agriculture

Department:
Agriculture
REPUBLIC OF SOUTH AFRICA

National Agro-meteorological Committee (NAC) Advisory on the 2008/09 Summer Season
Statement from the Agricultural Disaster Risk Management
01DoA2008

25 September 2008

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

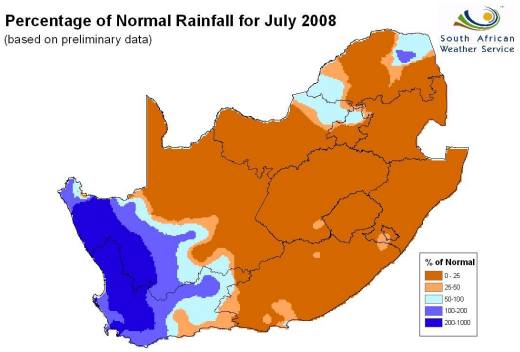


Figure 2

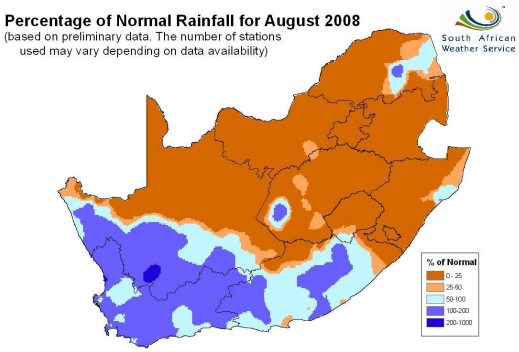


Figure 3

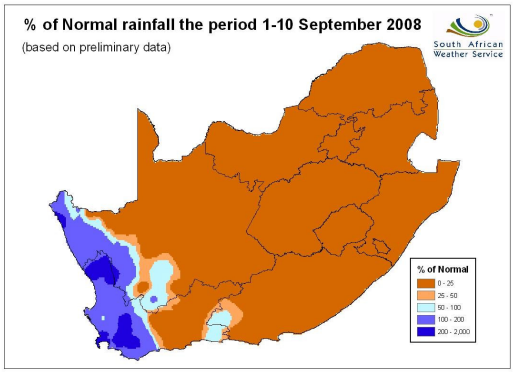
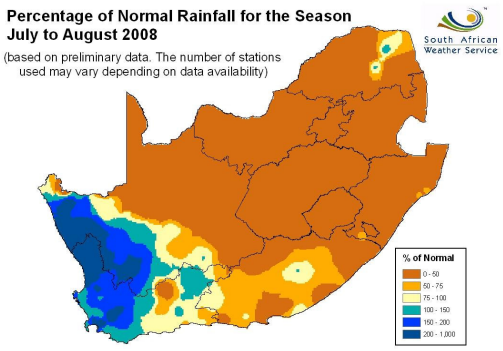
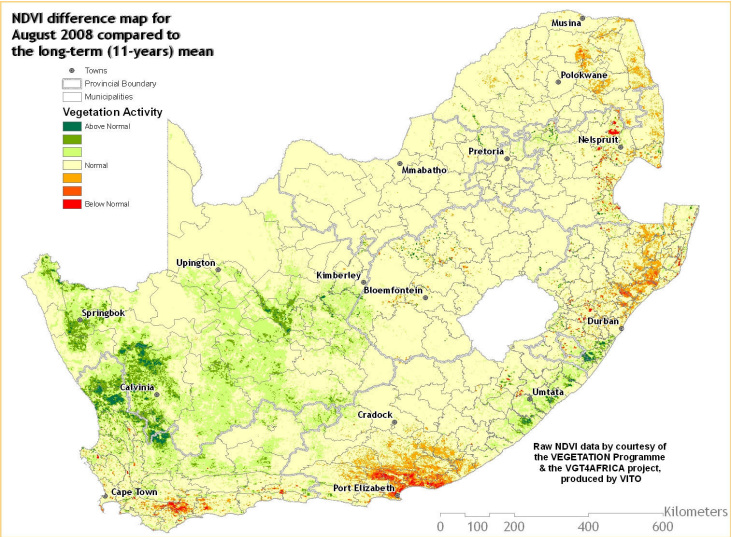


Figure 4



The winter rainfall areas received normal to above normal rainfall in July (**Figure 1**), and maintained the near normal trend in August (**Figure 2**) including parts of the Eastern Cape, while the remainder of the country was dry. During early September (**Figure 3**), the winter rainfall areas continued experiencing good falls. For the Season July 2008-August 2008, (**Figure 4)** clearly depicts in general that the west received good falls during the second half of winter.

