



CUMULUS

7 NOVEMBER 2024

by J Malherbe, R Kuschke

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AgriSeker Onderskrywingsbestuurder (Pty) Ltd, Reg no. 2014/235270/07 is an Authorised Financial Service Provider FSP no. 45767. Underwritten by Land Bank Insurance (SOC) Ltd, Reg no. 2012/115426/30.

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Summary

Widespread rain expected

It will be cooler with above-normal rainfall over large parts of the summer rainfall region during the next few days. Showers or thundershowers will occur over the central to northeastern parts on several days, with activity expected to intensify during the weekend and move northeastwards by early next week. This intensification will be associated with the movement of an upper-air trough over the interior. Much of the rain should fall by early next week, after which somewhat drier conditions are expected.

Looking further ahead, forecast models indicate that the wetter period should end during next week, with the middle of the month expected to be somewhat drier. Conditions are expected to become more favorable again for further rain later in the month.

The following is a summary of weather conditions during the next few days (until early next week):

- Temperatures will on average be near normal for this time of the year, but above normal in the west.
- It will be cooler during the day than during the previous few weeks over the summer rainfall region.
- Rainfall will be normal to above normal over most of the country, but below normal over the southwestern parts of the country.
- Little to no rain is expected over the winter rainfall region.
- Scattered to widespread showers and thundershowers are expected over the summer-grain production region until early next week.
- Cloud cover will have a moderating effect on maximum temperatures over the central to northeastern parts.
- It will be hot over the western to northwestern interior initially and again towards the middle of next week.
- Thundershowers over the interior will have an enhanced tendency to become severe, especially early in the period.
- **The winter rainfall region** will remain mostly dry according to current forecasts, with only light showers expected on Friday and Saturday along the garden route and a small chance of isolated interior showers on Saturday. A southerly flow will keep the southern parts cooler while it will be warm at times over the western to northern parts. Strong south-easterly winds are expected over the south-western parts.
- **The summer-grain production region** will be mild to warm, with cloudy spells and scattered showers or thundershowers on most days until early next week.

Overview of expected conditions over the main agricultural production areas

An upper-air trough will move over the interior during the weekend and early next week. This, together with an influx of moisture from the north and east will support the development of showers and thundershowers over the central to eastern and northern parts of the country during the next few days, clearing early next week as the trough moves out east.

Maize production region:

It will be mild over the region and cloud cover should be present on most days. Showers or thundershowers should develop over most parts within the region until Monday. It should be drier by the middle of next week.

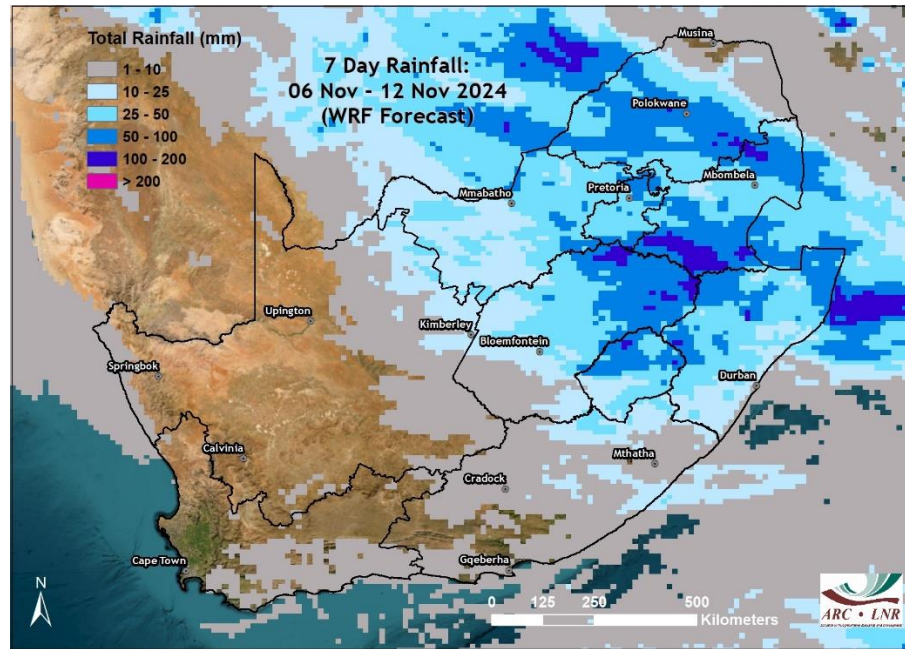
- Maximum temperatures over the eastern maize-production areas will range between 20°C and 30°C. Minimum temperatures will be in the order of 11°C to 15°C, with lowest temperatures towards the high-lying areas early next week.
- Maximum temperatures over the western maize-production areas will range between 26°C and 33°C. Minimum temperatures will be in the order of 14°C to 18°C.
- **Thursday (7th):** Partly cloudy and warm, but mild over the central to northern and eastern parts with scattered thundershowers.
- **Friday (8th):** Partly cloudy and warm with scattered thundershowers but isolated in the east.
- **Saturday to Sunday (9th- 10th):** Partly cloudy and warm becoming mild over the eastern parts. Scattered showers or thundershowers are expected.
- **Monday to Wednesday (11th – 13th):** Showers and thundershowers are still expected over the central to eastern parts of the region initially, where there could be overcast and cool periods with intermittent showers. Current forecasts show a drying trend with conditions clearing from the west during the week, becoming warmer.

