



# agriculture, forestry & fisheries

Department:  
Agriculture, Forestry and Fisheries  
REPUBLIC OF SOUTH AFRICA

## National Agro-meteorological Committee (NAC) Advisory on the 2014/15 summer season Statement from Climate Change and Disaster Management 07 DAFF 2015

30 March 2015

In the light of the seasonal outlook as produced by the South African Weather Service (SAWS) and other centres, 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 radio stations and farmers' days in disseminating the information.**

### I. CURRENT CONDITIONS

Figure 1

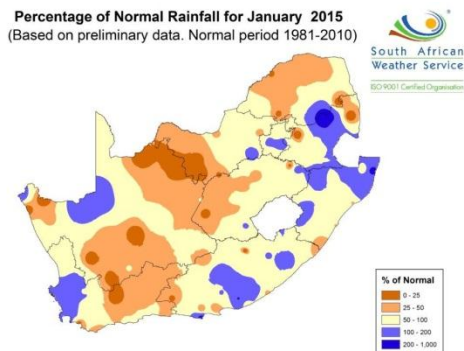


Figure 2

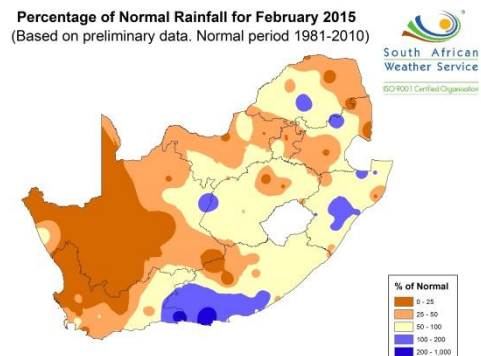


Figure 3

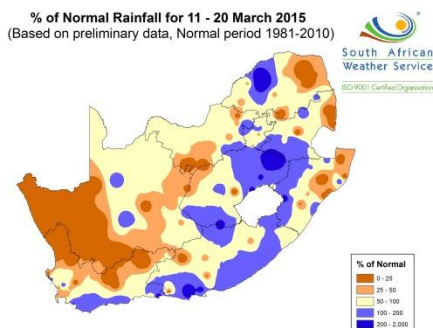
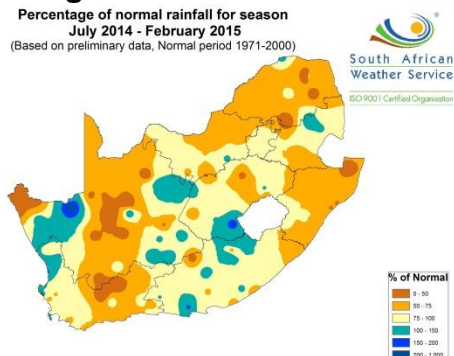
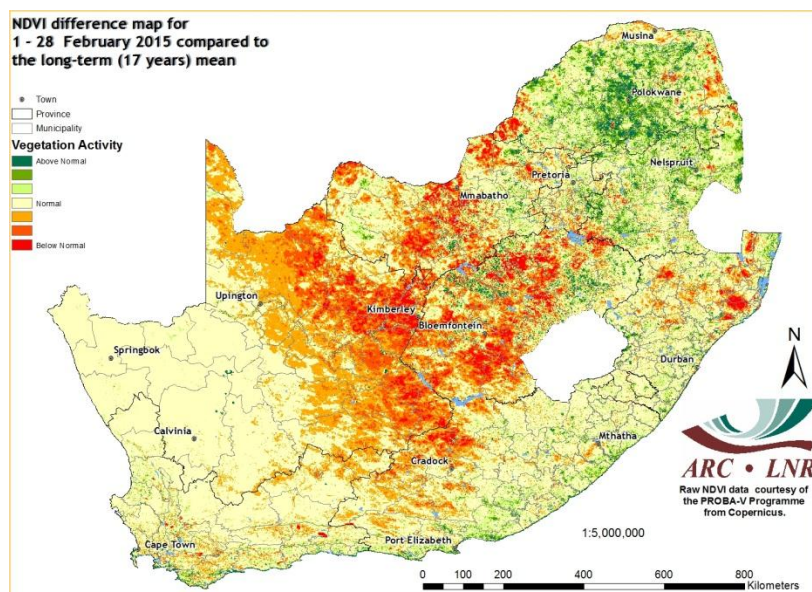


Figure 4



During the month of January rainfall was near normal in most areas but below normal mainly in parts of Limpopo, North West, Northern Cape and Western Cape (**Figure 1**). February received near normal to below normal rainfall (**Figure 2**), with patches of above normal mainly in the Eastern Cape. Rainfall during the middle of March (**Figure 3**), was also near normal to below normal with some patches of above normal mainly in KwaZulu-Natal, Free State, Eastern Cape and Limpopo. The season July 2014 to February 2015 (**Figure 4**) received near normal to below normal rainfall.

