agriculture,
forestry & fisheries

Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

**National Agro-meteorological Committee (NAC) Advisory on the 2017/18 summer and autumn seasons**
**Statement from Climate Change and Disaster Management**
**07 DAFF 2017**

**28 March 2018**

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 to disseminate 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**

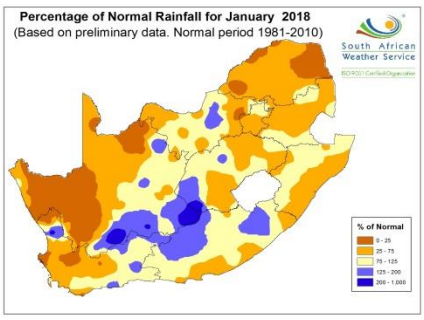



**Figure 2**

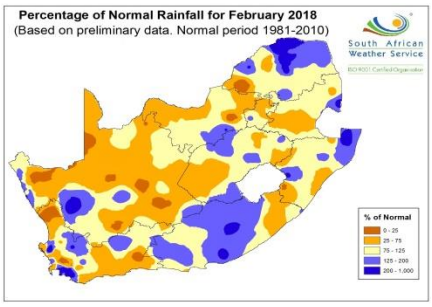



**Figure 3**

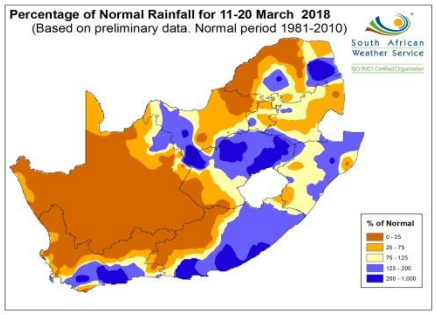
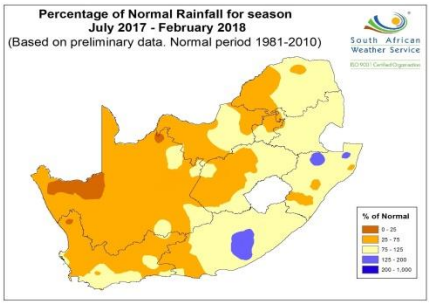
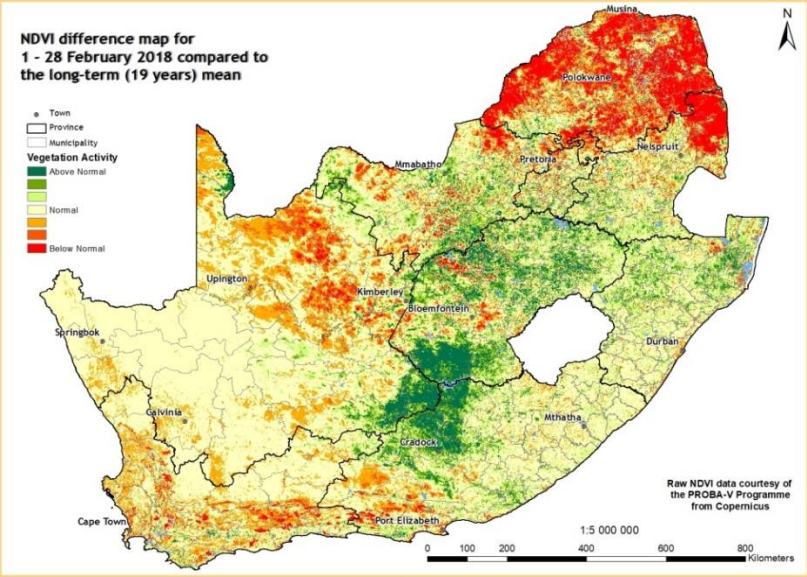



