agriculture,
forestry & fisheries

Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

National Agro-meteorological Committee (NAC) Advisory on the 2015/16 summer season
Statement from Climate Change and Disaster Management
01 DAFF 2015

01 October 2015

In the light of the seasonal outlook as produced by the South African Weather Service (SAWS), the following advisory guidelines are suggested. It is emphasized that these advisories are broad guidelines and should be interpreted considering the local aspects of the region such as soil types, cultural preferences and farming systems. Depending on the particular region, the prioritization of the guidelines will differ. The basic strategy to follow would be to minimize and diversify risk, optimize soil water availability and to manage the renewable resources (rain water and grazing) to uphold sound farming objectives. Long-term mitigation strategies should be considered by implementing techniques to enhance in-field water harvesting by reducing run-off and improving infiltration. Reduced tillage methods are very important in this regard, as is basin tillage, to capture rainwater in the drier areas. **The provinces should further simplify, downscale and package the information according to their language preference and if possible use local media and farmers' days in disseminating the information. Users are advised to be on the look-out and act on the daily extreme weather warnings as well as the monthly advisory.**

I. CURRENT CONDITIONS

Figure 1

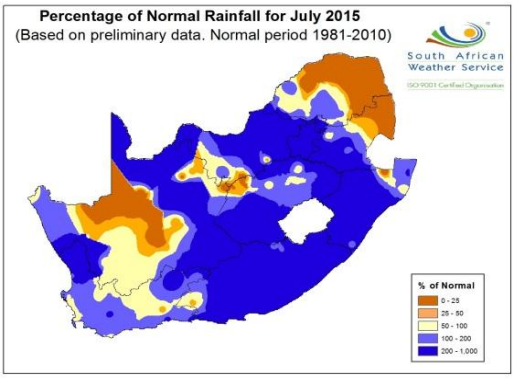


Figure 2

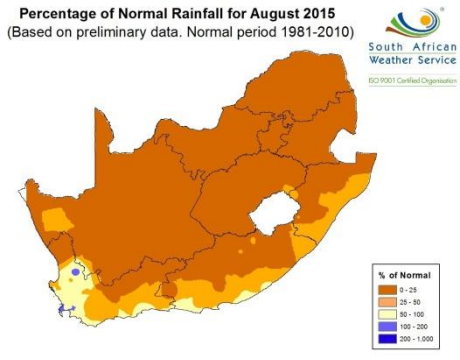


Figure 3

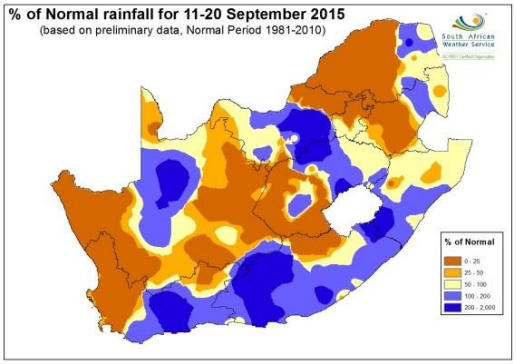
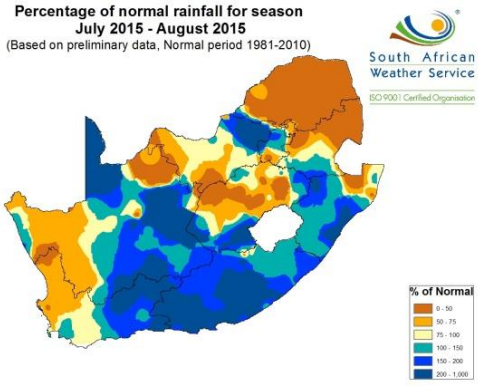
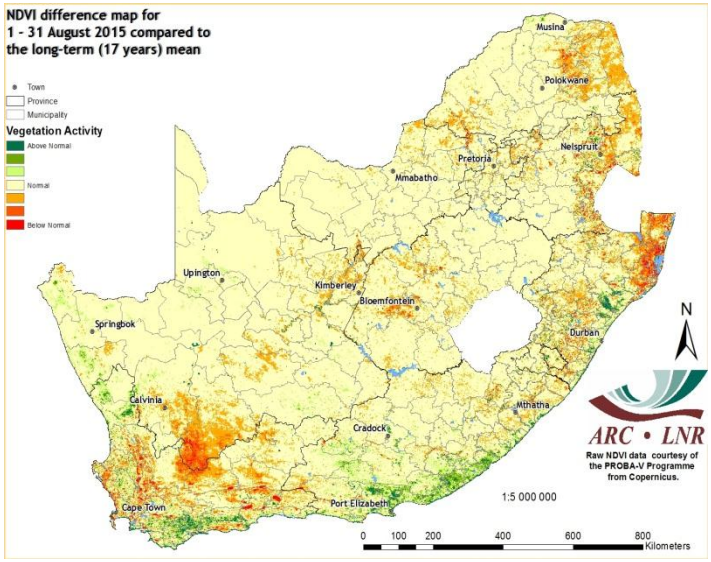