NDVI difference map for August 2008 compared long-term mean



Vegetation conditions are normal to below normal throughout the country. Lower vegetation activity can be seen in the southern parts of the Western Cape and Eastern Cape provinces.

II. CONDITIONS IN THE PROVINCES DURING AUGUST 2008

Eastern Cape

Most parts of the province experienced dry conditions. The veld condition is reasonable to poor in most areas. Livestock mortalities were reported due to veldfire. Hectares of grazing land were also burnt. Crop and livestock conditions are fair to poor. Cultivated pasture is in reasonable condition. The crop conditions fair to poor. The level of major dams slightly improved as compared to last year this time.

Gauteng
Warmer conditions were experienced with no rainfall. The veld condition is poor, exacerbated by overgrazing amongst other reasons. Livestock conditions also dropped because farmers were not able to supply feed which was also influenced by high input costs. Pastures were also damaged by veldfires including crop in the Germiston region. Crop production declined, and vegetable farmers relying on boreholes suffered huge loses as boreholes ran dry. Some of the harvested maize was of high quality yields and farmers are getting ready for summer planting. Most water sources have dropped below 50%, except in the northern region. This will negatively affect farming activities.

Northern Cape
Climate conditions were normal, except that some of the winter rainfall areas are still in need of more rain. Livestock and veld conditions are fair to good. In the Kgalagadi district, some goats aborted kids due to poor body conditions. Table grapes in the Siyanda region are being prepared for export while the lucerne quality is good. Other crops are in good condition. Water sources have improved in most areas as compared to last year this time. Overgrazing remains a concern.

Western Cape
In general normal rainfall was received except in parts of the Overberg district as well as the northern West Coast where farmers continue to feed livestock even though re-growth is supporting livestock to an extent. The persistent drought in the Central Karoo remained critical in terms of poor veld and livestock conditions but water supply to livestock remains reasonable. Good crop yields are anticipated in the West Coast but poor in the Overberg district. Level of dams is higher than this time last year.

North West
No rain fell during this month. Veld and livestock conditions are generally fair but poor in parts of Dr Kenneth Kaunda district. Harvesting has been completed and crop under irrigation is in good condition. Damages by veld fires were experienced in the Bojanala and Ngaka Modiri Molema districts. In general the level of dams has slightly dropped as compared to last year this time.

Free State
Normal to above normal rainfall conditions were experienced only in the southwest. Temperatures were higher than normal. The veld is reasonable to poor. Livestock is in fair condition but good in parts of Thabo Mofutsanyane and Lejweleputswa districts. Veld fires caused significant damage, including livestock, mainly in the eastern parts. Farmers had good yields of sunflower and maize. The level of dams is lower than last year this time, except the Xhariep dam.

Limpopo
In general very little rain fell, mostly in the east. Temperatures were normal to above normal. The veld has deteriorated in most areas mainly due to veld fires and drought. Livestock is also in a poor condition and mortalities were reported due to veld fires. Most dams are low but higher than last year this time.

Mpumalanga
Dry conditions were experienced. The veld and livestock are in fairly good condition but some velds, including cultivated pastures were destroyed by fires in several areas.

Livestock mortalities in Thubelihle were reported due to water contamination. The Veterinarian services and municipalities are working together to curb the problem. Majority of farmers experienced good yields from summer crops and are currently busy preparing their fields for the next summer crops. Planted winter wheat under irrigation is in good condition. Most level of dams is higher as compared to last year this time.

KwaZulu-Natal
The province received below normal rainfall, except along the north coast and areas surrounding. The veld in most parts was dry and was damaged by veld fires. The harvested summer crops are good. Some farmers are busy harvesting and the yields look good. Livestock is in fair to good condition. Farmers are advised to ensure that there is enough feed available in case the rain is late. Springs and borehole levels are low posing a challenge of water supply in the rural areas.

