



agriculture, forestry & fisheries

Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

National Agro-meteorological Committee (NAC) Advisory on the 2016/17 summer season Statement from Climate Change and Disaster Management 04 DAFF 2016

21 December 2016

In the light of the seasonal outlook 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 particular 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 (rain water 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

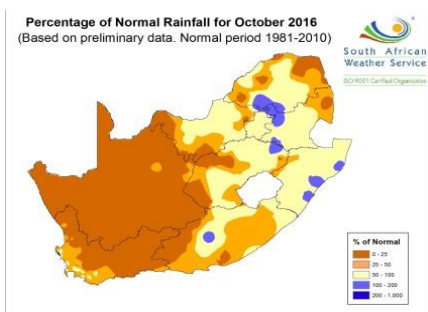


Figure 2

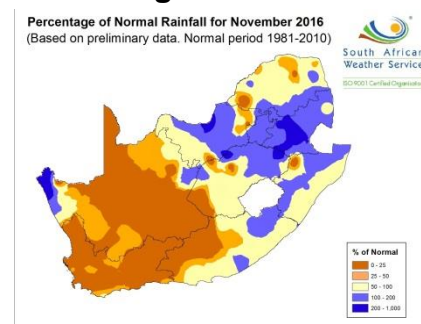


Figure 3

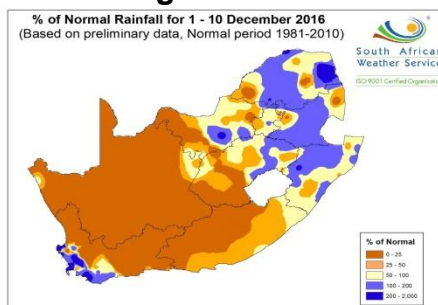
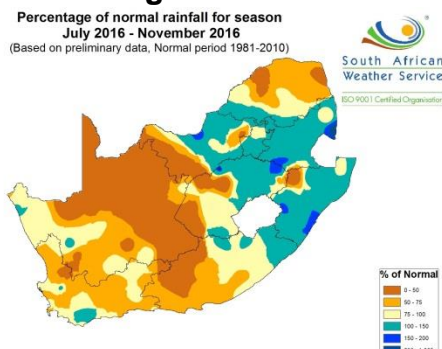
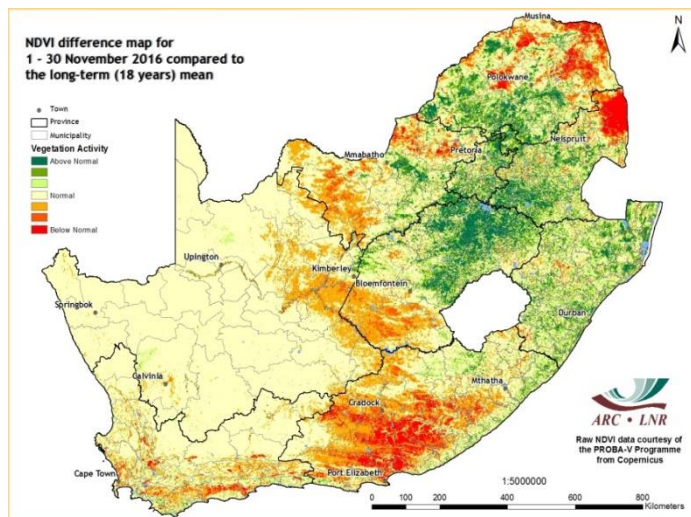


