. 43 of 1983).

Farmers are advised to keep livestock in balance with carrying capacity of the veld, and provide additional feed such as relevant licks. They should also provide enough water points on the farms as well as shelter during bad weather. Conditions conducive for veld fires remain in winter rainfall areas. Therefore, the maintenance of fire belts should be prioritized as well as adherence to veld fire warnings. Episodes of flooding resulting from rain bearing weather systems are likely to continue and preventative measures should be in place. As above-normal maximum temperatures are anticipated, heat waves could occur and therefore measures to combat these 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.**

N.B. 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.**

**For more information contact Provincial Disaster Risk Management and Vulnerability:**

Ms Makananisi FM 060 978 2175

Mrs Mashamaite MD 060 967 4027

<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><b>agriculture, forestry &amp; fisheries</b></p> <p>Department: Agriculture, Forestry and Fisheries REPUBLIC OF SOUTH AFRICA</p>	<p>SAWS: Private Bag X097 Pretoria 0001 Tel: 012 367 6000 Fax: 012 367 6200 <a href="http://www.weathersa.co.za">http://www.weathersa.co.za</a></p>  <p><b>South African Weather Service</b></p> <p>ISO 9001 Certified Organisation</p>	<p>ARC: Institute for Soil, Climate and Water Private Bag X79 Pretoria 0001 Tel: 012 310 2500 Fax: 012 323 1157 Email: <a href="mailto:iscwinfo@arc.agric.za">iscwinfo@arc.agric.za</a>, <a href="http://www.arc.agric.za">http://www.arc.agric.za</a></p>  <p><b>LNR • ARC</b></p>
---	--	--