agriculture,
forestry & fisheries

Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

National Agro-meteorological Committee (NAC) Advisory on the 2009 Winter Season
Statement from the Agricultural Disaster Risk Management
11DAFF09

23 July 2009

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

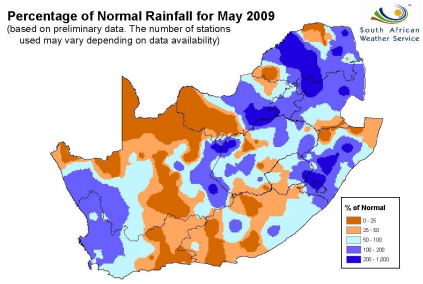


Figure 2

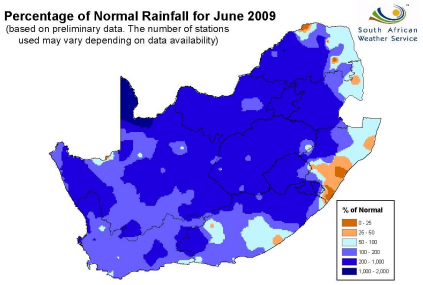


Figure 3

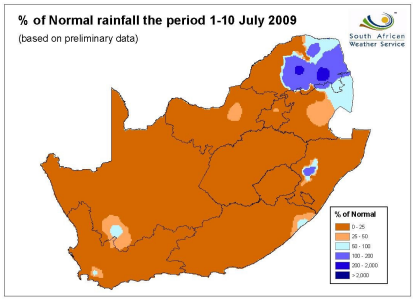
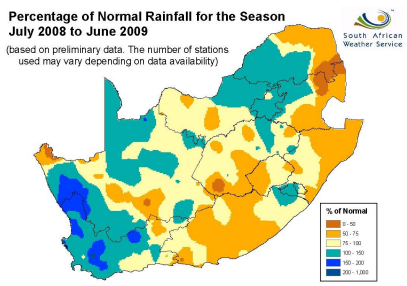
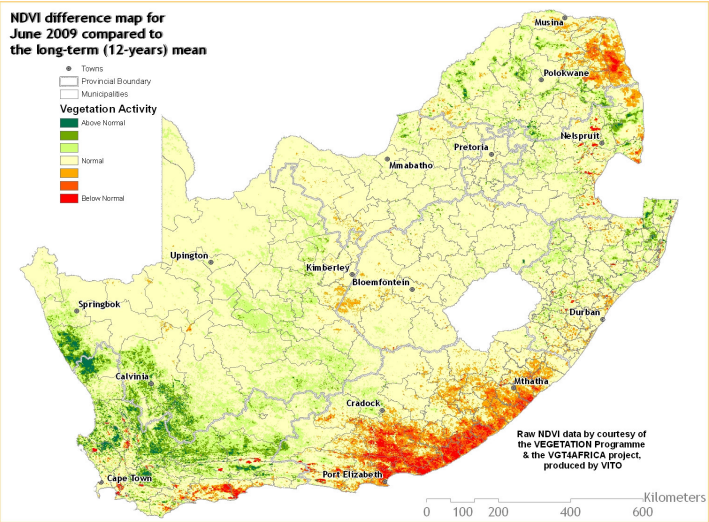


Figure 4



The winter rainfall areas and the eastern half of the country received normal to above normal rainfall during May **(Figure 1)** whereas in June well above normal rainfall covered nearly the entire country **(Figure 2)**. The first dekad of July saw very little rainfall over the majority of the country; it was mainly the eastern escarpment and Lowveld areas that received normal to above normal rainfall **(Figure 3)**. During the season July 2008 to June 2009 the extreme eastern and north-eastern parts of the country including eastern KwaZulu-Natal, southern Free State and the Eastern Cape received below normal rainfall **(Figure 4)** and the remainder of the country received normal to above normal rainfall.

NDVI difference map for June 2009 compared long-term mean



Vegetation conditions were normal throughout most of the country. However, lower vegetation activity can be seen in the Eastern Cape and eastern Limpopo. Higher vegetation activity can be seen in the Western Cape.