III. AGRICULTURAL MARKETS

Major grain commodities
Domestic yellow maize prices continued to soften despite a sharp weakening in the Rand: US dollar exchange rate. White maize prices were slightly firmer for the week mainly on Rand weakness. The average weekly white maize prices closed the week at R1, 845/ ton, which is almost 2% lower when compared to last year this time. Domestic prices are expected to remain under pressure and trade in a sideways pattern in the short to medium given the bearish domestic supply outlook. Wheat prices moved modestly lower under pressure due to the spill over weakness from the international market. Prices continued to decline in spite of a sharp drop in the Rand

Domestic prices per Safex (R/t)

	Futures prices as at 2008/09/12				
Commodity	2008/09	2008/12	2009/03	2009/05	2009/07
White maize	R1828.00/t	R1895.00/t	R1974.00/t	R2051.00/t	R2082.00/t
Yellow maize	R1830.00/t	R1906.00/t	R1975.00/t	R2041.00/t	R2084.00/t
Wheat	R3280.00/t	R3252.00/t	R3324.00/t	N/a	R3544.00/t
Sunflower	R4414.00/t	R4520.00/t	R4480.00/t	R4195.00/t	N/a
Soybeans	R3867.00/t	R3948.00/t	R4030.00/t	R3750.00/t	R3894.00/t

Sagis weekly bulletin: **2008/09/12**

Livestock domestic markerts
Domestic contract beef prices continued to soften due to subdued demand during midmonth. It is expected that beef prices would remain fairly stable in the short term with some strengthening towards December. Domestic mutton and lamb prices are expected to strengthen towards the end of September due to normal seasonal declines during September and October. Prices will however remain sensitive to changes in the international prices as well as the exchange rate. Domestic pork and baconer prices are expected to hold at current levels in the short term but will strengthen slightly during month end with further upward potential towards December as factories gear themselves for the Christmas market.

Producer prices for selected livestock commodities 19 September 2008	Beef	Mutton	Pork	Poultry
Open market: Class A / Porker / Fresh whole birds(R/kg)	21.08	33.76	15.64	15.59
Open market: Class C / Baconer / Frozen whole birds(R/kg)	19.11	26.43	15.20	15.08
Contract: A2/A3* / Baconer/ IQF (*includes fifth quarter) (R/kg)	21.47	34.76	15.32	13.18
Import parity price (R/kg)	20.52	17.56	19.38	13.81
Weaner Calves / Feeder Lambs (R/kg)	12.23	15.50		

FNB Agri-weekly: 19/09/2008

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 product (livestock and grain)

IV. SADC REGION

According to FEWS NET, food security conditions are generally satisfactory except in those areas of the region where crop production was compromised by unfavourable crop growing conditions. In general, and excluding Zimbabwe, many of the region's households still have adequate food stocks from this season's harvest. Food security and vulnerability assessments undertaken recently have confirmed that the majority of households will have adequate food over this consumption season mainly on account of the average to above average harvests realized. At the regional level, the current food security conditions are comparable to last year at the same time when the region's food crop production was also largely favourable.

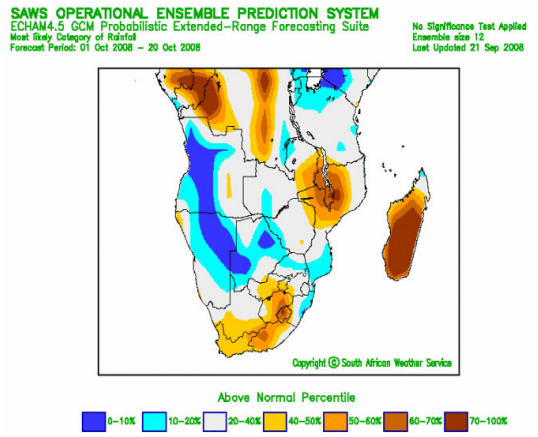
However, concerns remains in localized areas where the 2007/08 crop growing season was characterized by heavy rains that resulted in flooding, loss of crops, and disruption of livelihoods, followed by an end of season dry spell in February and March. Despite average to above average national harvests in Mozambique, Zambia and Malawi, localized areas have populations that are currently food insecure and require assistance.