Cape Wine Lands and Ruens:

The region will be partly cloudy and mild to warm, with a southerly to southeasterly flow dominating, keeping the southern parts cooler relative to the northern to northwestern parts which will be warmer. Fresh to strong south-easterly winds will be present over the south-western parts most of the time. Light showers are possible over the Garden Route on Friday and Saturday while there is also a small chance for isolated showers or thundershowers over the northeastern mountainous interior parts of the region on Saturday.

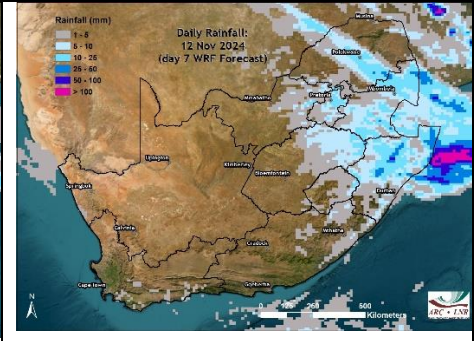
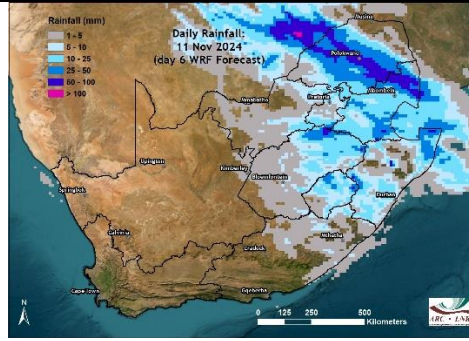
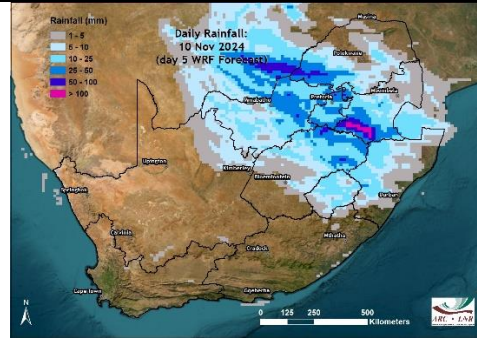
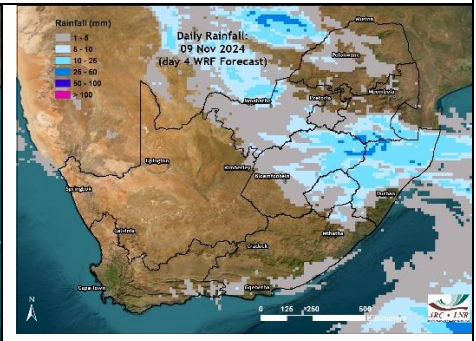
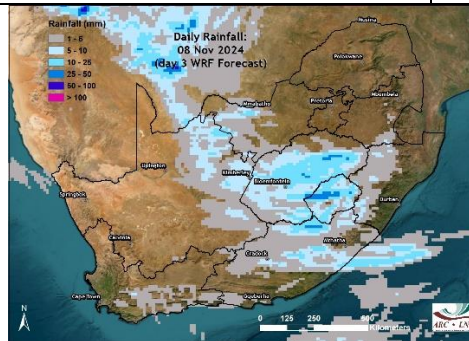
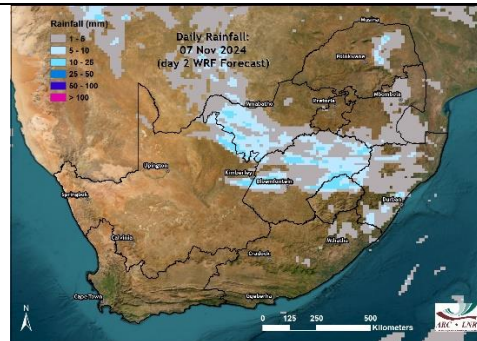
Daily summary of expected conditions (7 – 12 Nov)

