



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 05 DAFF 2015

26 January 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

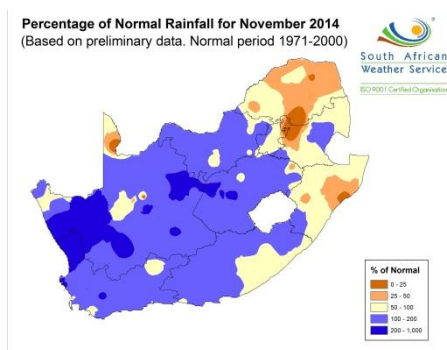


Figure 2

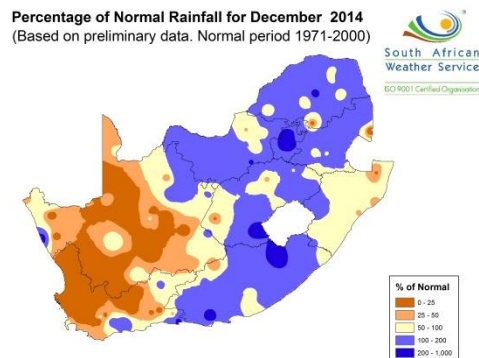


Figure 3

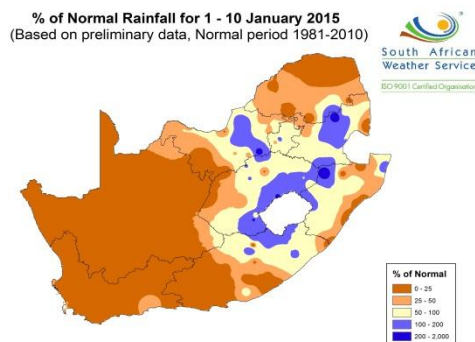
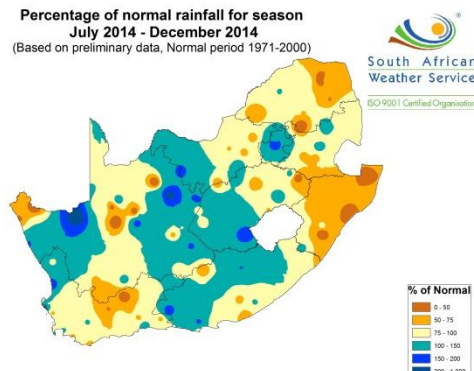
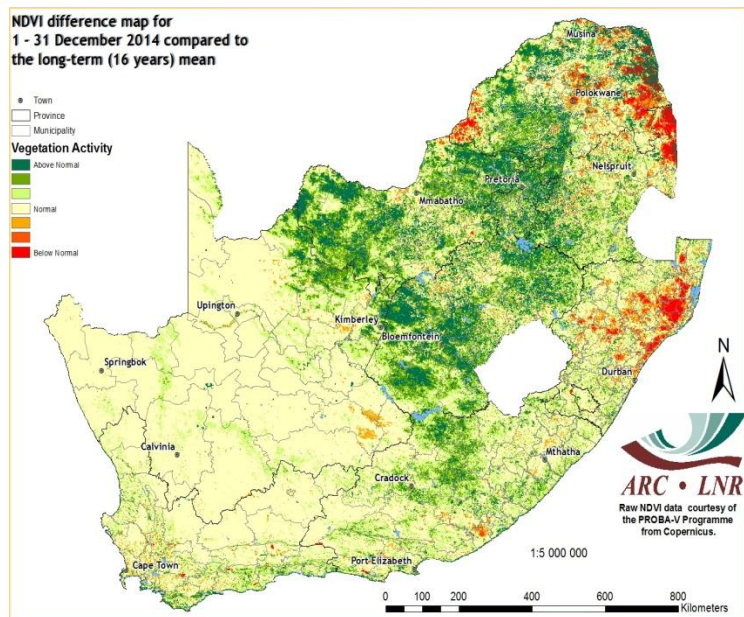


Figure 4



In November, above normal rainfall was received except for Limpopo, Mpumalanga, KwaZulu-Natal and parts of the Eastern Cape where it was normal to below normal (**Figure 1**). Rainfall decreased in December becoming below normal in the west. In other areas rainfall was near normal to above normal (**Figure 2**). During the first ten days of January, below normal rainfall was received in most parts of the country with patches of above normal rainfall mainly in the central regions (**Figure 3**). For the season July – December 2014, above normal rainfall was received over most of the central parts as well as the western areas of the Northern Cape, while the remaining regions of the country received near normal to below normal rainfall (**Figure 4**).