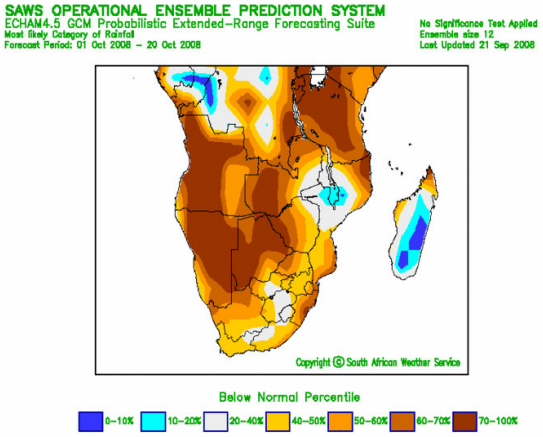
Summary of the reports

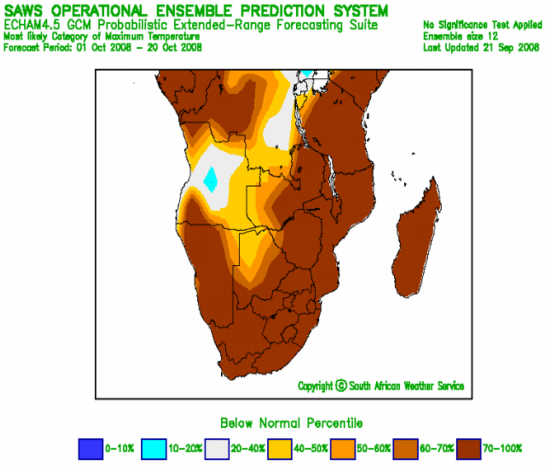
Most areas were dry with good rains experienced in the winter rainfall areas as well as the northern coastal areas of KwaZulu-Natal. The veld condition is generally poor in most summer rainfall areas. This condition worsened following the veldfire which destroyed most summer rainfall areas. Livestock is generally fair to good especially were additional fodder is supplied.

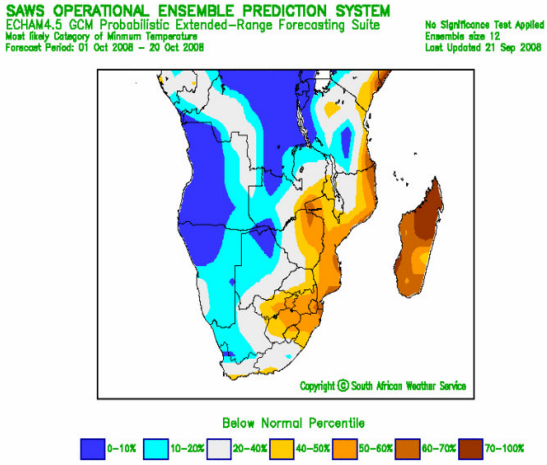
V. MONTHLY CLIMATE OUTLOOK

Extended-Range Forecast for the Period: 01 October- 20 October 2008









DISCLAIMER:
The extended-range time scale is the most difficult and yet unexplored timescale for making skilful longer range weather forecasts for southern Africa. Since the forecasting system configuration is still in experimental phase, the forecasts are provided as is without warranty of any kind, either expressed or implied, as to its reliability for a particular purpose. The forecast may not be further disseminated, displayed, or publicized in any form without the prior permission of the LRFG at the SAWS.

During this time period, above normal rainfall is anticipated for the central parts i.e. Free State as well as the western parts of the Eastern Cape but below normal for parts of the southeastern and eastern KwaZulu-Natal, northern Limpopo and the northern areas of the Northern Cape. Below average maximum temperatures can also be expected.