(GFS forecast downscaled using WRF)

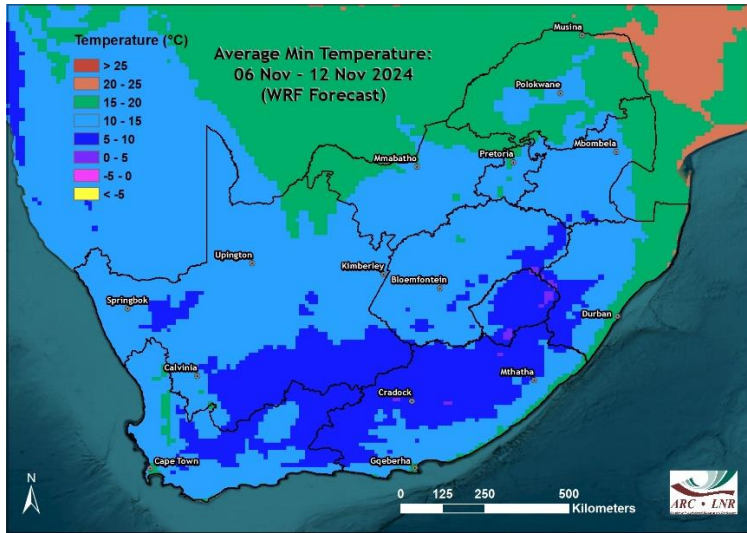


Rainfall

- Most of the central to eastern and north-eastern parts should receive rain during the next few days.
- Totals over the period may exceed 50 mm over the north-eastern provinces, including parts of the summer-grain production region.
- Some rain is also expected along the Garden Route.
- The western interior will be dry.

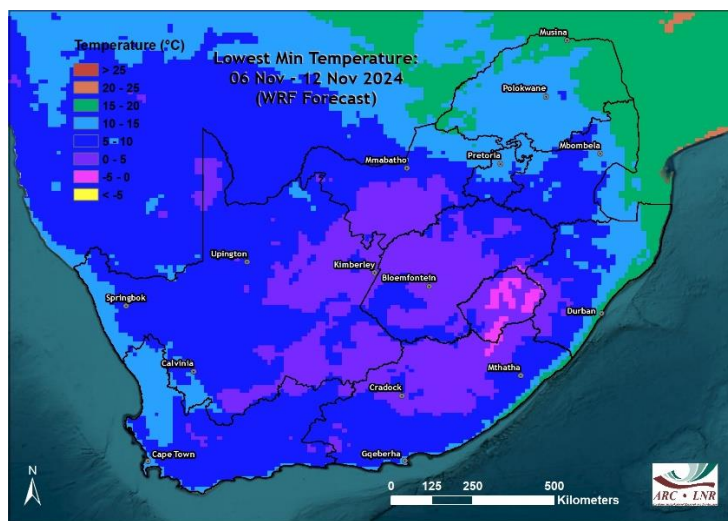


- Scattered thundershowers are expected over the Highveld initially.
- The area of thundershowers will expand into a line over the central to northeastern parts, moving north-eastwards while intensifying over the weekend.
- Light showers are possible along the Garden Route on Friday and Saturday.
- It will clear from the west over the interior next week.