**Figure 4**



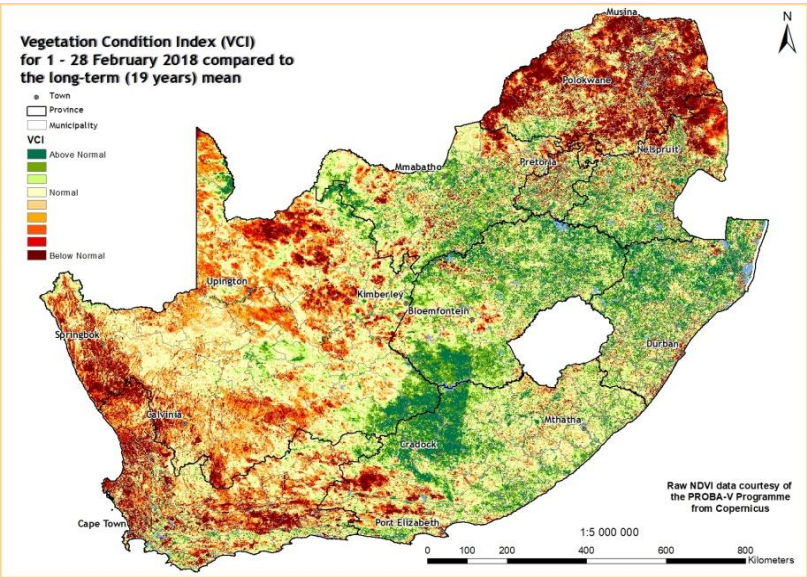
During January many areas of the country received near normal to below normal rainfall with patches of above normal rainfall over the south-western parts of the Free State, western parts of the Eastern Cape and south-eastern parts of the Northern Cape **(Figure 1)**. In February rainfall received was near normal to below normal with patches of above normal **(Figure 2)**. Some parts of the central interior and eastern parts of the country received near normal to above normal rainfall during mid-March **(Figure 3)**. The western parts of the country were dominated by dry conditions. For the season July 2017 – February 2018, near normal rainfall was received mainly over the central and eastern parts of the country, while the western half of the country was dominated by below normal rainfall **(Figure 4).**

**NDVI map: February 2018 compared to the long-term mean**




In February the vegetation activity was below normal mainly over Limpopo, parts of the Northern Cape, Western Cape and south-western parts of the Eastern Cape. The vegetation activity improved over the central interior.

**VCI map: February 2018 compared to the long-term mean**




During February dry conditions persisted over Limpopo and most of the western parts of the country. The vegetation conditions improved over North West, Free State and parts of the Eastern Cape.

(**The VCI is a better indicator of water stress than the NDVI**).

## II. CONDITIONS IN THE PROVINCES DURING FEBRUARY/MARCH 2018

**Eastern Cape**

The province received normal to above normal rainfall, with the exception of some areas of Amathole and Joe Gqabi Districts where below normal rainfall was received. Crops are in reasonable to good condition, but there are patches of poor and very poor conditions in Sarah Baartman District. The condition of livestock is reportedly reasonable in the eastern part of the Province. Alfred Nzo, Chris Hani and the greater part of Amathole District indicated good conditions on livestock. Pasture are generally in good condition; while the natural veld ranges from poor to very poor, except in Alfred Nzo where it is reported to be good. Incidents of Rabies were reported in Joe Gqabi, OR Tambo and Chris Hani Districts. The level of major dams has increased when compared to the previous year (67% in 2018; 63% in 2017).

**Free State**

Near normal to below normal rainfall was received, and water restrictions remain in place. The drought monitoring map indicates that Xhariep and Mangaung Metro are in a minor drought status. In general the livestock condition has improved drastically. Veld and other vegetation have shown signs of greater recovery over most parts. Summer planted pastures are in very good condition due to recent rainfall. The dry land crops are showing signs of relief from drought stress. Land preparation has begun especially in the western and eastern parts as the result of recent precipitation for winter wheat, harvesting of maize is completed and yield is higher than expected. Incidents of severe hailstorms were reported in Brandfort, Glen and Zastron. The average level of major dams has decreased as compared to the previous year (80% in 2018; 87% in 2017).