NDVI difference map for December 2014 compared to long-term mean



Rainfall over the central to the northern interior during December had a positive impact on vegetation activity there. The eastern parts of Limpopo and KwaZulu-Natal experienced some decreases in activity due to drier conditions.

II. CONDITIONS IN THE PROVINCES DURING DECEMBER 2014

Eastern Cape

Good rains have been received in some areas, however, Kouga in Sarah Baartman as well as the Nkokobe in Amathole are still very dry. The veld condition is generally good. Crops are in reasonable to good condition. Livestock condition is good in most areas except for few areas in Joe Gqabi where the condition is fair. The level of major dams has decreased compared to the previous year (76% in 2015; 84% in 2014).

Free State

Rain has been received throughout the province but some areas are still experiencing dry conditions. Most farmers have planted their summer crops. Veld is in reasonable condition except for commonages where grazing is a concern. Livestock is also in reasonable condition but mortalities have been reported in Mangaung Metro due to deteriorating veld as a result of high temperatures. The average level of major dams has increased as compared to the previous year (88% in 2015; 80% in 2014).

Gauteng

Above normal rainfall was received. Most maize crops and vegetables are in different growth stages and are in good condition. The veld is in reasonable to good condition but poor in commonages due to overgrazing. Livestock is in fair to good condition where energy, protein and mineral licks are provided; in other areas the livestock is in poor condition. Water logging due to rain was hindering some activities. The level of major dams has increased as compared to the previous year (101% in 2015; 86% in 2014).

KwaZulu-Natal

Rain continued to fall in the province in December but a lot more rain is needed to fill the dams. Despite good rains, the North Coast and Zululand areas are reported to be dry. Hydrological drought has been declared in nine districts, namely, UMkhanyakude, Zululand, UThungulu, Ilembe, Ugu, UMgungundlovu, UThukela, Harry Gwala and Umzinyathi. Maize is growing well in all areas except in parts of Harry Gwala where all maize and potatoes were lost due to hailstorms. Wheat is normal and harvesting has not started. Sugar cane tonnage is down in all areas and replanting is taking place. Livestock condition is improving in all areas but there were reports of mortalities in Mtubatuba and Ilembe due to drought. The veld in most areas is turning green but ground cover is still sparse. Incidents of tick borne diseases have been reported in Ilembe. Farm dam levels are still low in many areas. The level of major dams has significantly decreased as compared to the previous year (73% in 2015; 84% in 2014).

Limpopo

The province received above normal rainfall during December. The veld is recovering well despite the late start of the summer rainfall. Grazing is expected to improve as a result of good rainfall received. Livestock conditions are fair to good. Due to the delay of the summer rainfall, planting activity, especially dry land farming commenced very late. However, planted crops are in good condition. The level of major dams has increased to 90% as compared to 78% of 2014.

Mpumalanga

Nil report.

Northern Cape

Most of the province received below normal rainfall but near normal to above normal in John Taolo Gaetsewe and ZF Mgcawu. Farmers are busy exporting dry and wine grapes. All planted crops and vegetables germinated well. The veld and livestock conditions are normal in the ZF Mgcawu and John Taolo Gaetsewe districts but below normal to normal in Namakwa district and below normal in Francis Baard. The level of major dams has increased as compared to the previous year (92% in 2015; 72% in 2014).

North West

Most parts received normal to above normal rainfall. Some areas received sufficient rain to commence with seedbed preparation. Irrigation farmers have planted. The condition of veld is reasonable to good while livestock is in good condition. The level of major dams has increased as compared to the previous year during the same period (70% in 2015; 60% in 2014).