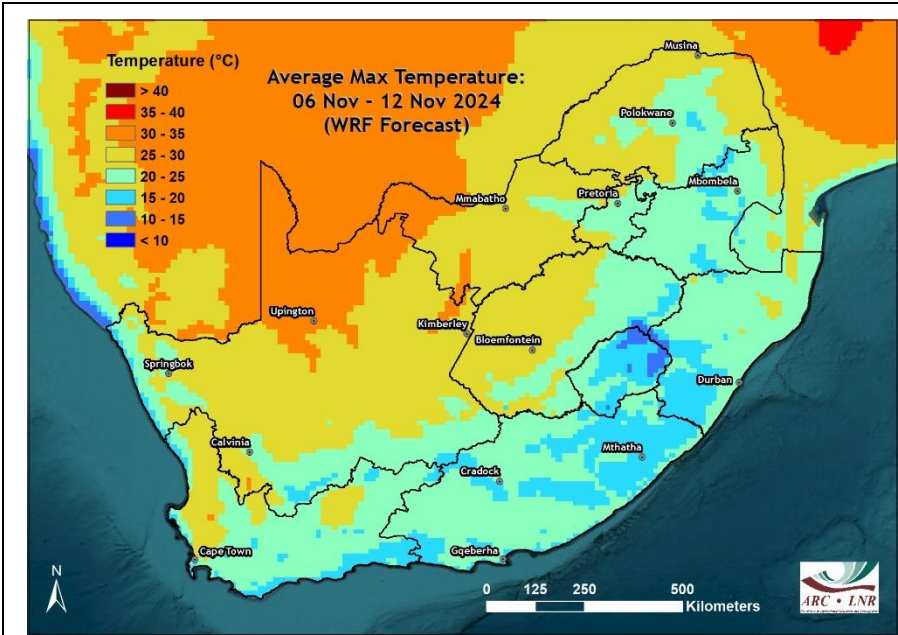
Average minimum temperatures

- Average minimum temperatures will range between 10 and 20°C over most parts.



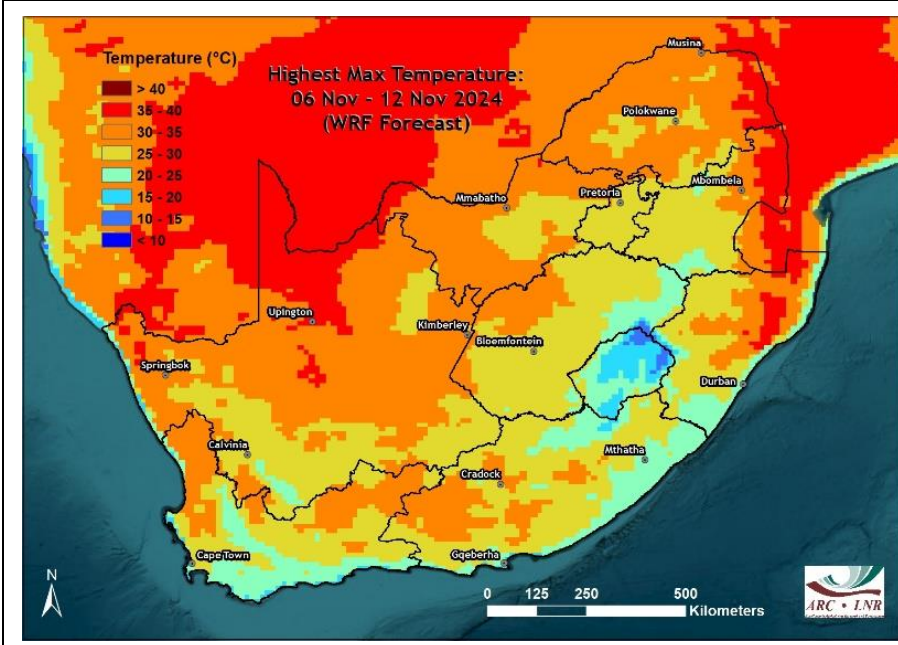
Lowest minimum temperatures

- Lowest minimum temperatures will remain above 5°C over the summer-grain production region.