**Gauteng**

Rainfall received was near normal to below normal. Grazing and livestock are in good condition. Crops are also in good condition. The average level of major dams has slightly increased when compared to the previous year during the same period (94% in 2018; 91% in 2017).

**KwaZulu-Natal**

Normal to below normal rainfall was received during the reporting period. Temperatures were generally normal. The drought monitor map for February indicates a slight improvement in the status of drought for more districts: Ugu, Harry Gwala, Ilembe and Uthukela Districts are in the drought advisory status; Amajuba, King Cetshwayo, UMgungundlovu, Umkhanyakude, EThekwini and UMzinyathi Districts are in the minor drought status while Zululand District is in the severe drought status. Summer pastures in the coastal and immediate adjacent interior are still good, with good bulk while over the western and northern interior there has only been a slight improvement. Winter season pastures are being planted. Maize silage preparations and hay cuttings are ongoing. Quality and quantity is better than the past four years. In general livestock condition has improved in most areas, but there are still some areas where livestock has already started to lose condition due to lack of decent veld. The average level of major dams has slightly increased as compared to the previous year during the same period (62% in 2018; 58% in 2017).

**Limpopo**

Near normal rainfall was received but above normal in part of Vhembe District. Most farmers who planted summer crops are now harvesting. In Sekhukhune District, dry land crops have wilted as a result of water stress experienced during the severe heat waves, some have even reached permanent wilting. Livestock condition is slowly deteriorating, especially where grazing is insufficient and farmers are struggling to provide supplements. The condition of grazing ranges from poor to good. Fall Army worm was detected on several farms in the Waterberg District.

There was also an outbreak of *Tuta absoluta* (tomato leaf miner) on some vegetable crops. The average level of major dams is at 70% in 2018, as compared to 78% of 2017.

**Mpumalanga**
Near normal to below normal rainfall was received. Farmers are preparing to plant winter crops. Livestock and veld conditions are good, but deteriorating in parts of Ehlanzeni North and Bushbuckridge due to poor rainfall. The average level of major dams has increased to 81% in 2018 as compared to 78% of 2017.

**Northern Cape**
The province received mainly below normal rainfall. Severe to extreme drought conditions are present over most of the winter rainfall region. Veld and livestock conditions are expected to worsen towards winter. Availability of livestock water remains a problem in some areas. The level of major dams has decreased as compared to last year this time (81% in 2018; 98% in 2017).

**North West**
Near normal to below normal rainfall was received. The veld and livestock are in reasonable to good condition. The average level of major dams was reported to be at 68%, which is much lower than 90% of 2017 during the same period.

**Western Cape**
Rainfall during February was above normal in the extreme drought stricken areas of the West Coast and the Central Karoo. The Cape Winelands, Overberg and southern coastal regions received below normal rainfall. Monthly mean temperatures were normal. The overall water level of state dams in the province remained low compared to the previous year, 18% in 2018 and 26% in 2017.

**Information on level of dams is obtained from the Department of Water and Sanitation**
**Available:** https://www.dwa.gov.za/Hydrology/Weekly/Province.aspx
**Dam levels as at 2018/03/26**

## III. AGRICULTURAL MARKETS

**Major grain commodities**
Absa stated that local maize market traded lower due to late plantings of some maize crops in the central and western areas, some crops are still in the early development stages, moisture levels remain critical. Wheat prices increased while the planting season has not yet started. South Africa has been reducing area under wheat for the past 10 years making the country more dependent on imports. Local farmers expect more wheat to be produced for the new season because weather patterns are expected to become favourable. Sunflower prices decreased marginally, due to very late plantings of some sunflower crops in the central and western areas, plants will remain vulnerable and susceptible to frost damage should it occur before mid-April.