II. CONDITIONS IN THE PROVINCES DURING JUNE 2009

Eastern Cape

Most of the province received above normal rainfall that brought relief to the drought stricken areas. The condition of crops is reasonable in some districts but poor in parts of Amathole and O.R Tambo due to lack of rain in previous months. Strong winds damaged tomato tunnels in some regions of Amathole and pests and diseases on crops are a concern. The veld is slowly recovering in certain areas but still poor in others. Veld fires were reported in the Port St. Johns local municipality. Livestock is generally poor especially in the areas where drought conditions are experienced. The level of dams is lower as compared to the previous year during the same period (57.9% this year, 77.3% last year).

Free State

Above normal rainfall was received. Cold conditions occurred with widespread frost. Fire awareness campaigns through Fire Protection Associations increased readiness against veld fires and very isolated veld fires had been reported thus far. Farmers are advised to take precautionary measures for veldfires as prescribed by law to prevent the spread of fire. In general the level of dams is similar as compared to June 2008 (92% this year, 91% last year).

Gauteng
The province received above normal rainfall. The projected yields of winter crops have been lost by farmers in the Eastern region due to cold conditions. Positive growth has been recorded from vegetables, cut flowers and herbs produced under irrigation in certain regions. Farmers are advised to use mulching techniques to ensure crops don't suffer during cold spells. All regions have recorded a general drop in veld conditions due to typical winter conditions. In Randfontein there is a high risk of veldfires as there is high fuel load due to overgrown grass. During veld fire awareness workshops farmers have been advised to ensure firebreaks are established and maintained at all times. Farmers are also advised to review their stocking rates taking into account current conditions and enterprise objectives. The level of dams is similar to last year.

KwaZulu-Natal
June was drier than normal in some areas, particularly along the coast. Nonetheless, some regions did receive normal to above normal rainfall. The harvested maize yields are average to above average. Wheat planted this year is less than last years. The veld remains in reasonable condition and is sufficient for winter season. Farmers need to observe stocking rate versus veld capacity ratio, also the farmers should be prepared for the fire season. Livestock is in good condition and farmers should be prepared for cold spells. Veldfires that destroyed maize were reported in the Dundee area. In general, supply dams are similar to last year this time.

Limpopo
Much of the province received above normal to normal rainfall. The veld and livestock are in reasonable condition. Farmers are advised to prepare fire belts as prescribed by law to prevent spread of veldfires. In general the level of dams is slightly higher than last year (78% this year, 75% last year) although there are those dams that are critically low.

Mpumalanga
The province received normal to above normal rainfall. Commercial farmers are preparing fields for summer crops and the winter wheat. The veld and livestock are in reasonable to good condition. Veldfires were reported in Gert Sibande. The level of dams is slightly higher than the previous year.

Northern Cape
The province received well above normal rainfall. Grapes are being pruned and treated for export. Harvesting of maize in some regions was delayed due to wet conditions and the yields are average to good. Overall the veld and livestock are in reasonable condition although veldfires were reported in parts of John Taolo Gaetsewe where much of the veld has been overgrazed and overstocked. More water points can help in overcoming trampling of veld near and around existing water points. Livestock mortalities due to suspected plant poisoning were also reported in this area. Availability of water for livestock seems to be a problem in John Taolo Gaetsewe. The level of dams is higher than the previous year during the same period (96% this year, 90% last year).

North West
Nil report.

Western Cape
In general, above normal rainfall was received but the eastern Central Karoo is still experiencing drought. The rain improved agricultural conditions in the Eden district meanwhile

conditions in the Swartland and Overberg are good for winter crops. Damage to crops was caused by Cape Gerbils in the Hopefield, Vredenburg area in the Sandveld. The problem of slugs in the Overberg was less evident this season resulting in better plant density. Livestock and the veld are in reasonable to good condition in most areas. The level of major dams is much higher than last year during the same period (80% this year, 67% last year).