Average maximum temperatures

- Average maximum temperatures will range between 20 and 30°C over most parts of the country.

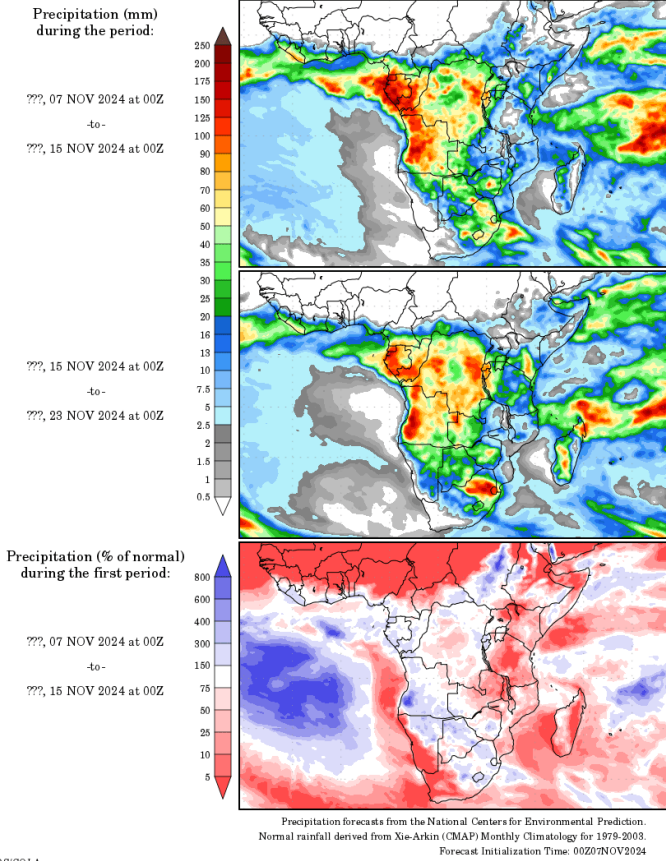


Highest maximum temperatures

- Highest temperatures during the next few days are expected to exceed 35°C over the Lowveld, northern KZN and the northern to north-western parts of the Northern Cape.

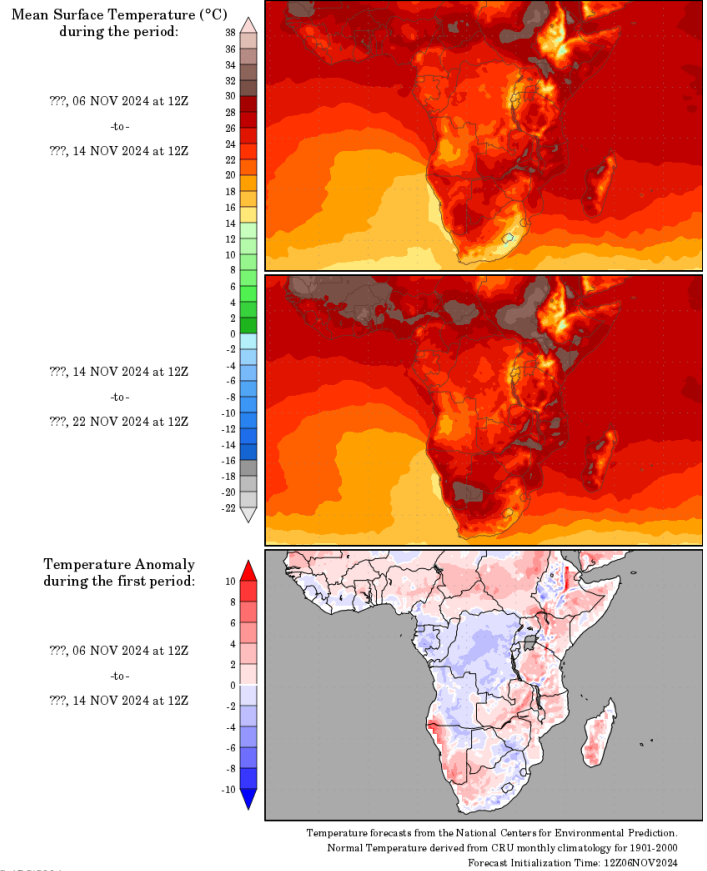
Medium term rainfall and temperature summary