| | **Futures prices as at** (2018/03/20) R/ton | | | | |
|---|---|---|---|---|---|
| **Commodity** | **Mar-18** | **May-18** | **Jul-18** | **Sep-18** | **Dec-18** |
| White maize | 1925.00 | 1974.00 | 2014.00 | 2054.00 | 2125.00 |
| Yellow maize | 2009.00 | 2052.00 | 2079.00 | 2130.00 | 2187.00 |
| Wheat | 3820.00 | 3840.00 | 3849.00 | 3822.00 | 3795.00 |
| Sunflower | 4993.00 | 4780.00 | 4806.00 | 4963.00 | 5123.00 |
| Soybeans | 4575.00 | 4630.00 | 4734.00 | 4836.00 | 4926.00 |
| Sorghum | 3400.00 | 3130.00 | 2970.00 | 3352.00 | 3385.00 |

**SAGIS: 2018/03/22**

**Livestock domestic markets**

According to ABSA, beef prices were mostly lower across different classes. It is expected that prices will rebound on improved demand during Easter holidays. Lamb and mutton prices continued to lose ground. It is expected that prices will rebound slightly on improved demand during Easter holidays. Pork prices showed declining trend characterised by less demand, plentiful supplies and the buying power of consumers and the rand strength may have been some of the factors that have contributed. There are plentiful supplies of pork in the market, which weigh on prices. Poultry prices were mostly lower. It is expected that poultry prices may gain support from improvement in demand towards of Easter holidays.

| **Producer prices for selected livestock commodities** | **Beef** | **Mutton** | **Pork** | **Poultry** |
|---|---|---|---|---|
| Open market: Class A / Porker / Fresh whole birds (R/kg) | 46.90 | 69.10 | 26.37 | 26.75 |
| Open market: Class C / Baconer / Frozen whole birds (R/kg) | 41.40 | 54.59 | 24.59 | 25.78 |
| Contract: A2/A3* / Baconer/ IQF (*includes fifth quarter) (R/kg) | 48.10 | 69.65 | 25.48 | 24.85 |
| Import parity price (R/kg) | 66.67 | 49.34 | 28.08 | 18.03 |
| Weaner Calves / Feeder Lambs (R/kg) | 34.00 | 38.50 | | |

**FNB: 2018/03/23**

**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 March 2018 Famine Early Warning Systems Network (FEWS NET) report indicates that several countries in the region have been affected by the drought conditions experienced between December 2017 and January 2018. Cropping activities and crop conditions have been adversely affected, indicating reduced prospects for 2018 seasonal production in Zimbabwe, Mozambique, Madagascar, Malawi, South Africa, Lesotho and Zambia. In affected areas in these countries, even with the improved rains received in February, many early planted and permanently wilted crops are not expected to recover. Acute food insecurity outcomes are currently mixed across much of the region due to the early and mid-season drought conditions experienced in some areas. Production prospects did improve because of the February rains in northern parts of Madagascar, Mozambique, Malawi, and Zimbabwe resulting in Minimal (IPC Phase 1) outcomes projected through September. However, most households in drought-affected parts of southern Zimbabwe, Malawi, Mozambique, and Madagascar are already experiencing Stressed (IPC Phase 2) outcomes and will face a limited or below-normal green harvest this season. Because the 2018 main harvest is expected to be reduced, affected households in these countries will face food gaps and livelihood protection deficits much earlier in the consumption year than usual. Crisis (IPC Phase 3) outcomes are projected for several areas between June and September. Parts of the conflict-affected Tanganyika and Kasai provinces in the DRC are also likely to be in Crisis (IPC Phase 3) and Stressed (IPC Phase 2) for the entire outlook period.

Furthermore the FEWS NET report stated that in general, regional maize grain supplies are still expected to be above average due to the contributions of significant carryover stocks from the 2017 harvests, despite reduced 2018 main harvest prospects. These supplies should help to stabilize food prices in the drought-affected areas. Across the region, food prices are expected to follow the seasonal trend, decreasing during the harvests around May/June and stabilizing through August. The exception to these trends will be rice prices in Madagascar, which are expected to remain significantly higher than the five-year average due to consecutive seasons of drought.