## NDVI difference map for February 2015 compared to long-term mean



Vegetation activity is below normal mainly over the Free State, North West, north-western parts of the Eastern Cape and the eastern parts of the Northern Cape as compared to the long term mean. Over most of Limpopo and Mpumalanga the vegetation activity is above normal.

## II. CONDITIONS IN THE PROVINCES DURING FEBRUARY 2015

### Eastern Cape

Rainfall was near normal but above normal in the south-west and below normal in the north-west. Crops are in reasonable to good condition with reports of aphids and rust on vegetables in parts of Amathole District. Aphids and late blight were also reported on some cabbages in Joe Gqabi District. The veld is in reasonable condition but very poor in parts of Sarah Baartman District. Livestock is reportedly in reasonable to good condition but poor in parts of Joe Gqabi and very poor in some areas of Sarah Baartman. Stock water shortages have been reported at Senqu in Joe Gqabi and Ngqushwa at Amathole District. The level of major dams has decreased compared to the previous year (76% in 2015; 85% in 2014).

### Free State

Extremely dry conditions were observed in Hoopstad, Bothaville, Wesselsbron, Welkom, Kroonstad, Vredefort, Senekal and Petrus Steyn. Crops are at a critical stage of pollination. Lack of moisture and high temperatures have had a negative impact and will influence yield. The veld is in reasonable condition but poor in Mangaung Metro, while livestock is in reasonable to good condition but poor in Mangaung Metro. The condition in commonages is poor but very poor in Mangaung Metro. The effects of drought are being experienced throughout the province. The

average level of major dams has decreased as compared to the previous year (83% in 2015; 99% in 2014).

### **Gauteng**

Rainfall was below normal in most areas. Vegetables in the Southern, Northern and Western Regions are in poor condition. They are water stressed and sun damaged; this is due to lack of rain and high temperatures. Maize in the Midvaal is also in poor condition. The veld is in reasonable condition but poor in parts of the Northern Region. Livestock is in reasonable to good condition. The average level of major dams was at 99% in 2015 as compared to 98% of 2014.

### **KwaZulu-Natal**

Rains for the past month have again been very intermittent and isolated with some severe thunderstorms and hail experienced as well as flash-flooding. Drought warning conditions have extended into Amajuba, Umzinyathi, uMkhanyakude and UThukela, while Ugu and eThekweni are back at a Watch status. All pastures are slow in bulking up. Maize that has survived is not at a normal height but is tasselling and cobs are forming. Harvesting of wheat has not yet begun. Plantations are showing signs of drought stress. Sugar cane tonnages are down and replanting is taking place. Cane is still in a stressed state and mills are still closed. Livestock in drought affected areas is in poor condition with reports of mortalities. The veld is seeding, green in some areas, but turning yellow-brown in many districts. There were a few cases of African Horse Sickness which have been reported to the relevant authority. Farm dam levels are still low and stock-watering dams have dried up in many areas. This is of concern going into the winter season. The level of major dams has decreased as compared to the previous year (73% in 2015; 91% in 2014).

### **Limpopo**

The province received near normal to below normal rainfall which was accompanied by above normal temperatures for most parts of the province. As a result, poor crops are dominating the rain-fed farming production; maize crops have stagnated such that flowering stages have been severely affected. Grazing looks good in commercial enterprises while signs of stress and poor conditions are evident in communal areas. Livestock is in good condition. The level of major dams is the same as in 2014, which is at 89%.