Figure 4



During July above normal rainfall was received over most parts of the country with the exception of parts of Limpopo and Mpumalanga and some areas of the Northern Cape which received below normal rainfall (**Figure 1**). Rainfall decreased in August resulting in below normal rainfall throughout the country (**Figure 2**). For the second ten days of September, near normal to below normal rainfall was received but above normal over the Eastern Cape, parts of the Western Cape, KwaZulu-Natal and some patches in the central interior of the country (**Figure 3**). For the season July to August 2015, above normal rainfall was received over most of the central as well as the eastern and southern parts of the country, while Free State, Limpopo and the western parts of the Western Cape and Northern Cape received below normal rainfall (**Figure 4**).

NDVI difference map for August 2015 compared to the long-term mean



Vegetation activity increased somewhat over the south-western winter rainfall region as well as along the eastern and south-eastern coastal belt where above normal rainfall occurred during late July.

II. CONDITIONS IN THE PROVINCES DURING AUGUST 2015

Eastern Cape

Most areas of the province received below normal rainfall. Livestock is in fair to good condition but fair to poor in Mzivumbu, Sakhisizwe, Elundini, Tsolwana, Intsika Yethu, Port St Johns and Maletswai. Crop conditions range from fair to good in most areas and very good in others, except for Mzivumbu, Sakhisizwe and Elundini areas where they are poor. The conditions of pasture in the northern part of the province are reasonable to good but poor in Mzivumbu, Sakhisizwe, Elundini, Tsolwana and Engcobo. The rangeland conditions are poor to reasonable except for areas in Mbizana, Kouga, Emalahleni and Ndlambe where they are very good. Incidences reported were white fly infestation in tomatoes in Port St Johns and ink-berry poisoning in Chris Hani District. Veld fires damaged infrastructure and also resulted in livestock mortalities. The level of major dams is at 80% in 2015 as compared to 75% of 2014 during the same period.

Free State

Below normal rainfall and above normal temperatures resulted in very dry conditions. The livestock condition has deteriorated due to drier natural veld. Veld fires have been reported in Wepener and Verkeerdevlei and drought has been declared in the province. The level of major dams is lower at 72% in 2015 as compared to 83% in 2014.

Gauteng
Rainfall received was below normal. The veld and livestock are in reasonable to poor condition. Veld fires were reported in some areas. Most water sources i.e. farm dams, have dried up while the level of major dams in the province is low at 88% as compared to 95% of 2014.

KwaZulu-Natal
Below normal rainfall was received with above normal temperatures. Drought monitoring maps indicate severe drought for all the districts. Rye grass pastures growth is good in most districts and kikuyu is showing small signs of regrowth and greening. Maize and grass silage is running low and hay is available at a premium. There has not been enough regrowth in hay-lands to do the first cut of the season. For maize, land preparations have begun however no farmers have planted yet. For soya neither land preparation nor planting as yet. Wheat under irrigation in Uthukela District is doing well although irrigation is becoming an issue in terms of water restrictions. The livestock condition is fair to good in commercial areas but ranges from fairly good to very poor in traditional/communal areas. Mortalities continue to be reported across all districts. Veld fires have been reported in the province. The level of major dams has decreased as compared to previous year (61% in 2015; 76% in 2014).

Limpopo
Below normal rainfall was received across the province. Grazing is in poor condition in communal areas but fair in commercial areas. The livestock condition is deteriorating especially at communal areas. Both farm dams and rivers are drying up and the level of major dams has decreased to 75% in 2015 from 87% of 2014 during the same period.

Mpumalanga
Winter wheat under irrigation is in good condition in the highveld while ploughing of maize and harvesting of vegetables and sugarcane continues. The veld is in reasonable condition but livestock is in reasonable to poor condition. There were livestock mortalities due to consumption of poisonous plants. Drought has been reported in the province. The level of major dams has decreased as compared to the previous year (75% in 2015; 88% in 2014).