Western Cape

The province received below normal rainfall in December and daily maximum and minimum temperatures were normal. Due to poor rainfall the agricultural conditions could become poor and the drought conditions in the Karoo regions could be aggravated. The average level of major dams has decreased as compared to the previous year (70% in 2015; 86% in 2014).

III. AGRICULTURAL MARKETS

Major grain commodities

ABSA indicated that yellow maize traded 5.6% lower while white maize traded lower by 6%, this is due to good rainfall which has been experienced this summer. This has created an impression that stock levels will be boosted during this production season, should the weather conditions continue to be favorable this will trigger an increase in production volumes. Wheat prices decreased on SAFEX, prices are expected to decline due to large global wheat supplies. Oilseeds traded higher and prices will trade sideways in the short to medium term following lower international prices.

Domestic prices per Safex (R/t)

Commodity	Futures prices as at (2015/01/20)				
	2015/01	2015/03	2015/05	2015/07	2015/09
White maize	R1999.00/t	R2033.00/t	R2040.00/t	R2035.00/t	R2071.00/t
Yellow maize	R2014.00/t	R2052.00/t	R2059.00/t	R2052.00/t	R2091.00/t
Wheat	R3905.00/t	R3962.00/t	R4008.00/t	R4037.00/t	R3900.00/t
Sunflower	R5020.00/t	R4880.00/t	R4590.00/t	R4640.00/t	N/a
Soybeans	R5733.00/t	R5312.00/t	R4791.00/t	R4871.00/t	R4946.00/t
Sorghum	N/a	R2300.00/t	R2200.00/t	R2200.00/t	R2500.00/t

SAGIS Weekly bulletin: 2015/01/22

Livestock domestic markets

Local beef prices trades mixed, prices are not expected to decline sharply. Mutton traded weaker while lamb traded higher. Pork traded sideways, prices are expected to decrease due to higher production volumes. The broiler market traded lower, prices are expected to continue to decline due to higher stock levels and demand.

Producer prices for selected livestock commodities	Beef	Mutton	Pork	Poultry
Open market: Class A / Porker / Fresh whole birds (R/kg)	31.39	54.40	24.76	22.98
Open market: Class C / Baconer / Frozen whole birds (R/kg)	27.60	41.84	20.27	22.62
Contract: A2/A3* / Baconer/ IQF (*includes fifth quarter) (R/kg)	34.68	53.64	22.52	19.89
Import parity price (R/kg)	58.32	35.82	26.83	15.89

Weaner Calves / Feeder Lambs (R/kg)	21.19	24.61		
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ABSA AgriCommodities: 2015/01/16

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 January to June 2015 FEWS NET food security outlook issued in December 2014 reported that regional availability of staple cereal, mainly maize will remain higher than in previous years with most countries having remaining stock from the 2013/14 production year. Maize surplus-producing countries including South Africa, Tanzania, and Zambia are expected to have large exportable maize surpluses in 2014/15. South Africa will continue to be the main source of maize imports for southern African countries experiencing maize deficits. Informal cross border trade levels will be significantly below average as a result of above-average availability in the region, including countries that normally import.

The International Red Locust Control Organization (IRLCO) in its November 2014 report indicates that the red locust is likely to pose significant threat to crops in Kafue Flats of Zambia; the Buzi Gorongosa and Dimba plains in Mozambique; and the Ikuu-Katavi plains, Wembere and Malagarasi Basin of Tanzania, and Lake Chilwa plains (shared by Malawi and Mozambique) where large scale breeding is expected from January through February. The threat of armyworm resurgence is also likely in the region and based on recent reports from the IRLCO, which indicate that the current erratic rains across the SADC region provides suitable conditions for the armyworm breeding. During the outlook period humanitarian assistance needs are expected to increase from January to February, the peak lean season but the total needs are likely to remain below five-year average.