### **Mpumalanga**

Rainfall was generally below normal. Overall, the crop condition is poor especially on dry-land farming. Harvesting of potatoes continues in the middle-veld while green mealies on dry-land are at a mature stage but in poor condition due to heat stress. Planted soya and sugar beans are in poor condition while sugarcane is ready for harvesting in the lowveld. Grazing and livestock are in fair to good condition in the lowveld while livestock in the extreme north of the Bushbuckridge municipalities closer to the Kruger national park is quarantined as a result of the foot and mouth disease. Drought has been reported in the south-east and west of the province while Armyworm has been detected in the Mkhondo municipality. The level of major dams has decreased as compared to the previous year (91% in 2015; 97% in 2014).

### **Northern Cape**

Below normal rainfall was received. Harvesting of wine and dry grapes continues while harvesting of table grapes is nearing completion. Lucerne is in full production. Vegetables are wilting due to high temperatures. The veld and livestock are in reasonable condition but reasonable to poor in Namakwa Region. Crops are in poor condition in the Namakwa Region. The level of major dams has decreased as compared to the previous year (87% in 2015; 102% in 2014).

### North West

Rainfall was near normal to below normal. The veld is in reasonable condition while livestock is in good condition. Farmers have been advised to reduce livestock ahead of winter and provide supplementary feed. The level of major dams has decreased as compared to the previous year during the same period (65% in 2015; 80% in 2014).

### Western Cape

Rainfall was below normal, however, some areas within the Overberg and the Eden Districts received above normal rainfall. The condition of the veld is poor and farmers are forced to supply supplementary feed to their livestock in order to maintain condition. The western side of the province also experienced below normal conditions. There were veld fires in various districts, reports are currently being compiled which will highlight the affected areas. The level of dams decreased to 51% in 2015 as compared to 70% of 2014 during the same period.

## III. AGRICULTURAL MARKETS

### Major grain commodities

According to FNB Agri-Weekly, yellow maize prices trended sideways to firmer as weather concerns subsided following late season rains in the growing areas while maize prices moved sideways to weaker. The turnaround in weather conditions which may help reverse the crop damage in some areas will see prices softening slightly in the medium term. Wheat prices showed losses and oil seed market also showed losses. Prices are expected to trend sideways with further upward potential on Rand weakness.

### Domestic prices per Safex (R/t)

Commodity	Futures prices as at (2015/03/24)				
	2015/03	2015/05	2015/07	2015/09	2015/12
White maize	R2734.00/t	R2754.00/t	R2794.00/t	R2836.00/t	R2874.00/t
Yellow maize	R2490.00/t	R2486.00/t	R2490.00/t	R2521.00/t	R2565.00/t
Wheat	R3844.00/t	R3870.00/t	R3912.00/t	R3817.00/t	R3774.00/t
Sunflower	R5015.00/t	R4950.00/t	R5054.00/t	R5136.00/t	R5156.00/t
Soybeans	R4955.00/t	R4895.00/t	R4970.00/t	R5036.00/t	R5120.00/t
Sorghum	N/a	R2475.00/t	R2425.00/t	R2480.00/t	N/a

SAGIS Weekly bulletin: 2015/03/26

### Livestock domestic markets

FNB stated that beef prices gradually fell as a result of limited demand and improved supplies while the weaner market prices remained on downtrend due to increased supplies. It is expected that cattle for slaughter will continue to increase as producers reduce their stock holdings due to weather that has not been favourable to ensure good cover for the coming winter. Lamb and mutton prices showed losses due to weaker demand despite limited supplies. Prices are expected to trend sideways in the short term. The pork and baconer prices saw slight losses. Prices are expected to strengthen on demand ahead of the Easter holidays. Poultry market remained weaker due to subdued demand, the short to medium term outlook remains positive as we approach the Easter period.

<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)	33.81	51.71	24.98	22.80
Open market: Class C / Baconer / Frozen whole birds (R/kg)	25.26	39.11	23.60	22.54
Contract: A2/A3* / Baconer/ IQF (*includes fifth quarter) (R/kg)	33.76	51.72	23.78	19.46
Import parity price (R/kg)	29.34	31.17	19.78	17.85
Weaner Calves / Feeder Lambs (R/kg)	18.46	23.17		

**FNB Agri-Weekly: 2015/03/20**

**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 recent January to June 2015 FEWS NET food security outlook reported that most households in the region continue to consume staple foods from the previous harvest, while supplementing this with market purchases and will continue to experience Minimal (IPC Phase 1) outcomes between January and June. However, flood-affected households in central and southern Malawi will likely be Stressed and in Crisis (IPC Phase 3) between January and June. Additionally, localized parts of Lesotho, Angola and, Madagascar will be Stressed (IPC Phase 2) through March, but these outcomes are likely to improve to Minimal (IPC Phase 1) when the harvests begin between April and June.