Northern Cape
Rainfall received was below normal. The veld is in reasonable condition while livestock is in reasonable to good condition. Wine and dry grapes as well as table grapes in ZF Mcgawu are beginning to bud. Vegetables in John Taolo Gaetsewe are in good condition. Drought has been declared in the Loeriesfontein area of the Namakwa District. The level of major dam is at 80% in 2015 as compared to 93% of 2014 during the same period.

North West
Below normal rainfall was received, while the veld and livestock are in poor condition in many areas. The level of major dams is lower at 61% in 2015 as compared to 72% of 2014.

Western Cape
The western part of the province received below normal rainfall. In the north-west lambing is below 80% while for some farmers lower than 60%. There is shortage of roughage for livestock over the whole province. In Swartland below normal rainfall resulted in smaller crops, while canola experienced a big setback. Farmers are concerned with low trading price of canola. In the Overberg crop potential progressed towards normal to above normal due to improvement in rainfall by end of August while in the southern parts of the province above normal harvests are anticipated due to relatively good rains throughout the season. Beaufort West and Prince Albert

areas are reported to be severely dry. Reasonable to good veld and livestock conditions prevailed in the rest of the district. The predator issue remains a challenge. The level of dams has decreased compared to the previous year during the same period (72% in 2015; 91% in 2014).

III. AGRICULTURAL MARKETS

Major grain commodities

According to FNB Agri-Weekly, yellow maize prices continued to benefit from higher import parity levels. White maize prices trended sideways with the weaker Rand helping to retain upside bias. Wheat trended weaker on harvest pressure and good production outlook for the spring. Oilseed prices ended mixed with soybean coming under pressure from the lower international oil prices. It is expected that oilseed prices will continue to stabilise at current levels due to higher parity prices.

Domestic prices per Safex (R/t)

	Futures prices as at (2015/09/29)				
Commodity	2015/10	2015/12	2016/03	2016/05	2016/07
White maize	R3188.00/t	R3241.00/t	R3191.00/t	R2834.00/t	R2819.00/t
Yellow maize	R2941.00/t	R2984.00/t	R2957.00/t	R2670.00/t	R2651.00/t
Wheat	R4120.00/t	R4183.00/t	R4284.00/t	R4271.00/t	R4252.00/t
Sunflower	R6280.00/t	R6345.00/t	R5700.00/t	R5310.00/t	R5350.00/t
Soybeans	R5455.00/t	R5545.00/t	R5396.00/t	R5185.00/t	R5270.00/t
Sorghum	N/a	R3040.00/t	R2974.00/t	R3078.00/t	N/a

SAGIS weekly bulletin: 2015/10/01

Livestock domestic markets

FNB Agri-weekly stated that beef prices continued to trend firmer on good demand. Domestic lamb and mutton prices trended sideways to firmer. Supplies are expected to tighten in the medium term. The pork market ended a bit softer but prices are expected to trend sideways with upward potential in the medium term due to increased seasonal demand. Poultry prices showed gains and are expected to trend firmer in the medium term.

Producer prices for selected livestock commodities	**Beef**	**Mutton**	**Pork**	**Poultry**
Open market: Class A / Porker / Fresh whole birds (R/kg)	35.52	55.64	22.31	21.85
Open market: Class C / Baconer / Frozen whole birds (R/kg)	29.86	43.01	20.90	21.15
Contract: A2/A3* / Baconer/ IQF (*includes fifth quarter) (R/kg)	35.93	55.97	21.20	17.85
Import parity price (R/kg)	34.02	31.00	25.29	17.97
Weaner Calves / Feeder Lambs (R/kg)	19.98	27.86		

FNB Agri-Weekly: 2015/09/25

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 FEWS-NET report issued during September 2015 indicates that the Climate Prediction Center's El Niño Advisory shows that there is approximately a 95 percent chance that the El Niño will continue through the remainder of 2015 and will likely weaken by the end of the rainy season in 2016. Based on an analysis of previous El Niño events, most of the region is expected to experience erratic rains, possibly leading to a late start, along with poorly distributed rains for the first half of the season. These conditions will likely result in inadequate moisture for crops, which could adversely impact weeding opportunities that normally provide incomes for very poor and poor households during the lean season. Following below-normal harvests during the 2014-15 agricultural season, poor households in southern parts of Malawi, Zimbabwe, Zambia, Madagascar, Lesotho, and Angola are now relying entirely on market purchases for their staple because own-produced cereal stocks were finished months earlier than normal. Some poor households in the southern region of Zimbabwe, Malawi, and parts of Madagascar are already experiencing Crisis (IPC Phase 3) acute food insecurity because higher than normal food prices are hindering access. Stressed (IPC Phase 2) outcomes are expected in several other parts of the region. The only areas in the region where acute food insecurity will be Minimal (IPC Phase 1) through December include South Africa, northern Zambia, and northern Tanzania, where households are still consuming their own-produced cereals.