Seasonal Rainfall and Temperature Forecast: October to February 2008

Figure 1. Rainfall

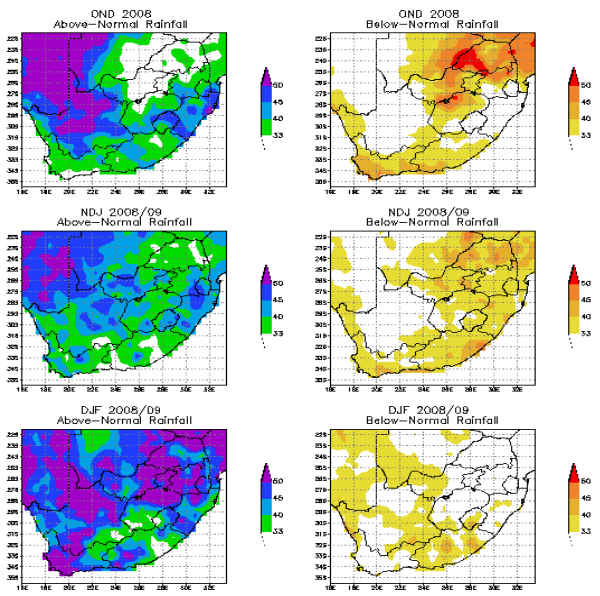
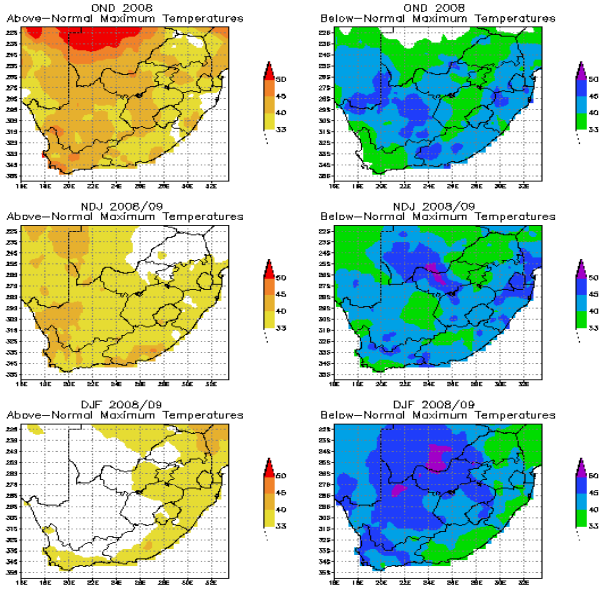


Figure 2 .Temperature



How to interpret the forecast maps:

- There are two sets of forecast maps: the rainfall 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 color bars on the right hand side of each map), for the rainfall or temperatures for the season, i.e. **OND** - **O**ctober **N**ovember **D**ecember
- The forecast probabilities, indicate the ***direction*** of the forecast as well as the amount of ***confidence*** in the forecast.

For further clarification using OND rainfall (**Figure 1**) as an example:
The Northern Cape, for the above normal category is shaded mainly in a dark blue **(45-50%)** and purple **(50% and greater)**, and for the below normal category it is white (**less that 33%**) with patches of a light orange (**33-40%**). Comparing the two i.e.

Above normal: 45-50%, 50% and greater
Below normal: less than 33% and 33-40%,

this then suggests **favourable rainfall** possibility because the above normal category is the one with the highest percentage.

Seasonal Forecast Overview for SOUTH AFRICA

1. Rainfall Forecast (October 2008 to February 2009)
http://www.weathersa.co.za/FcastProducts/LongRange/images/PCP_SEA_SA.gif

October-November-December (OND)
Favourable rainfall conditions are most likely only over the Northern Cape Province. Dry conditions are most likely over the north-eastern and central parts.

November-December-January (NDJ)
Forecast rainfall patterns are not significantly different from the forecast for the OND season.

December-January-February (DJF)
Probabilities for above-normal rainfall totals to occur are significantly enhanced for this season.

Summary:
Favourable rainfall conditions over the larger part of the country are most likely to set in only towards the New Year.

2. Maximum Temperature Forecast (October 2008 to February 2009)
http://www.weathersa.co.za/FcastProducts/LongRange/images/MxT_SEA_SA.gif

October-November-December (OND)
The forecasts do not seem to favour a particular temperature category (neither below nor above) for this season.

November-December-January (NDJ)
The forecasts are beginning to favour the below-normal maximum temperature category, indicating the likelihood of lower maximum temperatures to set in.