Figure 4



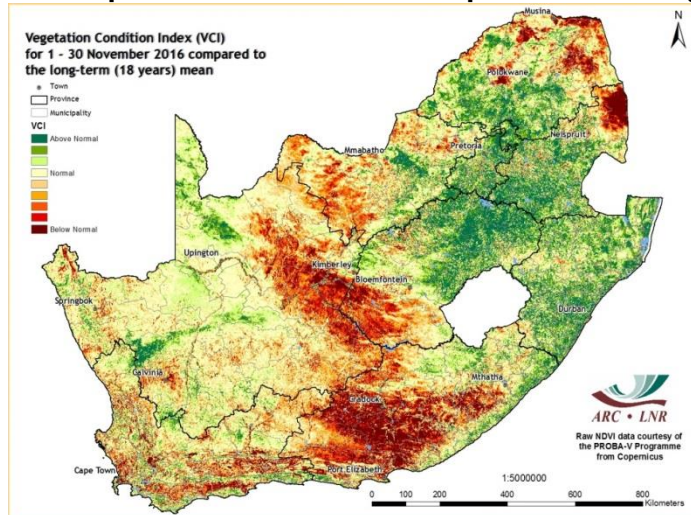
During October, near normal to below normal rainfall was received over most parts of the country with patches of above normal rainfall mainly in Limpopo, KwaZulu-Natal and the Eastern Cape provinces (**Figure 1**). In November, rainfall increased, resulting in near normal to above normal rainfall over most of the eastern half of the country while the western half continued to receive below normal rainfall (**Figure 2**). For the first ten days of December, near normal to above normal rainfall continued in the eastern half with below normal rainfall over most of the western half (**Figure 3**). For the season July – November 2016, below normal rainfall was received over most of the western half of the country as well as over the northern parts of Limpopo while the remaining regions received above normal rainfall (**Figure 4**).

NDVI difference map for November 2016 compared to the long-term mean



Vegetation activity is much lower over the Garden Route and Eastern Cape (southern parts of the country) and scattered areas in the extreme northeast compared to the long term mean. Due to more favourable rainfall conditions especially in October and November, Kwa-Zulu-Natal, the Free State, Gauteng and western Mpumalanga experienced higher vegetation activity.

VCI map for November 2016 compared to the long-term mean



(The VCI is a better indicator of water stress than the NDVI). The VCI map for November indicates below-normal vegetation conditions over the extreme eastern parts of Limpopo and Mpumalanga, some areas of North West, the southwestern parts of the Free State, the central to western parts of the Eastern Cape and the eastern parts of the Northern Cape.

II. CONDITIONS IN THE PROVINCES DURING NOVEMBER/DECEMBER 2016

Eastern Cape

Near normal to below normal rainfall was received. Crops are in reasonable to poor condition but good to very good in parts of Alfred Nzo and Sarah Baartman. The condition of livestock is reasonable to poor in some areas of the province but very poor in parts of Sarah Baartman. Pastures are reportedly in poor to reasonable condition but very poor in parts of Sarah Baartman. The veld remains poor over the western half of the province but reasonable in other areas. Aphids on vegetables were reported in Joe Gqabi and veld fires in parts of Sarah Baartman. Water sources remain critical and the level of major dams is low at 59% as compared to 74% of 2015.

Free State

Near normal to above normal rainfall was received, but below normal in the west. Although rain was received dam levels continue to decline. The veld condition is fair, however; livestock mortality is still being reported. The veld fire season started earlier because of the dry conditions. The average level of major dams is low at 50% as compared to 59% of 2015.

Gauteng

Rainfall received was above normal. The veld and livestock are in good condition, and farmers have begun planting summer crops. Severe thunderstorms resulted in flash flooding leading to infrastructural damages in some areas of the province. There were livestock mortalities in Bronkhorstspuit due to lightning. The level of major dams is at 82% as compared to 81% of 2015.

KwaZulu-Natal

Normal to above normal rainfall was received in most parts. The northern districts which have been worst affected by the drought since 2014 have continued to receive good rains through November and the first half of December 2016. However the dams are still not filling as needed due to inadequate run off. Mild to extreme drought conditions persist over the whole province, notably the northern districts. In the southern districts which are in a minor drought status and localised areas of Harry Gwala, uMgungundlovu and UThukela which is still in severe drought status, the livestock condition has started to improve with fewer losses experienced. The average level of major dams is at 42% as compared to 53% of 2015. Water restrictions remain place.

Limpopo

Rainfall received was near normal with above normal patches. The veld and livestock are in poor condition in communal areas but reasonable in commercial areas. Livestock mortalities were reported in Mopani due to the drought. The level of major dams is low at 49% as compared to 66% of 2015 during the same period.