[The Integrated Food Security Phase Classification (IPC) is a set of standardized tools that aims at providing a "common currency" for classifying the severity and magnitude of food insecurity.]

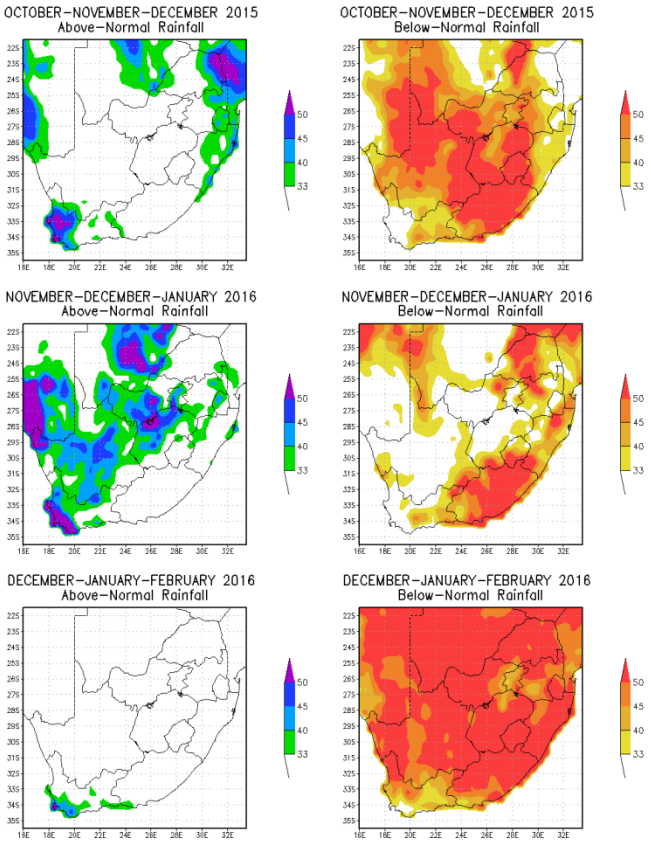
Summary of the reports

Below normal rainfall was received over most provinces in August with drought being declared in some provinces. The veld condition is poor in most parts and livestock condition ranges from poor to reasonable. Incidents of veld fires have been reported in KwaZulu-Natal, Eastern Cape, Gauteng, and Free State. There were livestock mortalities in Mpumalanga due to consumption of poisonous plants and in KwaZulu-Natal due to drought. The levels of dams in the provinces are lower as compared to the previous year during the same period.

V. MONTHLY CLIMATE OUTLOOK

Seasonal Climate Watch: October 2015 to February 2016

Figure 1- Rainfall



The forecasting system indicates high probabilities of below-normal rainfall for the start of the summer season. This is expected to continue throughout summer with relatively small chances of above-normal rainfall for localized areas in early- to mid-summer.