From early to mid-January, most parts of the region received heavy rains causing extensive flooding across several areas including parts of southern Malawi, northern Mozambique, and Madagascar and affecting over a million people, including more than 500,000 people displaced from their homes. Destruction of cropped land by these floods will significantly reduce crop production in some of the affected areas and will likely result in significant food gaps during the 2015/16 consumption year.

Crop development across the region is mixed. In the northeastern parts of the region crop conditions are good. However, according to the Water Requirement Satisfaction Index (WRSI) the southern parts of the region, including western Angola and Botswana, southern Mozambique and Zimbabwe, Namibia, and central and northern South Africa, crops are showing signs of moisture stress due to mid-season dry spells.

Given the late start of the season, continued rainfall into April will provide favorable conditions for crop maturity. According to the January SARCOF update, there are enhanced chances of normal to above-normal rainfall between February and April. Below-normal rainfall in southwestern Angola and Botswana, Namibia, and northern and central South Africa may likely reduce crop yields.

#### **Summary of the reports**

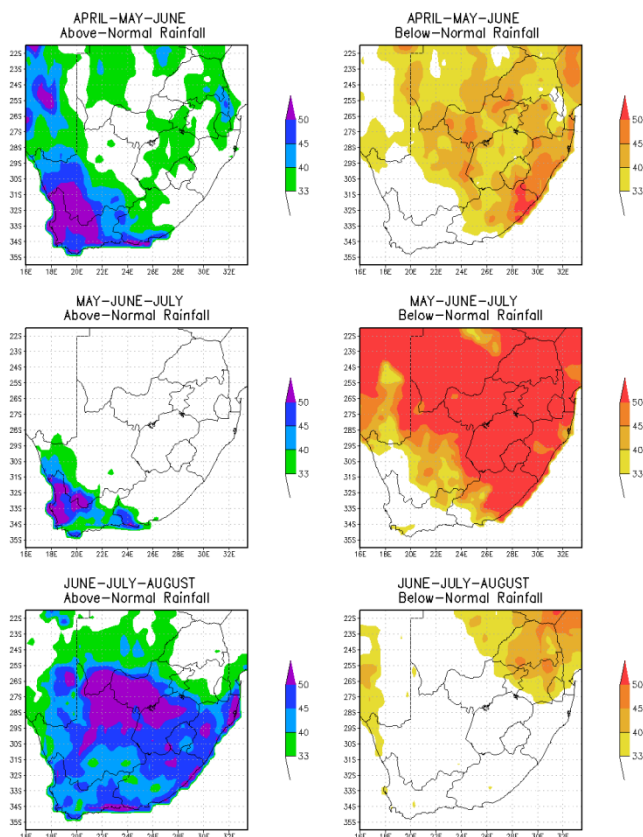
The month of February received near normal to below normal rainfall with patches of above normal rainfall mainly in the Eastern Cape. Drought has been reported in KwaZulu-Natal, Free State and Mpumalanga. Crops are in poor condition in areas that experienced high temperatures

and dry conditions. The veld is in reasonable to poor condition. Livestock remains in good condition but poor in parts of the Northern Cape, Eastern Cape; and in KwaZulu-Natal where mortalities were reported as a result of the drought. Foot and Mouth disease and Armyworm have been reported in Mpumalanga, and African Horse Sickness in KwaZulu-Natal. Aphids and late blight were also reported on some cabbages in the Eastern Cape. There were veld fires in the Western Cape. The level of dams has decreased in many provinces as compared to the same period during 2014. Over SADC most households continue to consume staple foods from the previous harvest, while supplementing this with market purchases and will continue to experience Minimal (IPC Phase 1) outcomes between January and June.