Mpumalanga

Above normal rainfall was received but dam levels are declining and water restrictions are in place throughout the province. Maize and cotton are at knee level and in good condition. Harvesting of vegetables is underway in the Middleveld. Harvesting of subtropical fruits is underway in the Lowveld. Planted yellow pepper, green pepper, tomatoes and cucumber are doing well under tunnels. Planted pasture is re-germinating where there were burns. Potatoes are flowering in the Highveld. Planted soya beans are in good condition in the Highveld and in few farms in the Lowveld area. Harvesting of sugarcane is underway in the Lowveld. The veld and livestock are in fair condition in the entire province. An incident of hailstorm was reported in Nkomazi municipality which affected a number of farms including damaging infrastructure. The average level of major dams is at 57% as compared to 63% of 2015.

Northern Cape

NIL REPORT.

North West

Rainfall received was near normal to above normal and the veld is slowly recovering. Livestock is in reasonable to poor condition. Dry land crops are being impacted by high temperatures and the level of dams is at 57% as compared to 47% of 2015.

Western Cape

Below normal rainfall was received in most parts of the province which resulted in reduced yields and smaller fruit. The mean monthly maximum and minimum temperatures at most weather stations were above normal. Drought conditions worsened in Matzikama and Central Karoo due to lack of sufficient rain. Veld conditions remain poor. Farmers are translocating livestock from areas with poisonous plants to areas with better veld conditions. The average level of major dams decreased to 49% in 2016 as compared to 57% of 2015.

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 2016/12/19

III. AGRICULTURAL MARKETS

Major grain commodities

ABSA stated that the weekly average spot price for old season white maize increased by 1,48% from R3947/ton to R4006/ton. The favourable weather outlook and possible increased imports of US white maize may add a bearish tone to maize prices. Domestic new season weekly average wheat prices traded lower from R3913/ton to R3865/ton by 1,2%. The domestic demand for wheat outstrips local supply. Prices enjoy underlying support as the import requirement does not meet the weekly demand. Old season weekly average sunflower seed prices for delivery in December 2016 decreased week on week from R5848/ton to R5834/ton. It is expected that price increases will be limited as margins are under pressure.

Commodity	Future Prices (2016/12/06) R/ton				
	Dec-16	Mar-17	May-17	Jul-17	Sep-17
White maize	4010.00	3755.00	2830.00	2630.00	2660.00
Yellow maize	3226.00	3104.00	2593.00	2581.00	2614.00
Wheat	3808.00	3945.00	4030.00	4060.00	4110.00
Sunflower	5830.00	6020.00	5990.00	6085.00	6150.00
Soybeans	6590.00	6401.00	6149.00	6244.00	6347.00
Sorghum	3570.00	3792.00	3371.00	3300.00	3448.00

SAGIS weekly bulletin: 2016/12/08

Livestock domestic markets

ABSA stated that beef prices strengthened week on week. Prices are expected to gain support moving forward from better demand that comes with increased demand during the festive season. Mutton prices were higher over the past week, with an upward trend expected to continue into the New Year. Pork prices remained strong over the past week. Prices are expected to continue with the price support in the short term due to improvement in demand heading into the festive season. The average poultry prices over the past week traded sideways. Prices are expected to be

supported by improvement in demand in line with seasonal trends and due to upward pressure in IQF prices following the new brining regulations.

Producer prices for selected livestock commodities	Beef	Mutton	Pork	Poultry
Open market: Class A / Porker / Fresh whole birds (R/kg)	38.20	63.40	27.86	24.41
Open market: Class C / Baconer / Frozen whole birds (R/kg)	33.37	47.30	26.44	24.24
Contract: A2/A3* / Baconer/ IQF (*includes fifth quarter) (R/kg)	40.00	64.20	27.15	23.78
Import parity price (R/kg)	67.25	36.19	33.88	18.10
Weaner Calves / Feeder Lambs (R/kg)	22.13	31.48		

ABSA: 2016/12/13

NB: Users are advised that these are just indicative prices therefore it is imperative that clients investigate their own individual basis value when marketing their products (livestock and grain).