III. AGRICULTURAL MARKETS

Major grain commodities

FNB Agri-weekly stated that, domestic yellow maize market posted sharp losses and traded below the record low. Domestic white maize prices declined further despite a weaker Rand. Wheat posted modest gains on the back of a weakening Rand and concerns over crop conditions in the growing areas. On the local oilseed market, sunflower prices saw sharp losses while soybeans ended slightly firmer.

Domestic prices per Safex (R/t)

	Futures prices as at (14/07/09)				
Commodity	2009/07	2009/09	2009/12	2010/03	2010/07
White maize	R1390.00/t	R1415.00/t	R1465.00/t	R1500.00/t	R1522.00/t
Yellow maize	R1319.00/t	R1340.00/t	R1398.00/t	R1432.00/t	R1440.00/t
Wheat	R2534.00/t	R2538.00/t	R2520.00/t	R2573.00/t	N/a
Sunflower	R2744.00/t	R2820.00/t	R2933.00/t	N/a	N/a
Soybeans	R3270.00/t	R3320.00/t	R3384.00/t	R3425.00/t	N/a

Sagis weekly bulleting **14/07/09**

Livestock domestic markets

According to FNB Agri-weekly, beef prices continued to weaken due to lack of demand and slightly higher volumes across most markets. Domestic lamb and mutton prices continued to strengthen due to tight volumes. Baconer prices remained relatively weak on the back of weakening demand. For poultry, there is pressure on the supply side to drop pricing but current conditions are forcing them to hold dearly to pricing.

Producer prices for selected livestock commodities 10/07/09	**Beef**	**Mutton**	**Pork**	**Poultry**
Open market: Class A / Porker / Fresh whole birds(R/kg)	21.60	33.00	16.57	19.35
Open market: Class C / Baconer / Frozen whole birds(R/kg)	19.57	25.86	15.80	14.80
Contract: A2/A3* / Baconer/ IQF (*includes fifth quarter) (R/kg)	20.80	32.67	15.42	13.00
Import parity price (R/kg)	13.38	18.15	12.27	13.11
Weaner Calves / Feeder Lambs (R/kg)	12.80	14.50		

FNB Agri-weekly: **10/07/09**

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

According to FEWS-NET June 2009, Regional food supplies have improved in Southern Africa following harvests of food crops from the main agricultural production season. These harvests have resulted in increased on farm stocks and availability on local markets which in turn increase access to food for all households including the poorer households as seasonal prices drop in most markets. Improved, and stable food security conditions are expected in most of the region until the start of the next hunger season in October/November. Nonetheless, isolated pockets of food insecurity are expected in areas that suffered from the impact of weather shocks through loss of crops and livelihoods. Although the majority of Southern Africa countries have not officially released their harvest estimates, preliminary data points to a better cereal harvest this year compared to last year.

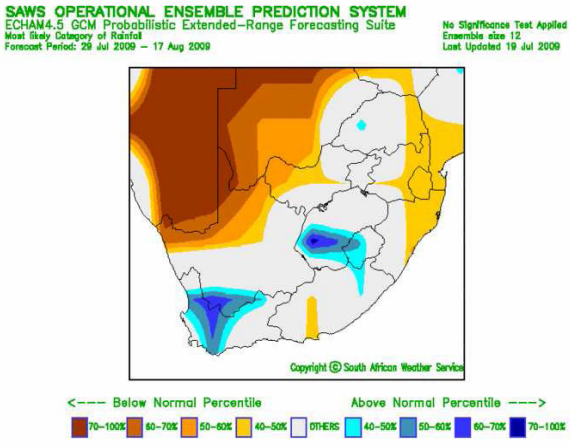
The main challenges the region faces in ensuring overall regional food availability include the capacity of deficit producing countries to import adequate amounts, due to financial constraints given current economic conditions and the fact that households that are chronically vulnerable due to production losses may not have the means to access market supplies and may require assistance.