## V. MONTHLY CLIMATE OUTLOOK

### Seasonal Climate Watch: April to August 2015

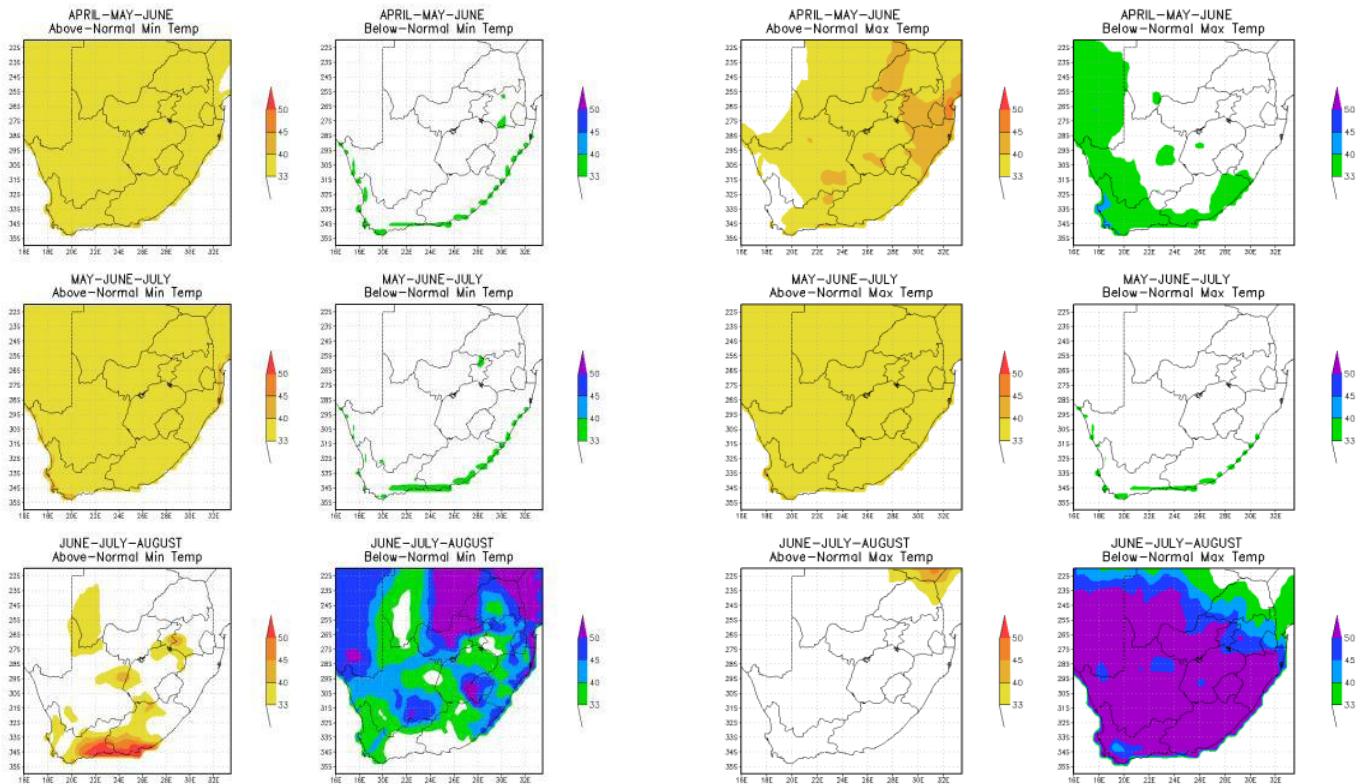
**Figure 1- Rainfall**



The forecasting system indicates strong probabilities for above-normal rainfall to the south western half of the country and below-normal rainfall to the north east through autumn towards winter. The forecasting system also indicates a significant chance of extremely above-normal rainfall for the south western areas of South Africa.

**Figure 2 - Minimum temperatures**

**Figure 3 - Maximum temperatures**



The forecasting system indicates mostly uncertainty for minimum and maximum temperatures for autumn and early winter, with below-normal minimum and maximum temperatures forecasted for most of the country during winter.

**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. APRIL-MAY-JUNE 2015.
- The forecast probabilities indicate the **direction** of the forecast as well as the amount of **confidence** in the forecast.

For further clarification using APRIL-MAY-JUNE 2015 rainfall (**Figure 1**) as an example: Western Cape Province, for the above normal rainfall category, is shaded mainly in dark blue (**45-50%**) and purple (**50% and greater**). In the below normal rainfall category it is shaded in white (**<33%**).

Comparing the two:-

- above normal: dark blue (45-50%), purple (50% and greater),

- below normal: white (<33%)

The above normal rainfall for April to June 2015 has higher values and is therefore favoured. This means that rainfall is anticipated to be above normal over the Western Cape during the period April to June 2015.