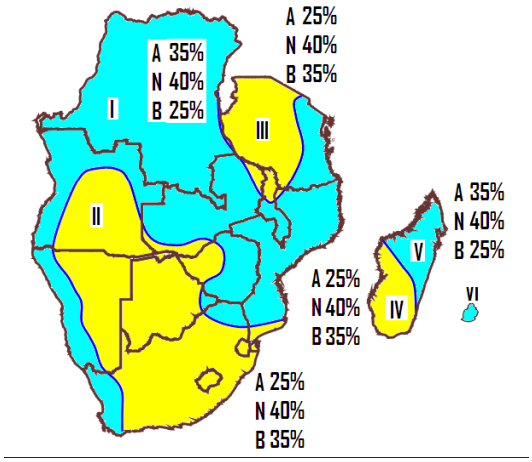
December-January-February (DJF)
Enhanced probabilities of below-normal maximum temperatures are forecast over the central and western parts.

Summary:
Maximum temperatures are likely to become gradually lower towards the New Year.

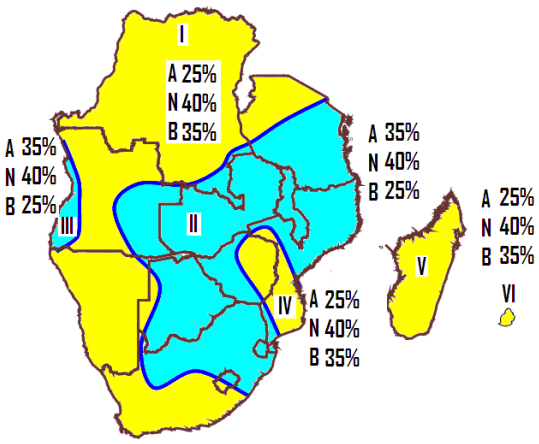
3. ENSO Forecast (October 2008 to March 2009)
http://www.weathersa.co.za/FcastProducts/LongRange/images/NINO34fcast.jpg

The current ENSO-NEUTRAL conditions are expected to persist throughout the summer months.
The rainfall forecasts produced by most models have low skill over South Africa during ENSO-NEUTRAL seasons, so the rainfall forecasts for the coming summer season should be used with caution. However, ENSO-NEUTRAL years are rarely associated with extreme climatic conditions over South Africa (i.e., extremely wet or extremely dry seasons).

SARCOF-12 OND 2008 Forecast



SARCOF-12 JFM 2009 Forecast



Major parts of the Southern African Development Community (SADC) region will have an increased chance of receiving normal to above-normal rainfall during the period October-December (OND) 2008, except zones shaded in yellow. In the second half of the season, January-March (JFM) 2009, most parts of SADC will receive normal to below-normal rainfall, except zones shaded in blue.

Based on the current dry and cool to warm conditions in the summer rainfall areas but wet in the west and in view of the seasonal forecast which is going for wet and cool conditions over most parts of the country mainly in early 2009, the following strategies are suggested:

VI. SUGGESTED STRATEGIES:

A. Rain-fed crop production (summer crops)

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:

- Increase water intake by: roughening surface, minimise evaporation (covering surface – organic material)
- Minimise compaction - reduce heavy machinery passes
- Minimize erosion
  - -Contour ploughing
  - -Terracing
  - -Minimum tillage
  - -Cover – organic / inorganic
- Water harvesting Runoff slide – in-field water harvesting, basin plough – minimize runoff

B. 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
- Postpone mating for the duration of droughts
- 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
- Plant reserve patches of drought –resistant fodder crops
- Accelerate rotational grazing during drought
- Disposal of livestock
- Sheep -Old, infirm sickly first
- Good quality breeding ewes last
- Cows -Mature oxen, dry cows first
- Retain nucleus of best cows aged 4 to 6 years
- Diseases- Local veterinary services, relevant vaccinations and change of grazing after first rain

C. 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**

D. Grazing (Very important)

- Determine the carrying capacity of different plant associations.
- Calculate the stocking rate of each, then decide the best ratios of large and small animals, and of grazers and browsers.
- Do not overstock at any time.
- If the onset of the rainfall season is late, consider sowing quick-growing fodder crops such as teff, babala or millet for extra feed in dry times.