Figure 2 - Minimum temperatures

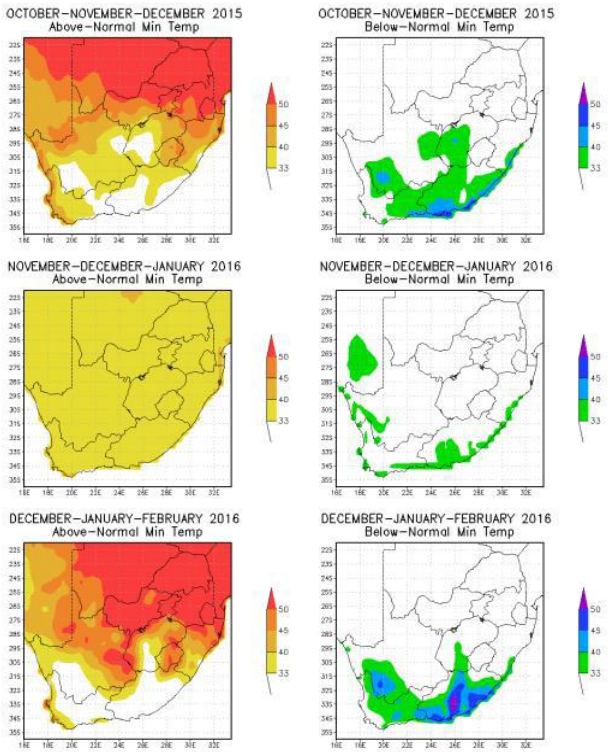
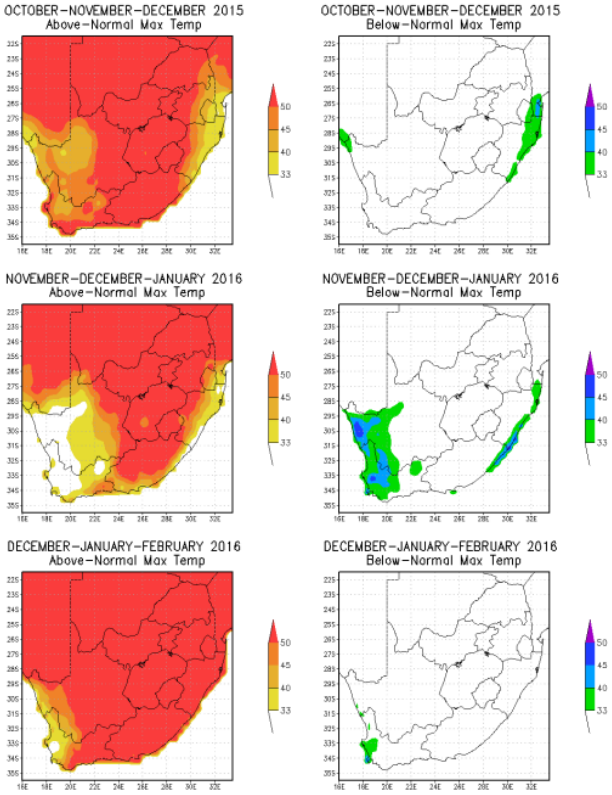


Figure 3 - Maximum temperatures



The forecasting system indicates generally above-normal temperatures across the country through early summer towards mid-summer, with an exception of below-normal minimum temperatures for the southern coastal areas.

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. OCTOBER-NOVEMBER-DECEMBER 2015.
- The forecast probabilities indicate the ***direction*** of the forecast as well as the amount of ***confidence*** in the forecast.

For further clarification using OCTOBER-NOVEMBER-DECEMBER 2015 rainfall (**Figure 1**) as an example:
Eastern Cape Province, for the above normal rainfall category, is shaded in white **(<33%)**. In the below normal rainfall category it is shaded in orange **(>50%)**.

Comparing the two:-

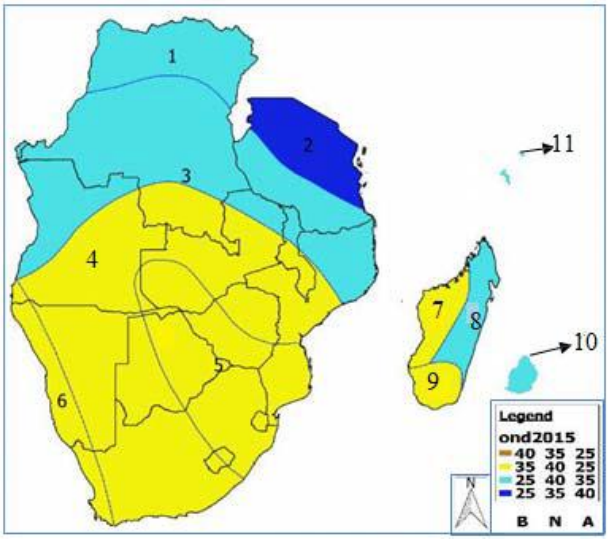
- above normal: white (<33%),
- below normal: orange (>50%)

The below normal rainfall category for October to December 2015 has higher values and is therefore favoured. This means that rainfall is anticipated to be below normal over the Eastern Cape Province during the period October to December 2015.