[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.]
Source: http://www.fews.net/southern-africa

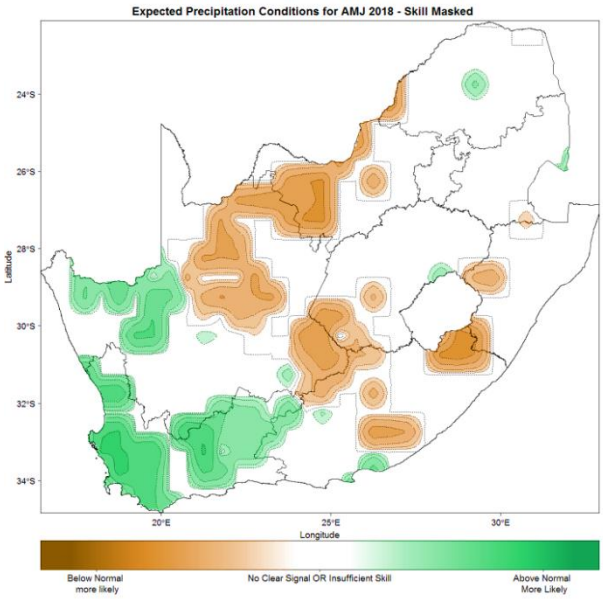
**Summary of the reports**

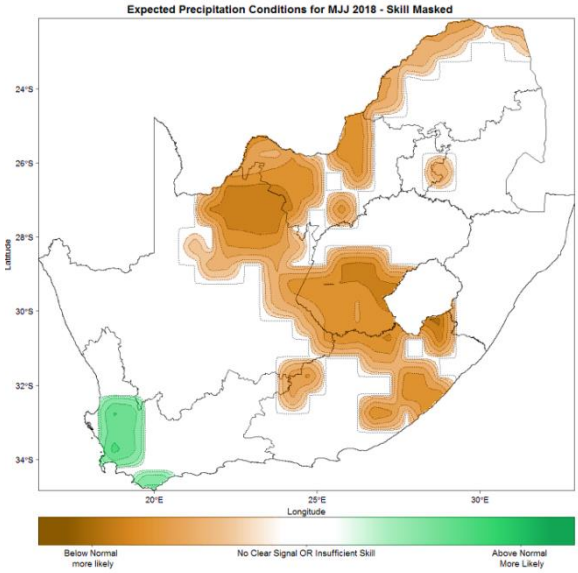
The veld and livestock are generally in reasonable to good condition in most provinces except where drought persists. Harvesting of summer crops is underway and preparations for winter crops are commencing. Cases of rabies were reported in the Eastern Cape, and incidents of the Fall Army Worm and Tuba absoluta in Limpopo. Severe thunderstorms occurred in parts of the Free State. The levels of major dams have decreased in some provinces but increased in other provinces when compared to the previous year.

## V. MONTHLY CLIMATE OUTLOOK

### Seasonal Climate Watch: April to August 2018

**Figure 1 – Rainfall**




During late autumn (Apr-May-Jun) and early winter parts of the south-western cape regions can expect above-normal rainfall. This is consistent with predictions earlier this month, which communicates a little bit more confidence than usual for these parts. However, predictions for mid-winter (Jun-Jul-Aug) see the above-normal prediction lose the minor confidence from the previous seasons. Caution is advised however that skill levels remain relatively low for the south-western parts of the country from the forecasting system, and it is advised that future forecasts be monitored to identify whether there is any consistency of above-normal forecasts.