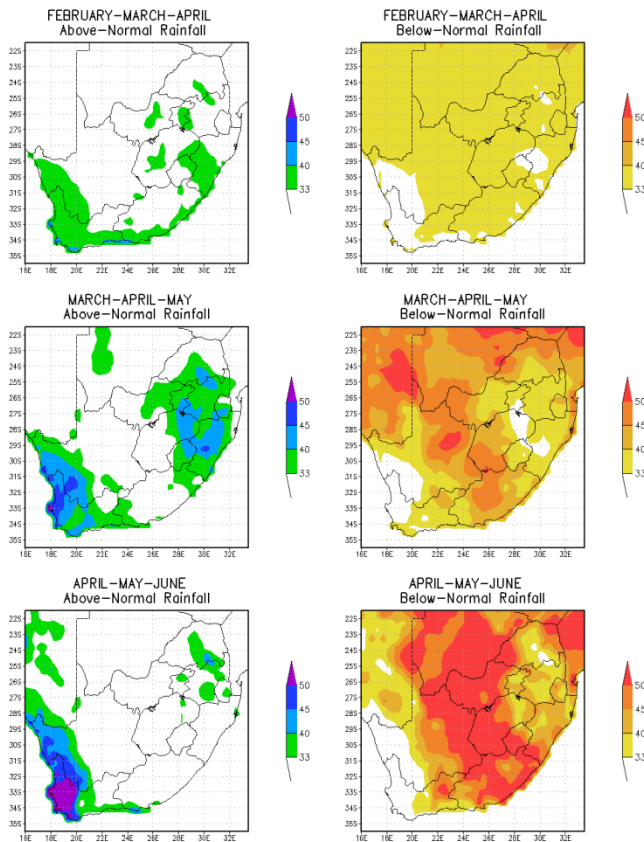
Summary of the reports

Normal to above normal rainfall was received except for the western regions where it was below normal. However, more rain is still needed in many areas including those that had been affected by drought. Veld has improved and livestock condition is improving except for the commonages where the conditions are still a concern. Crops are generally in good condition. Incidents of hailstorms which led to total crop destruction have been reported in some areas of KwaZulu-Natal and incidents of tick borne diseases in other areas of the province. There were mortalities in Free State due to very poor veld and hot condition while in KwaZulu-Natal it was due to drought. The levels of most major dams in provinces have improved as compared to the previous year. Over SADC regional staple cereal availability will remain higher than in previous years while humanitarian assistance needs are expected to increase from January to February.

V. MONTHLY CLIMATE OUTLOOK

Seasonal Climate Watch: February to June 2015

Figure 1- Rainfall



The forecasting system indicates mostly uncertain conditions for rainfall in early autumn with stronger probabilities for both above- and below-normal total rainfall (as indicated below) moving into mid- to late autumn.