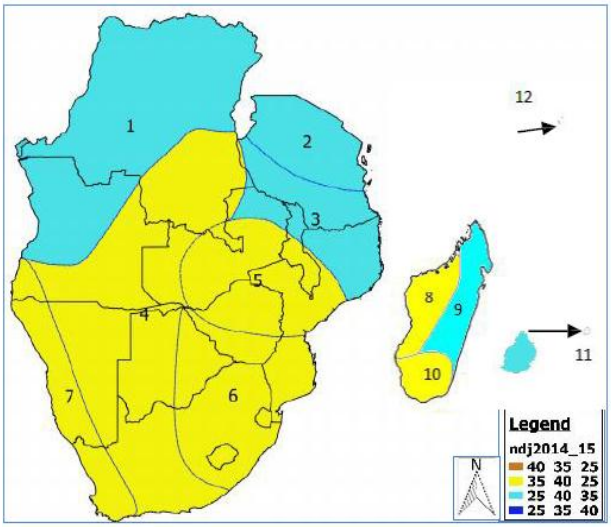
State of Climate Drivers

Observations show that ENSO is currently in the strong El-Niño situation. The atmosphere is also responding to this strong SST (sea surface temperature) warming over the equatorial Pacific including the weakening of the trade winds and other typical patters. Most of the forecast model's predictions indicate the strengthening of El Niño condition through the start of the austral summer and is expected to continue towards late summer and early autumn seasons.

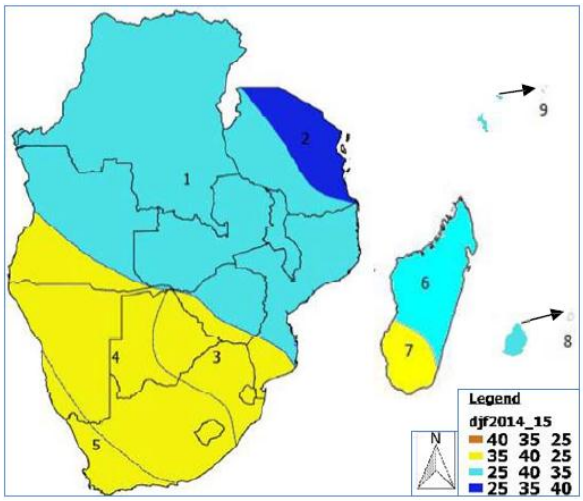
SARCOF-19 rainfall forecast



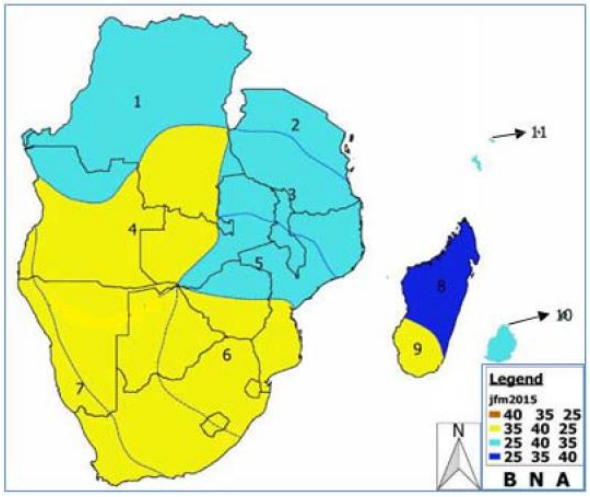
October-December 2015



November-December 2015-January 2016



December 2015-January-February 2016



January-February-March 2016

The bulk of the southern tier states of continental Southern African Development Community (SADC) is likely to received normal to below-normal rainfall for the period October to December (OND) 2015 and the January to March (JFM 2016). However, most Democratic Republic of Congo (DRC) northern Angola, Tanzania, north-eastern Zambia, northern Malawi, northern

Mozambique, the Islands States of Mauritius, Seychelles and eastern-most Madagascar are more likely to receive normal to above-normal rainfall. Northern-most of Tanzania and Madagascar are more likely to receive above-normal to normal rainfall.

This Outlook is relevant only to seasonal (overlapping three-monthly) time-scales and relatively large areas and may not fully account for all factors that influence regional and national climate variability, such as local and month-to-month variations (intra-seasonal). *Users are strongly advised to contact the National Meteorological and Hydrological Services for interpretation of this Outlook, additional guidance and updates.*

In summation, below normal rainfall and above normal temperatures are anticipated throughout the summer season over most areas. 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

With the seasonal forecast for dry and hot conditions, together with little moisture available, farmers are advised to be conservative in their planting i.e. planting density/cultivar/area being planted.