### **State of Climate Drivers**

Observations show that ENSO is currently at weak El-Niño condition. Most of the forecast model's predictions indicate the strengthening of El Niño condition through the austral autumn to winter seasons. The impact of ENSO on the climate of our region is more noticeable during the austral summer season.

In summation, during autumn into winter, rainfall is anticipated to be above normal over the winter rainfall areas and surrounding areas. Below normal rainfall is expected in summer rainfall areas. Both minimum and maximum temperatures are uncertain. When conditions are uncertain, farmers are advised to plan their activities in accordance with weather conditions that usually occur in their area during that time of the year. 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:**

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

#### **Crop management:**

- Scout for pests and diseases regularly and control where necessary.

### **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.
- Irrigate when it is cool to avoid evapotranspiration.
- 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 (very important)**

For most of the country, if the correct farming practices have been followed and stocking rates have been kept in balance with carrying capacity, animals should be in relatively good condition.



- Never exceed carrying capacity of plant associations and densities – keep conservative stocking rates even during favourable climate conditions.
- Provide lots of drinking points.
- 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).
- If grazing is in danger, herd animals into pens where different animals can be segregated and fed separately.
- Follow the vaccine routine and consult with the local veterinarian.

#### **E. Grazing (very important)**

- 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.
- Provide suitable licks to make coarse, dry grasses more palatable.
- During drought:
  - Accelerate rotational grazing,
  - Identify and use areas that were not grazed/grazed less intensively last year,
  - Wean calves early – lactating cows consume much more,
  - Close water points in over-used areas,
  - Provide lots of drinking points.

#### **F. Veld fires**

The provinces and farmers are advised to maintain firebreaks in winter rainfall 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 and 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 veldfire 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 veldfire**

- 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.

**G. Heat stress – bad for productivity (very important)**

Signs of heat stress:

- Bunching in shade, high respiratory rates, open mouth breathing.

What to do:

- Offer shade. Facilities/shelters for animals must be planned to give maximum protection from direct solar radiation during the day, yet allow for maximum radiative cooling during the night.
- Avoid handling animals during periods of high temperatures (typically between 12:00 and 16:00 in mid to late summer).
- Increase water availability and supply.
  - If higher water intake results in increase urine production, a loss of certain minerals may occur (sodium, potassium and magnesium) – higher concentrations of these minerals then need to be supplied within the diet.
- Wet with sprinklers/hose.
- Water ground.
- Feed less in the morning, more in late afternoon/early evening – reduce metabolic heat production during day. Alter diet if possible, to improve biological efficiency of converting feed units into production units.
- 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 consider relocating livestock.

### **Poultry**

- Provide cool, clean, quality drinking water as it will help keep poultry 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.

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

Severe thunderstorms occur frequently over the South African summer rainfall region during spring and summer.

The following may build 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.



Rain-fed crops are reportedly in poor condition in many areas due to dry conditions and high temperatures. The veld is reasonable to poor but livestock remains in good condition in many areas. The current dry conditions might continue into winter. The seasonal forecast anticipates below normal rainfall in summer rainfall areas and above normal rainfall in winter rainfall areas during autumn into winter.

With the seasonal forecast in mind, and current conditions in provinces, farmers are advised keep livestock in line with carrying capacity of the veld and provide additional feed including licks to give livestock sufficient nutrition. Resources should also be conserved including water in accordance with the Conservation of Agricultural Resources Act (Act No. 43 of 1983). Water restrictions should also be adhered to when issued. Firebreaks in winter rainfall areas should be maintained. Severe thunderstorms with damaging winds and hail have been reported and isolated cases still remain likely; measures to combat these should be in place. Localised flooding is also possible; preventive measures for these should be maintained.

**The users are urged to continuously monitor, evaluate, report and attend to current Disaster Risk 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 advisory update next month. 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 (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](http://www.daff.gov.za) and [www.agis.agric.za](http://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: <a href="mailto:MittaA@daff.gov.za">MittaA@daff.gov.za</a></p> 	<p>SAWS: Private Bag X097 Pretoria 0001 Tel: +27 (0) 12 367 6000 Fax: +27 (0) 12 367 6200 <a href="http://www.weathersa.co.za">http://www.weathersa.co.za</a></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> 
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