IV. SADC REGION

The latest report by the Famine Early Warning Systems Network (FEWS NET) for November 2016 to May 2017 indicates that as the region approaches the peak lean season period, most very poor and poor households are expected to experience worsening food security outcomes across the region. Currently, areas in several countries are in Crisis (IPC Phase 3). In some areas, ongoing humanitarian assistance is below needs, but has improved outcomes to IPC Phase 3. In other areas, Crisis outcomes exist in the absence of assistance and are expected until the next harvests. Emergency (IPC Phase 4) area outcomes are expected in parts of Madagascar through February. Although Emergency area outcomes are not projected for Zimbabwe, Lesotho, Mozambique, and Malawi during this outlook period, some households in severely affected parts of these countries will also experience IPC Phase 4 outcomes during peak lean season period.

As demand increases and national maize deficits become more evident, maize grain prices are expected to reach their peak high between January and March. In some countries, maize meal prices will also increase, in addition to prices for cassava and other substitute foods. Malawi and Mozambique maize grain prices are expected to remain 150 percent or more above last year and five-year average, while Zimbabwe expects significantly above average prices due to an unstable macro-economic environment. Preparations for the 2016-17 agriculture season is underway in most countries in the region and the seasonal rains have officially started in South Africa, Zimbabwe, Lesotho, Zambia, Swaziland, Mozambique, Angola, the DRC, and Madagascar. La Niña conditions, which are associated with average to above average rainfall in southern Africa, are expected during the region's main 2016/17 cropping season. Production prospects are generally positive, however also dependent in many areas on the availability of inputs. Agricultural labor opportunities are expected to be near average but increased competition is a limiting factor for households. Additionally, better-off and middle household capacity to pay remains low.

[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.]

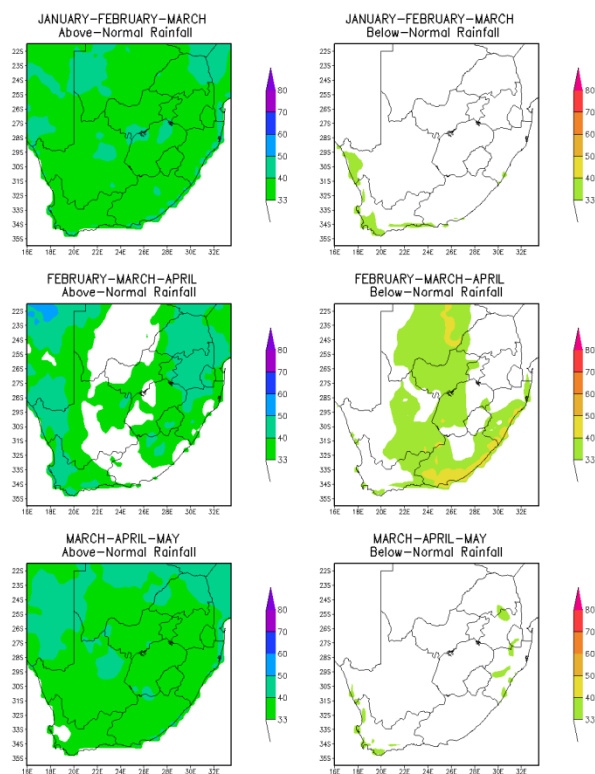
Summary of the reports

Normal to above normal rainfall was received in most parts. Dry conditions persist in many areas with water restrictions in place in others. Livestock is in reasonable condition in most areas; but in some parts it remains in poor condition. Land preparations for summer crops are under way in some provinces. The veld is slowly recovering following rain received. Incidents of veld fires have been reported in the Free State and the Eastern Cape. Severe thunderstorms resulted in damages in Gauteng and Mpumalanga. There were livestock mortalities in Free State, Limpopo and KwaZulu-Natal due to drought and in Gauteng due to lightning. Over SADC, it is expected that as the region approaches the peak lean season period, most very poor and poor households will experience worsening food security outcomes across the region.