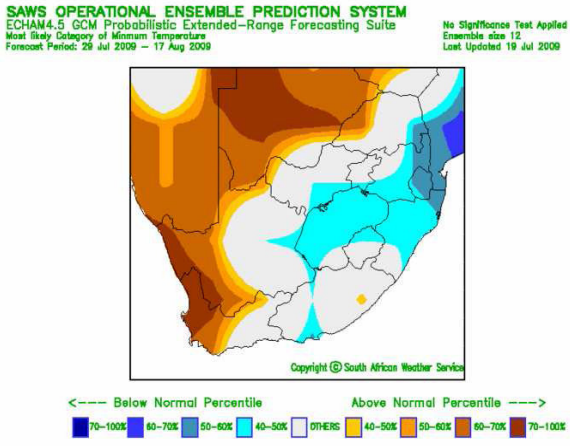
Summary of the reports

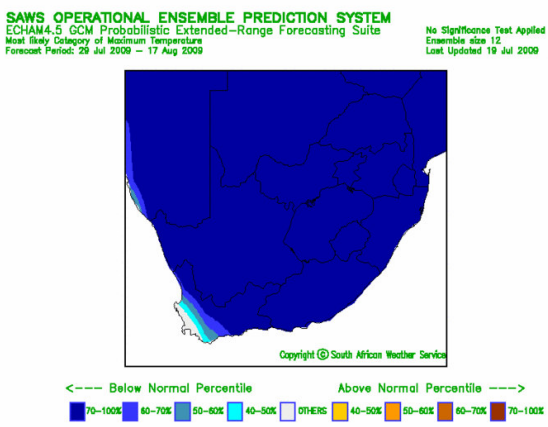
The winter rainfall areas received appreciable rainfall with cool conditions that favoured winter crops. Most of the livestock and veld are in reasonable condition even though veld fires were reported in the parts of Gauteng, KwaZulu-Natal, Northern Cape, Mpumalanga, Free State and the Eastern Cape. Livestock mortalities have also been reported in the Northern Cape. The level of dams overall is similar to higher than the previous year during the same period. Over SADC, food supplies have improved following harvests of food crops from the main agricultural production season, and stable food security conditions are expected in most of the region until the start of the next hunger season in October/November.

V. MONTHLY CLIMATE OUTLOOK

Extended-Range Forecast for the Period: 29 July-17 August 2009



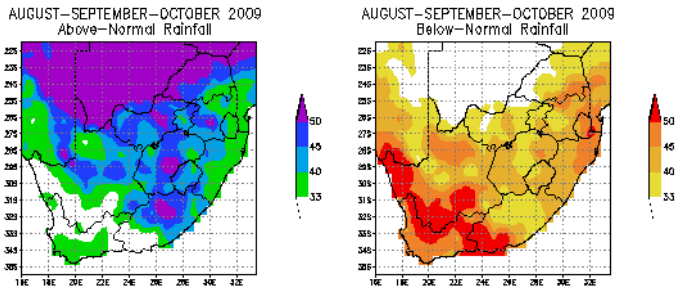




Enhanced probabilities for above-normal rainfall totals to occur are forecast over the south-western cape and parts of the interior. Enhanced probabilities for above-normal minimum temperatures to occur are forecast over mainly the western parts. Enhanced probabilities for below-normal maximum temperatures to occur are forecast over the whole country.

Seasonal Rainfall and Temperature Forecast: August to November 2009

Figure 1- Rainfall Forecast



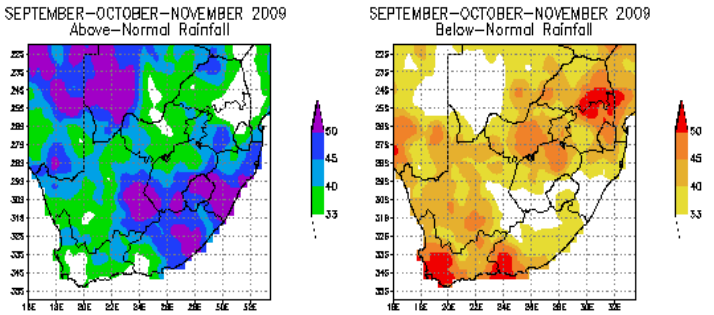
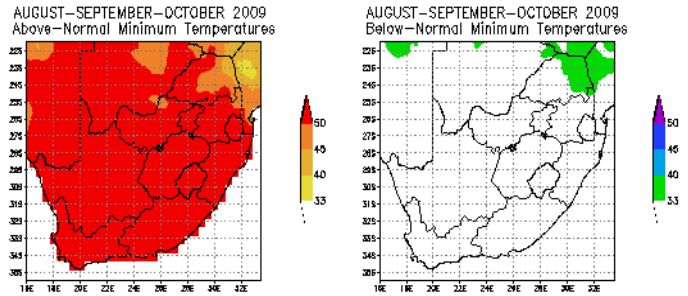