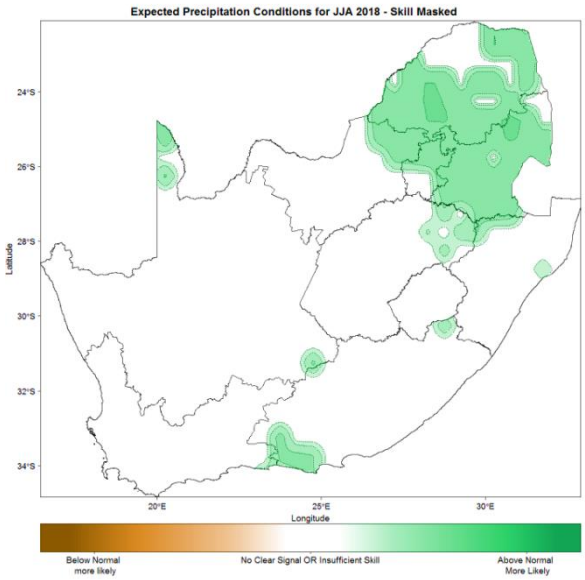
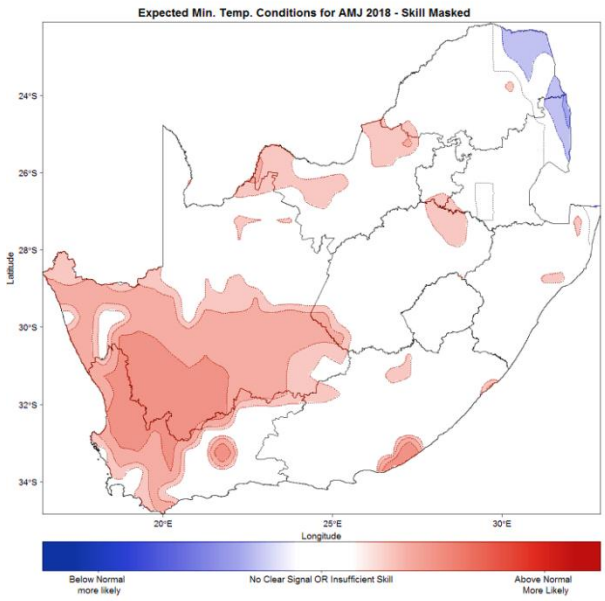
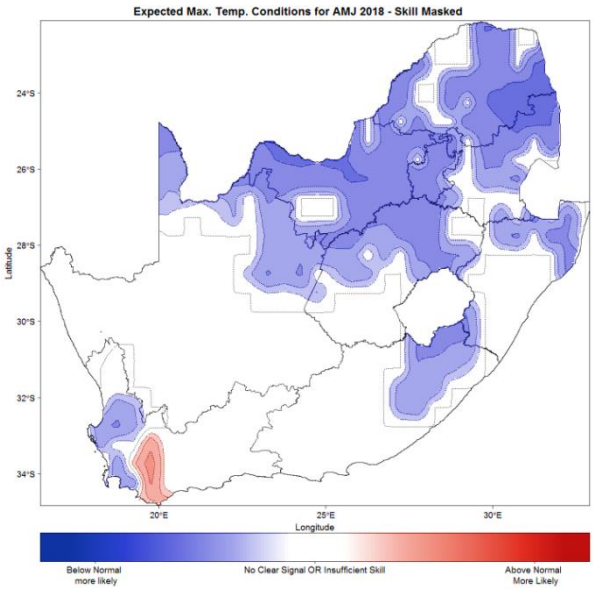