V. MONTHLY CLIMATE OUTLOOK

Seasonal Climate Watch: January to May 2017

Figure 1 - Rainfall



The forecasting system shows chances for above-normal rainfall conditions for the coming season with a reduced likelihood, compared to the previous months' forecasts. Irrespective of the uncertainty associated with the model forecasts, these weakened probabilities for wet conditions and the continuation of drought over most parts of South Africa should cautiously be monitored.

Figure 2 - Minimum temperatures

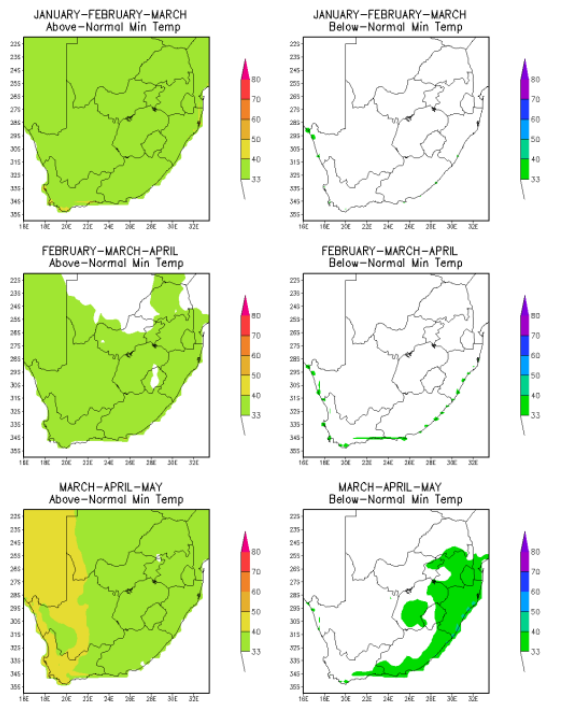
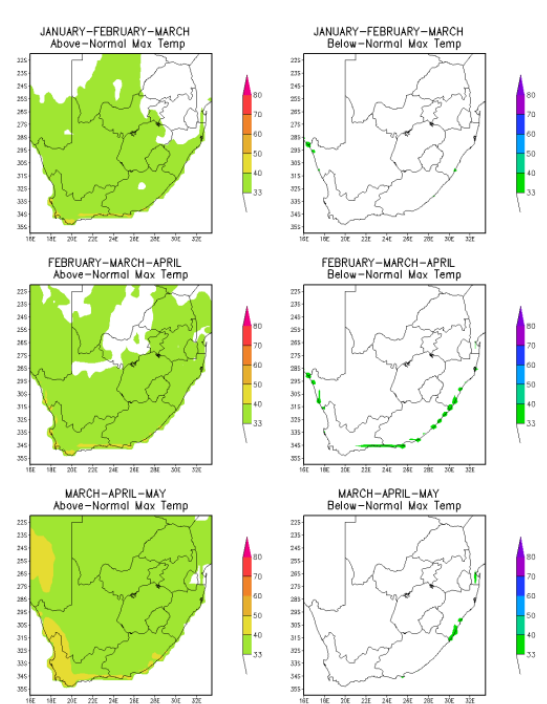


Figure 3 - Maximum temperatures



Forecasts show a tendency of above-normal temperatures with an increasing uncertainty.

How to interpret the forecast maps

- There are three sets of forecast maps: the rainfall, minimum and maximum temperatures.
- Each set consists of maps showing the probabilities for above-normal (left panels) and below normal (right panels) conditions to occur.
- For each forecast map a probability percentage is given on a scale of 0-50% and above (the colour bars on the right hand side of each map) for the rainfall or temperatures for the season, i.e. JANUARY-FEBRUARY-MARCH 2017.
- The forecast probabilities indicate the **direction** of the forecast as well as the amount of **confidence** in the forecast.

For further clarification using JANUARY-FEBRUARY-MARCH 2017 rainfall (**Figure 1**) as an example:

Gauteng, for the above normal rainfall category, is shaded in green (**33-40%**). In the below normal rainfall category it is shaded in white (**<33%**).

Comparing the two:-

- above normal: green (33-40%)
- below normal: white (<33%)

The above normal rainfall category for January to March 2017 has the higher value and is therefore favoured.