A. Rain-fed crop production

Soil choice

- Choose suitable soil type.
    - Suitable soil and land use management practices that would control wind and water erosion in cultivated lands are suggested.
    - Avoid marginal soils - shallow and low water holding capacity soils.
    - Rather plant in soils with high water holding capacity or with shallow water table.
- Ascertain that the soil profile has enough water when planting commences.
- Roughen the soil surface to enhance rain water penetration and reduce runoff.
- Minimise compaction by reducing the passing of heavy machinery in the field.
- Add organic material to improve soil structure.

Land preparation

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

Crop choice and planting

- Choose drought resistant cultivars.
- Provide flexibility and diversification.
- Rather plant early in the season than late, but stay in the normal planting window and follow the weather and climate forecast regularly so as to make informed decisions.
- Consider staggered planting - spreading over weeks.

- Do not experiment with new and unknown cultivars and also avoid unnecessary capital investments.
- Consider intercropping for improved soil structure and pest/diseases control.
- Planting in a controlled environment (e.g. green house) is advisable where possible.

Crop management

- Adjust planting density accordingly.
- Consider mulching to minimize evaporation.
- Control weeds regularly.
- Consider a conservative fertilizing strategy during dry conditions.
- Consider organic fertilization.
- Scout for pests and diseases regularly and control where necessary.
- Practice water harvesting techniques e.g. construction of basins, contours, ridges.

B. Irrigation farming

- Remove all weeds containing seeds, but keep other vegetative rests on the land because that will reduce evaporation.
- Check and repair all tools and machinery especially where there are water leaks.
- Obtain the relevant seeds to be planted considering the climate forecast.
- Be aware of the state of regional water resources and whether it will be adequate for irrigation.
- Irrigate with the correct amount, never over-irrigate.
- Timing of irrigation - rather late afternoon or early evening to reduce evaporation.
- Be aware of current and expected weather conditions and re-look at the area to be planted as there are already water restrictions in some areas.
- Manage irrigation so that the plant receives water only when needed.
- Use drip irrigation rather than sprinklers.
- Quality of irrigation system:
    - Repair leaks,
    - For canal irrigation - line with concrete to reduce water loss.

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.
- Use grey water in gardens.
- Harvest water during rainy days.

D. Stock farming

- Keep stocking rates conservative and even lower to protect grazing.
- Never exceed carrying capacity of plant associations.
- Provide lots of drinking points where possible.
- Provide additional fodder and enhance nutritional value of dry grazing/feed with licks:
    - Phosphorous deficiency is a major problem.
    - Licks should (in most cases) provide:

- Phosphorous.
- Urea (to help with the break-down of dry vegetation).
- Salt.
- Molasses.

- Deficiencies differ according to vegetation composition/soil properties/climate.
- Analysis of vegetation/soil samples can benefit the decision for supplement composition.
- Sell mature, marketable animals (to help prevent overstocking/ overgrazing).
- If grazing is in danger, herd animals into pens where different animals can be segregated and fed separately.

E. Grazing

- Subdivide your grazing area into camps of homogeneous units (in terms of species composition, slope, aspect, rainfall, temperature, soil and other factors) to minimise area selective grazing as well as to provide for the application of animal management and veld management practises such as resting and burning.
- Determine the carrying capacity of different plant associations.
- Calculate the stocking rate of each, and then decide the best ratios of large and small animals, and of grazers or browsers.
- Provide periodic full growing-season rests (in certain grazing areas) to allow veld vigour recovery in order to maintain veld productivity at a high level as well as to maintain the vigour of the preferred species.
- Do not overstock at any time to avoid overgrazing.
- Always eradicate invader plants.
- Periodically reassess the grazing and feed available for the next few months, and start planning in advance.

F. Pests and diseases

Crops

- Fruit crop farmers should regularly scout for pests and diseases and contact the local agricultural office for advice on best control measures. Farmers should further implement phytosanitary measures.
- Irrigation farmers should monitor for pests and diseases especially those associated with humid and hot conditions.

Livestock

- Follow the vaccine routine and consult with the local veterinarian.

G. Veld fires

The provinces and farmers are advised to maintain firebreaks in the summer rainfall areas and to begin construction of 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/hot).
– Plant fire resistant plants.

- Plant species selected for vegetated firebreaks must be non-invasive and capable of retarding the spread of fire.