Figure 2- Minimum Temperature Forecast



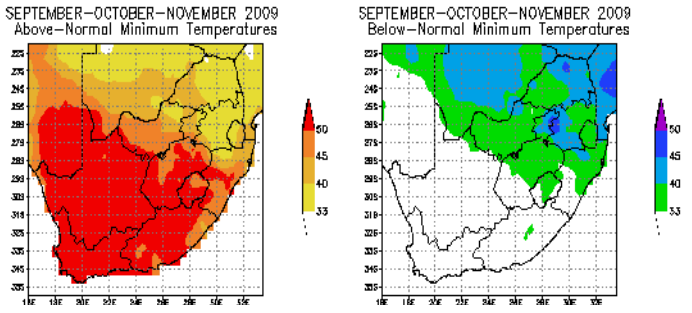
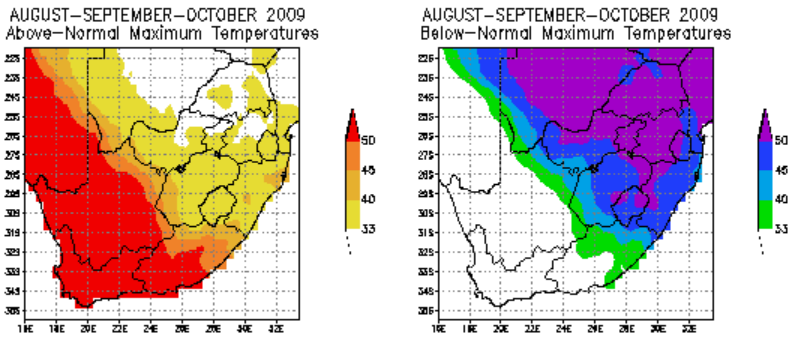
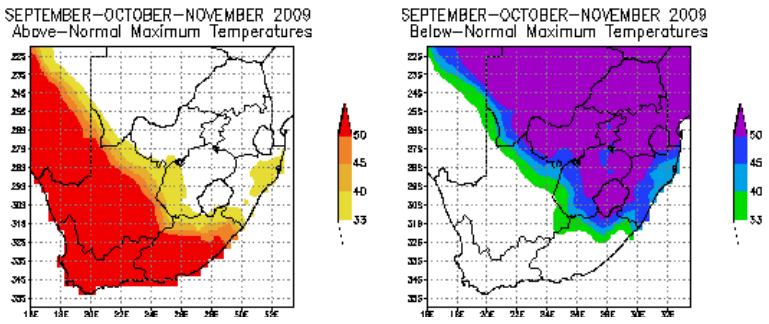


Figure 3- Maximum Temperature Forecast





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. AUGUST-SEPTEMBER-OCTOBER 2009.
- The forecast probabilities indicate the ***direction*** of the forecast as well as the amount of ***confidence*** in the forecast.

For further clarification using AUGUST-SEPTEMBER-OCTOBER 2009 rainfall (**Figure 1**) as an example:
the Western Cape, for the above normal category; it is shaded in white **(<33%)** and green **(33-40%)**, while for the below normal category it is shaded in dark orange **(45-50%)** and red **(>50%)**.
Comparing the two:-

Above normal: <33%, 33-40%; while
Below normal: 45-50%, >50%

This then suggests a lower probability for rain during the end of winter into spring over the Western Cape.