State of Climate Drivers

Observations show that the strength of ENSO (El Niño Southern Oscillation) in favour of a La Niña state has largely diminished during mid-December, with a partial weakening of an associated atmospheric response. However, upper-air wind patterns and rainfall regimes are still indicative of a weak La Niña. This observed change is consistent with the prediction of most models, which indicate the decay of the (weak) La Niña. This rapid reduction of La Niña towards a neutral ENSO state may cast substantial uncertainty on the prediction of rainfall and temperature conditions in our region as noted above.

In summation, during late-summer through to early autumn, above normal rainfall and temperatures are anticipated. However the probability for wetter conditions has lowered as compared to the previous months' forecast. Farmers are encouraged to continually check updates i.e. seasonal forecasts and utilize 7 day weather forecasts for short term planning.

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

VI. SUGGESTED STRATEGIES

Although water levels in major rivers and dams remain low and drought conditions still persist, recent rainfall has brought some relief and planting has begun. Water restrictions remain in place in some areas. Farmers are advised to be conservative in their planting i.e. planting density/cultivar/area being planted.

A. Rain-fed crop production

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.
 - Avoid marginal soils - shallow and low water holding capacity soils.
 - Rather plant in soils with high water holding capacity or with shallow water table.
- Ascertain that the soil profile has enough water when planting commences.
- Roughen the soil surface to enhance rain water penetration and reduce runoff.
- Minimise compaction by reducing the passing of heavy machinery in the field.
- Add organic material to improve soil structure.

Land preparation

- Avoid where possible soils with pronounced plough pans.
- Consider practicing conservation agriculture such as zero or minimum tillage.
- Cover soil with organic matter or cover crops.
- Practice crop rotation.
- Do not expand land under crop production unnecessarily.
- Prioritise fallow land.

Crop choice and planting

- Choose drought resistant cultivars.
- Provide flexibility and diversification.
- Stay within the normal planting window and follow the weather and climate forecast regularly so as to make informed decisions.
- Consider staggered planting - spreading over weeks.
- Do not experiment with new and unknown cultivars and also avoid unnecessary capital investments.
- 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 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.
- **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 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.
- 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.
- 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

The 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 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.
 - 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. 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.

J. 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.

Although good rainfall has been received in many areas, drought persists with water restrictions remaining in place. The seasonal forecast anticipates above normal rainfall during late-summer with above normal temperatures. However, the probability for the wetter conditions is lower as compared to previous months' forecast. With the seasonal forecast in mind, and the current drought, farmers are advised to continue to conserve water and other resources in accordance with the Conservation of Agricultural Resources Act 1983, (Act No. 43 of 1983).

Dryland summer crop farmers are advised to be conservative in their planting i.e. planting density/cultivar/area being planted. Irrigation farmers should reduce the planting area in line with water restrictions in their areas. Farmers should follow the weather and climate forecasts regularly so as to make informed decisions. As above normal rainfall is anticipated, although the probability has decreased as compared to previous months' forecast, farmers are encouraged to put measures in place to control pests and disease associated with wet conditions.




Livestock farmers are advised to continue to have precautionary measures in place. These include provision of additional feed such as relevant licks, livestock reduction in accordance with available grazing, provision of enough water points in the farm where possible, as well as shelter during bad weather conditions. The risk remains high in some areas for conditions conducive for veld fires. Farmers are encouraged to maintain firebreaks and adhere to veld fire warnings. Severe thunderstorms with damaging winds and hail as well as heat waves are likely to reoccur; measures to combat these should be in place. Localised flooding is also possible in summer rainfall areas; precautionary measures for these should remain in place. Farmers are encouraged to implement measures 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: www.daff.gov.za and www.agis.agric.za.

For more information contact:-

<p>DAFF, Directorate: Climate Change and Disaster Management Private Bag X93 Pretoria 0001 Tel: 012 309 5722/23; Fax: 012 309 5878 Email: MittaA@daff.gov.za</p> 	<p>SAWS: Private Bag X097 Pretoria 0001 Tel: +27 (0) 12 367 6000 Fax: +27 (0) 12 367 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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