Figure 2 - Minimum temperatures

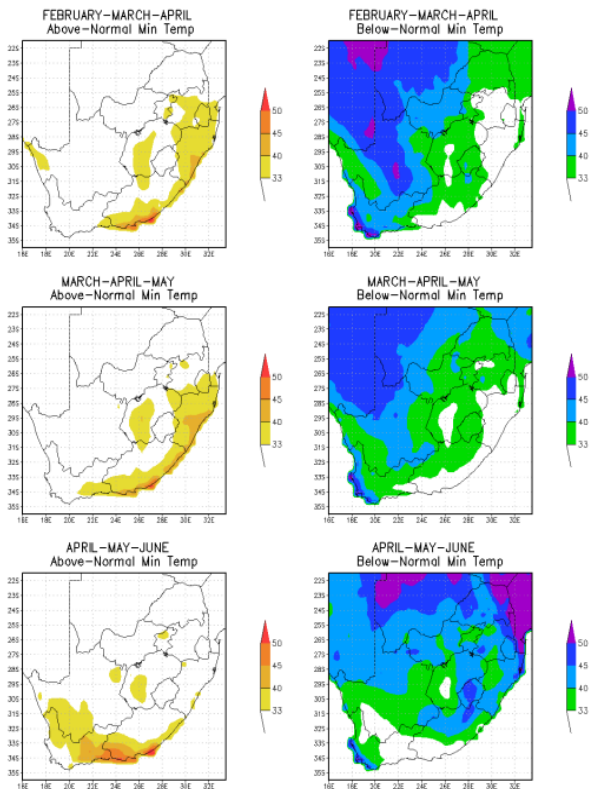
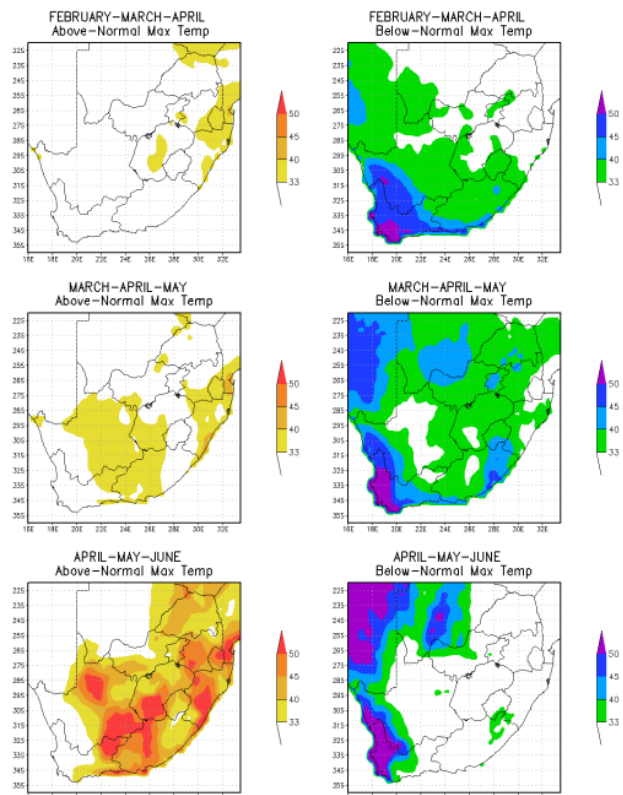


Figure 3 - Maximum temperatures



The forecasting system indicates uncertainty for minimum and maximum temperatures throughout autumn with a tendency of cooler temperatures for most of the forecast period.

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

For further clarification using FEBRUARY-MARCH-APRIL 2015 rainfall (**Figure 1**) as an example: Free State Province, for the above normal rainfall category, is shaded mainly in white (< 33%). In the below normal rainfall category it is shaded in yellow (33-40%).

Comparing the two:-

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

The below normal rainfall category for February to April 2015 has the higher percentage and is therefore favoured.

State of Climate Drivers

Observations show that ENSO is currently near the border of weak El Niño. Most of the set of dynamical and statistical model predictions indicate the persistence of a weak El Niño condition through the austral autumn to winter seasons.

In summation, rainfall is anticipated to be climatology towards the end of summer. This means farmers should plan their activities in accordance with weather conditions that usually occur during that period. During autumn, rainfall is expected to be below normal. Temperatures are anticipated to be climatology in most areas for the end of summer into autumn. 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:

- Consider mulching to minimize evaporation.
- Control weeds regularly.
- 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.

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.
- Offer water- keep good quality water in front of animals.
- Wet with sprinklers/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 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.

Provincial reports have indicated that conditions are improving following rain received i.e. veld and livestock. The seasonal forecast anticipates climatology conditions for the remainder of summer, meaning farmers should plan their activities in accordance with weather conditions that usually occur during that period. During autumn, rainfall is expected to be below normal. With this in mind farmers are advised to continually keep livestock in line with carrying capacity of the veld and additional feed including licks should be made available to give livestock sufficient nutrition. Resources including water should be continually conserved 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 as the fire season continues. Severe thunderstorms with damaging winds and hail have been reported and are likely to continue during the remainder of summer; measures to combat these should be in place.

Precautionary measures for heat waves should also remain in place. Localised flooding is also possible in summer rainfall areas; 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 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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