Seasonal Forecast Overview for SOUTH AFRICA

1. <u>ENSO Forecast (August 2009 to January 2010)</u>

The ENSO forecasts show that there is an enhanced probability of **El Niño** conditions to occur during the larger part of the 2009/10 summer rainfall season and that the anticipated **El Niño** event may not be very strong since the expected SST anomalies over the NINO3.4 region may only be close to 1.5°C. However, the intensity of an **El Niño** event does NOT indicate how much the event may affect southern African rainfall totals during the summer months – the relatively weak **El Niño** events at the beginning of the 1990s were associated with intense drought over the region, while rainfall totals during the very strong 1997/98 event were close to the average over the larger part of South Africa. Notwithstanding, **El Niño** events are much more often associated with summer drought conditions over the region than not. Moreover, during **El Niño** events, the rainfall forecasts issued for the region are also the most skilful than during any other time.

2. Rainfall Forecast (August to November 2009)

August-September-October: Only isolated areas over the interior and also the far northern parts are likely to receive above-normal rainfall totals, while some of the western parts are likely to receive below normal rainfall totals.

September-October-November: The central and south-eastern parts are likely to receive above-normal rainfall totals, whereas the north-eastern and south-western parts are likely to be dry.

3. Minimum Temperature Forecast (August to November 2009)

August-September-October: Above-normal minimum temperatures are the most likely over the larger part of the country.

September-October-November: Above-normal minimum temperatures are expected over the western and central parts, while below-normal minimum temperatures may occur [over] the north-eastern parts.

4. Maximum Temperature Forecast (August to November 2009)

August-September-October: Above-normal maximum temperatures are expected over the western half of the country, while below-normal maximum temperatures are expected over the eastern half.

September-October-November: Above-normal maximum temperatures are expected over the western half of the country, while below-normal maximum temperatures are expected over the eastern half.

Summary

Spring may be associated with isolated areas of above-normal rainfall totals, but conditions are likely to turn to El Niño related drought conditions towards the end of the forecast period. Mainly above-normal minimum temperatures are expected, except over north-eastern parts. During Spring, above-normal maximum temperatures are the most likely to occur only over the western parts, but as we approach the turn of the New Year, the north-eastern parts are much less likely to experience below-normal maximum temperatures.

The Western Cape continues to be favored by above normal rainfall during the next two and a half weeks where minimum temperatures are expected to be above normal. The maximum temperatures over most of the country during the said period are expected to remain below normal. During the end of winter into the beginning of spring rainfall is likely to significantly decrease over the winter rainfall areas with above normal minimum and maximum temperatures.

The following strategies are suggested, based on the above forecast:

VI. SUGGESTED STRATEGIES:

A. Rain-fed crop production (Winter Crop)

Soil choice:

- Choose suitable soil type
- Roughen the soil surface to minimize evaporation

- Minimise compaction by reducing the passing of heavy machinery in the field

Land preparation:

- Minimum or zero tillage is encouraged to minimise green house gases emission
- Use a ripper to break plough pans and increase access of roots to stored water and nutrients
- Prioritise fallow land

Crop choice and planting:

- Choose suitable cultivars as a precautionary measure
- Provide flexibility and diversification
- Stick to normal planting window if appropriate and follow the weather and climate forecast regularly
- Consider staggered planting-spreading over weeks
- Always practice crop rotation

Crop management:

- Adjust planting density accordingly
- Consider mulching to minimise evaporation
- Control weeds regularly
- Consider a conservative fertilizing strategy during dry conditions
- Consider organic fertilization
- Scout for pests and diseases regularly and control where necessary

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 during cool conditions to avoid evapotranspiration.
- **Adhere to the water restrictions when issued as some of the dams are critically low.**

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)

- Provide lots of drinking points
- Provide phosphorous licks freely
- If grazing is in danger, herd animals into pens where different animals can be segregated and fed separately
- Decide in advance when to switch the animals to different levels of feeding
- Sell mature livestock as soon as they reach marketable condition
- Treat the rangeland as a valuable asset
- Build fodder reserves in years of good rainfall
- Always practice rotational grazing

- Retain nucleus of best cows aged 4 to 6 years
- Diseases- Local veterinary services
- Always consider relevant vaccinations and control outbreak of diseases.