Maintaining firebreaks:

- Mow, disk, or graze vegetative firebreaks to avoid a build-up of excess litter and to control weeds.
- Inspect all firebreaks for woody materials.
- Inspect firebreaks at least annually and rework bare ground firebreaks as necessary.
- Repair erosion control measures as necessary.
- Access by vehicles or people must also be controlled.
- Bare ground firebreaks, which are no longer needed must be stabilized i.e.
    - Sow grass.
    - Mulch.

What to do when conditions favorable for veld fire are forecast:

- Prohibit fires in the open air during periods of high fire hazard and establish a fire control committee.
- To control fires, an alarm system, fire-fighting 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 veld fire:

- Water is generally not available in sufficient quantities or at adequate pressure for the control of major fires; however, sand or other loose mineral soil material can be an effective method of control.
- Tree branches can be used to beat fire.

H. Heat stress – bad for productivity

- Signs of heat stress:
    - Bunching in shade, high respiratory rates, open mouth breathing.
- What to do:
    - Offer shade.
    - Offer water- keep good quality water in front of animals.
    - Wet with sprinklers/fire hose.

- Water ground.
- Avoid overworking animals.
- Control insects. Biting insects, such as flies can further stress livestock and interrupt their cooling. If pastures or buildings draw insects to livestock during times of extreme heat, provide proper insecticides or considering relocating your livestock.

Poultry

- Provide cool, clean, quality drinking water to your poultry. Water will help keep your birds cool.
- Always make sure your poultry is in a well-ventilated area in which there is nothing to obstruct the airflow.
- Provide feed during the coolest part of the day.
- Supplement drinking water with electrolytes.
- Reduce the number of birds kept in a house or in an area.
- Avoid excessive activity during the hottest part of the day.

I. Severe thunderstorms/flash floods

Building resilience:

- Identify resources/facilities within 50km that can be utilized and can be of help during emergencies.
- Be sure to have legal and adequate markings to identify your livestock.
- Stay well informed about livestock in your possession and conduct an inventory after the event.
- Monitor television and local radio stations for information regarding severe storms/flash floods in your region.
- Identify natural or built areas/shelters where animals can be kept during such conditions
  - Sufficient height to be above water level,
  - Sheltered from strong winds and wetness,
- Restrict access to high-risk areas such as low lying fields close to streams.
- Store food in safe areas sheltered from wetness to be used after storms/flash floods.
- Keep pesticides and other chemicals in areas where water will not be contaminated during extreme rainfall/storm events.
- Inspect/repair farm dams
  - Before rainy season, after each event.

Drought/very dry conditions continue to be reported in most provinces. The seasonal forecast favors below normal rainfall with only small probabilities for above normal rainfall anticipated for mid-summer. Temperatures are anticipated to be above normal. With the seasonal forecast in mind, and the current drought/very dry conditions in provinces, farmers are advised to approach the season with extra caution.

Although rain was received at the beginning and the middle of September, the current high temperatures will likely result in high evaporation rates. Dry-land farmers should wait for sufficient rain before planting, but should rather plant early than late and stay within the normal planting window. Also, they should consider drought tolerant cultivars including sorghum where possible. Irrigation farmers should reduce the planting area in line with water restrictions in their areas and also consider the below normal rainfall forecast. Farmers should follow the weather and climate forecast regularly so as to make informed decisions. Water restrictions have been implemented in some provinces hence, water and other resources need to continually be conserved in accordance with the Conservation of Agricultural Resources Act (Act No. 43 of 1983).

Livestock must continually be kept in line with carrying capacity of the veld and should be provided with additional feed including licks to give sufficient nutrition. Farmers are advised to further reduce livestock to protect the limited grazing i.e. selling of animals. Veld fires have been reported in some provinces and the risk remains high for conditions conducive for veld fires as the veld is dry. Farmers are encouraged to maintain firebreaks in summer rainfall areas and adhere to veld fire warnings. Farmers in winter rainfall areas should begin putting measure in place for veld fires. Severe thunderstorms with damaging winds and hail as well as heat waves are likely during summer and therefore measures to combat these should be in place. Isolated localised flooding is also possible in summer rainfall areas; precautionary measures for these should be in place.

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 monthly advisory. Information sharing groups are encouraged especially among farming communities for sustainable development. In general, effective communication among all stakeholders in the sector will enhance effective implementation of risk reduction measures/early warning services. It is the responsibility of farmers to implement disaster risk measures.

The Disaster Management Act (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:-

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