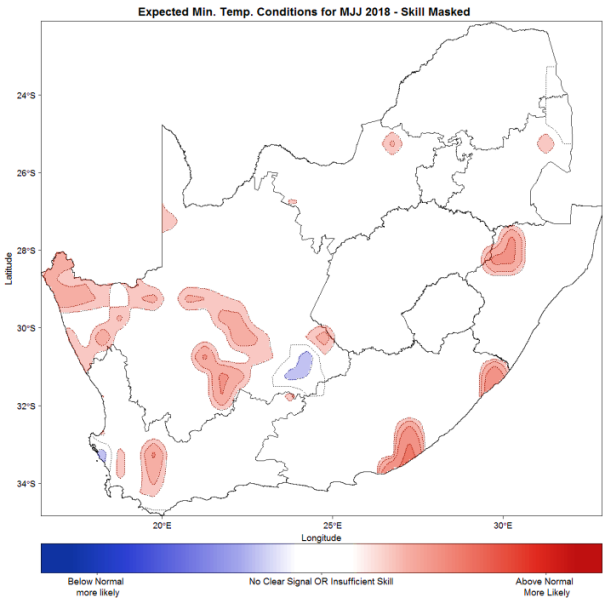

**Figure 2 - Minimum and Maximum temperatures**

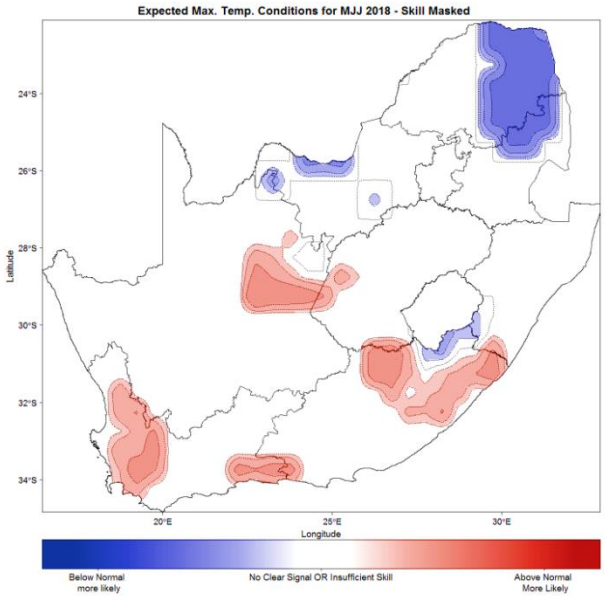
**Minimum**

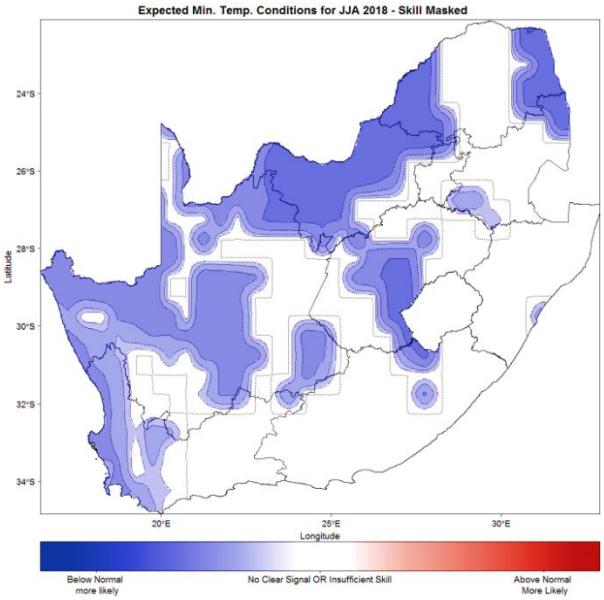


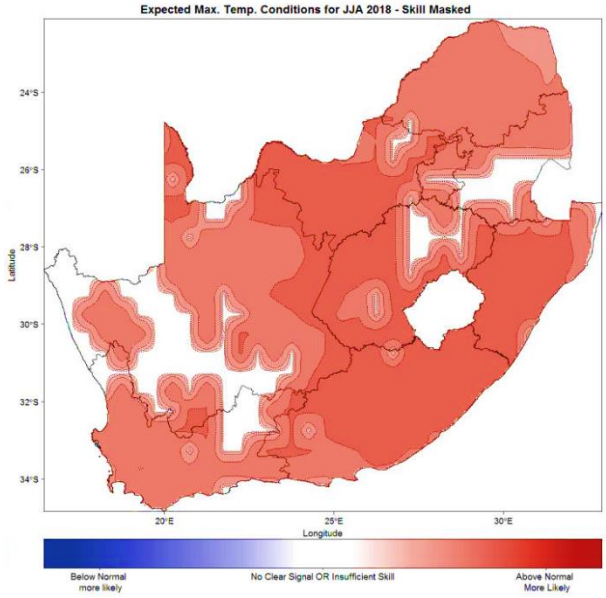

**Maximum**






Temperatures are still expected to be lower in general during late autumn and early winter for the north-eastern parts of the country, but warmer during mid-winter. The south-western parts are expected to have higher temperatures on average throughout late autumn, early and mid-winter.