E. Grazing (very important)

- 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.
- Do not overstock at any time.
- Eradicate invader plants.
- Periodically reassess the grazing and feed available for the next few months, and start planning in advance.
- Spread water points evenly
- Cut forage early to stimulate re-growth
- Provide suitable licks to make coarse, dry range grasses more palatable

F. Veld fires (very important)

The provinces are advised to ensure that the firebreaks are in place especially in the summer 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 the firebreaks (chapter 4 of 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 neighboring 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 of sufficient width and length to contain the expected fire
- Firebreaks must be located to minimize risk to the resources being protected
- Erosion control measures must be installed at the fire break

G. Cold spells (snowfall & Frost) (Very important)

When temperatures plunge below zero, livestock and crops need to be given extra attention. Prevention is the key in dealing with hypothermia, and other cold weather injuries in livestock and crops. Following are a number of concerns and recommendations:

- Select frost tolerant plants over frost prone areas
- Place frost sensitive plants in protected locations western, northern exposures, full sun or lock walls.
- Protect plants by covering – paper, cloth – over framework around tree, mulching
- Wrap trunks of frost sensitive trees eg. citrus
- Irrigate during cold stages/apply just a trickle at base of tree
- Increase air circulation
- Do not prune frost-damaged plants until they bear leaves in spring

- It is very important that livestock be provided with extra hay/forage/feed to double the calories for normal body heat maintenance during extremely cold conditions.
- Special attention should be paid to very young and old animals because they may be less able to tolerate temperature extremes.
- Do not shear Angora goat. Also, take extra time to observe livestock, looking for early sign of diseases and injuries.
- Livestock should be moved away from high lying/mountainous areas when lower temperatures are forecast to avoid diseases associated with cold conditions such as frost bites.
- Livestock suffering from frostbite do not exhibit pain. It may be up to two weeks before the injury becomes evident as freeze-damaged tissue starts to slough away. At that point, the injury should be treated as an open wound and a veterinarian should be consulted.
- Severe cold-weather injuries or death primarily occurs in the very young or in animals that are already injured.
- Cases of cold weather-related sudden death in calves often result when cattle are suffering from undetected infection, particularly pneumonia.

While still in winter, approaching the windy months (August/September) with veld fires already reported in a number of provinces in June, contingency measures for veld fires should be maintained by farmers and land owners. Cold spells are still likely to periodically move in over the country. Therefore precautionary measures for cold spells (snowfall and frost) should continue to be in place. Provinces should also be persistent in conducting awareness campaigns on disaster risk reduction including veld fires and cold spells.

El-Nino conditions are forecasted with patches of above normal rainfall over the summer rainfall areas during spring but drying out over the winter rainfall areas. These El-Nino conditions are often associated with below normal rainfall; this therefore warrants farmers in the summer rainfall areas to begin planning accordingly for the summer season.

The users are urged to continuously monitor, evaluate, report and attend to current Agricultural Risk and Disaster issues. Assistance will only be entertained if risk measures are practiced and good veld management maintained.

Always implement risk measures and practice good veld management. Furthermore the advisory should be disseminated widely. Users are advised to be on the look-out and act on the extreme daily warnings as well as the advisory update next month. Information sharing groups are encouraged especially among farming communities for sustainable development.

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: -**

DAFF, Directorate: Agricultural Disaster Management Private Bag X250 Pretoria 0001 Tel:012 319 7955/56; Fax: 012 319 6711 Email: PA.DADRM@nda.agric.za	SAWS: Private Bag X097 Pretoria 0001 Tel: +27 (0) 12 367 6000 Fax: +27 (0) 12 367 6200 http://www.weathersa.co.za	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
agriculture, forestry & fisheries Department: Agriculture, Forestry and Fisheries REPUBLIC OF SOUTH AFRICA	South African Weather Service	LNR • ARC