- **Eradicate invader plants**.
- During drought, 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
- Drought prone areas: farm with well-adapted, hardy breeds of livestock
- After drought is broken, allow grazing to recover before allowing livestock to graze
- Provide suitable licks to make coarse, dry range grasses more palatable

E. Floods (Very important)

Various methods are used to minimise the impacts of floods and among others consider the following:

- **Proper drainage system** - Drains which have been shallowed due to silts must be cleaned constantly. Clean drains ensure proper water irrigation.
- **Preserve forests-** Forest overlogging near the river banks can cause land erosion. This effect is similar to logging at the hillsides. Therefore, forests must be preserved to overcome floods. Forests are excellent natural barriers with which to absorb rain waters. They can also function as a sponge whereby they absorb the rain waters and then slowly release the waters to the rivers. They can filter earthly fluids into clean water. The forests can absorb 20% of the rain water. This water in turn is released into the atmosphere by condensation. This is the only way to reduce rain water.
- **Control human activities-** Flash floods occur especially in town areas because of waste and industrial waste dumping into the rivers and drains. The society must be made aware of this negative act and stopped from continuing it by holding green campaigns. Certain statutory bodies should be made responsible for the cleanliness of the rivers and preventing them from becoming dumping areas.
- Floods are unavoidable when it comes to rain. However, their impacts can be preventable and ways must be carried out to ensure that floods do not become a serious problem. People should also be made aware of this natural disaster. Wetlands often play a crucial role in flood control. However, loss of floodplains to agriculture and human habitation has reduced this capacity.
- The construction of levees and dams on rivers to improve flood control has often had the reverse effect.
- Flood-plain restoration and the removal of impeding structures partly solved the problem in many countries.

F. Veld fires (Very important)

The provinces are advised to ensure that the firebreaks are in place especially in the winter rainfall areas. This is the right time to erect firebreaks than to wait for the fire season. 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.**
- **Fire break**
  - Permanent/temporary vegetated/bare land to retard fire
  - Consist of fire-resistant vegetation, non-flammable materials, bare ground, combination
  - Sufficient width and length to contain expected fire
  - Located to minimize risk to resources protected
  - Erosion control measures installed
  - Plant species selected for vegetated firebreaks non-invasive

- **Fire break - considerations**
  - Use barriers such as streams, lakes, ponds, rock cliffs, roads, field borders, skid trails, landings, drainage canals, railroads, cultivated land, or other areas as existing firebreaks. Electric lines - hazardous in heavy smoke - may conduct electricity
  - When using barriers consider the effects on wildlife and fisheries
  - Locate firebreaks near ridge crests and valley bottoms
  - Wind predictable - firebreaks located perpendicular to wind and on windward side of the area protected
  - Locate on contour to minimize risk of soil erosion

- **Fire break – maintenance**
  - 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 controlled
  - Bare ground firebreaks, which are no longer needed – stabilized

Farming communities should establish fire protection associations to prevent and control veld fires as required by National Veld and Forest Fire Act (Act No. 101 of 1998).

G. Heat stress – bad for productivity (Very important)

- Signs of heat stress:
  - Bunching in shade, high respiratory rates, open mouth breathing
- Risk factors:
  - Health problems, confinement, weight, dark hide
- What to do
  - Offer shade
  - Offer water – keep good quality water in front of animals
  - Sprinklers
  - Wet with sprinklers/fire hose etc.
  - Water ground

- Avoid overworking animals

Dry conditions were experienced in the summer rainfall areas. These conditions coupled with hot and strong winds made conditions conducive for the development and spread of veld fires in most summer rainfall areas. As wet and cool conditions are expected only towards 2009, farmers are encouraged to put measures in place to minimize evaporative loss of moisture. Contingency plans should continually be in place for veld fires in both summer and winter rainfall areas.

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.nda.agric.za and www.agis.agric.za . **For more information contact: -**

DoA, Directorate: Agricultural Disaster Management Private Bag X250 Pretoria 0001 Tel:012 319 7955/56; Fax: 012 319 6711 Email: PA.DADRM@nda.agric.za	ARC-Institute for Soil, Climate and Water Private Bag X79 Pretoria 0001 Tel: 012 310 2500 Fax: 012 323 1157 Email: info@iscw.agric.za