**State of Climate Drivers**

The El Niño-Southern Oscillation (ENSO) is expected to weaken from a moderate La Niña phase to a neutral phase through to late winter (Jul-Aug-Sep). Interestingly the La Niña phase has strengthened over the last month against most models' expectation. However its impact on South Africa is usually marginal past late summer (Jan-Feb-Mar) and is thus not expected to play much of a role until the next summer season.

In summation, during late autumn and early winter, the south-western parts can anticipate above-normal rainfall. Temperatures are anticipated to be below normal for the north-eastern parts of the country during late autumn and early winter, but above normal in the south-west. Farmers are encouraged to continually check updates i.e. seasonal forecasts and utilize 7 day weather forecasts for short term planning.

With the above forecast in mind, the following strategies are recommended:

## VI. SUGGESTED STRATEGIES

### A. Rain-fed crop production

**Crop management**

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

### B. Irrigation farming

**Water restrictions remain in place in several provinces and this continues to have a negative impact on irrigation.**

- 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.
- Be aware of the state of regional water resources and whether it will be adequate for irrigation.
- Irrigate with the correct amount, avoid over-irrigation because that can create problems e.g. water logging and diseases.
- Timing of irrigation - rather late afternoon or early evening to reduce evaporation.
- Manage irrigation so that the plant receives water only when needed.
- Consider using drip irrigation as it saves water by allowing it to drip slowly straight to the roots.
- **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.
- Use grey water in gardens when necessary.
- 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.
- Assessment of vegetation condition and analysis of soil samples can benefit the decision for supplement composition.
- Sell mature, unproductive, 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.
- Eradicate invader plants.
- Periodically reassess the grazing and feed available for the next few months, and start planning in advance.
- Spread water points evenly.

**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.

Livestock

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

**G. Veld fires**

The provinces and farmers are advised to create and maintain firebreaks. 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, 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 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 consider 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.

## J. Wind Erosion

**Wind erosion reduces agricultural production potential.**
**Preventative measures for wind erosion:**

- Do not burn vegetation.
- Keep vegetation cover – e.g. shrubs, grass, small trees; a cover crop may be used to increase organic material and increase soil structure.
- Plant permanent vegetation e.g. perennial grasses where possible.

- Maintain any remaining vegetative cover, e.g. maize stubble during winter wheat sowing, as it: acts as blanket, traps eroded particles and reduces wind speed at ground level.
- Plant evergreen trees growing densely and perpendicular to typical wind direction during winter and spring as wind breaks.
- Increase water infiltration by correct management of soil, e.g. reduce frequency of plough and use minimum tillage.
- Mulch: to increase infiltration, reduce evaporation, and reduce raindrop impact as well as wind erosion.
- Construct retaining walls around gardens.
- Avoid soil compaction by roughening the soil surface
    - Furrows and tillage ridges can trap loose soil.
- Farm along contours as this reduces slope lengths
- Prevent over grazing.
- Practice conservation farming
    - Maximize retention of crop residues.

Drought continues in the Western Cape, parts of the Northern Cape and Eastern Cape, and the seasonal forecast indicates above normal rainfall during late autumn and early winter over the south-western Cape. Temperatures are anticipated to be warmer over the south-western Cape, but cooler over the north-eastern regions of the country during late autumn into early winter. With the seasonal forecast in mind, and the current conditions, farmers are advised to continually conserve water and other resources in accordance with the Conservation of Agricultural Resources Act 1983, (Act No. 43 of 1983).

Farmers using irrigation should continually comply with water restrictions in their areas. Livestock farmers are advised to continue to have precautionary measures in place. These include provision of additional feed such as relevant licks, maintenance of livestock in accordance with available grazing, provision of enough water points in the farm where possible, as well as shelter during bad weather conditions. Episodes of localized flooding remain likely and preventative measures should be in place. Farmers are encouraged to implement measures provided in the early warning information issued.

**The users are urged to continuously monitor, evaluate, report and attend to current Disaster Risk Reduction 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 2002, (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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