Precipitation Forecasts

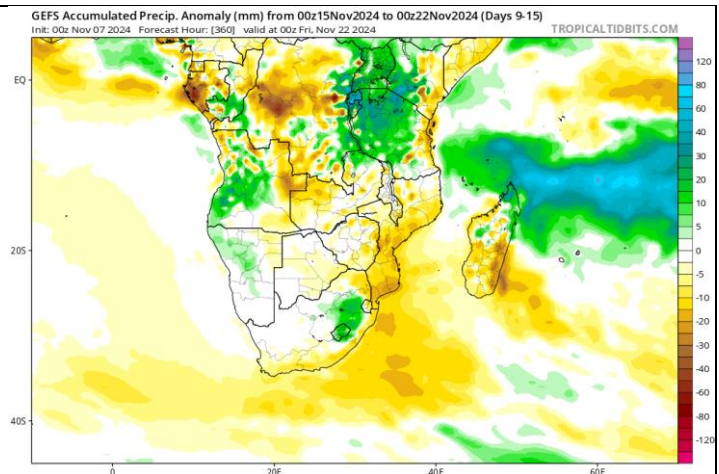
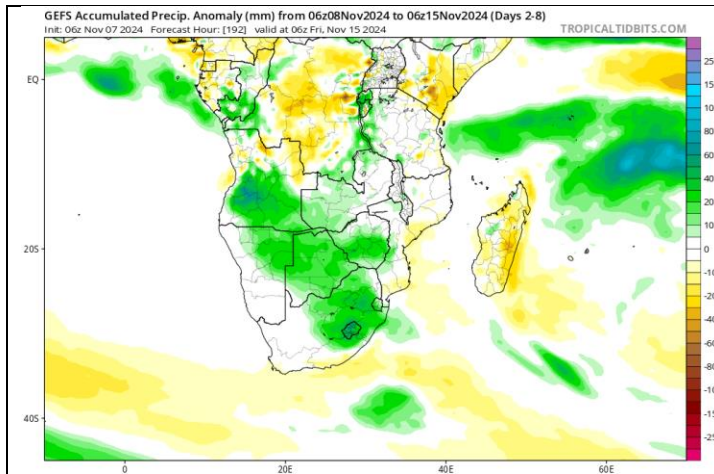


GrADS/CO LA

Temperature Forecasts



GrADS/CO LA



The GFS ensemble forecast (consisting of several forecasts with small initialization differences) favors above-average rainfall towards mid-November over southern Africa. The forecast is less favorable for rainfall during the 3rd week of the month but continues with a wet bias over the Highveld.

Possible extreme conditions - relevant to agriculture

The South African Weather Service issues warnings for any severe weather that may develop, based on much more information (and in near-real time) than the output of only 2 weather model (GFS and the ECMWF model) considered here in the beginning of a week-long (starting 7 November) period. It is therefore advised to keep track of warnings that may be issued by the SAWS (www.weathersa.co.za) as the week progresses.

According to current model projections (GFS / ECMWF models) of weather conditions during the coming week, the following may negatively affect agricultural activities and production:

- **Thundershowers may become severe, producing strong winds and hail:**
 - Northern Free State, south-eastern North West, Gauteng, western to southern Mpumalanga: **Friday (8th)**.
 - Eastern parts of the Northern Cape, Free State (except north), south-western North West: **Saturday (9th)**.
 - Free State, southern North West, Gauteng, southern Mpumalanga: **Sunday (10th)**.

- **Windy conditions will increase the fire hazard where vegetation is dry:**
 - Western to central interior: **Friday to Sunday (8th – 10th)**.

- **It will be hot, with maximum temperatures exceeding 35°C:**
 - Northern parts of the Northern Cape: **Thursday to Saturday (7th – 9th)**, **Tuesday to Wednesday (12th – 13th)**.
 - Lowveld: **Saturday and Sunday (9th, 10th)**.
 - Northern KZN: **Saturday (9th)**.

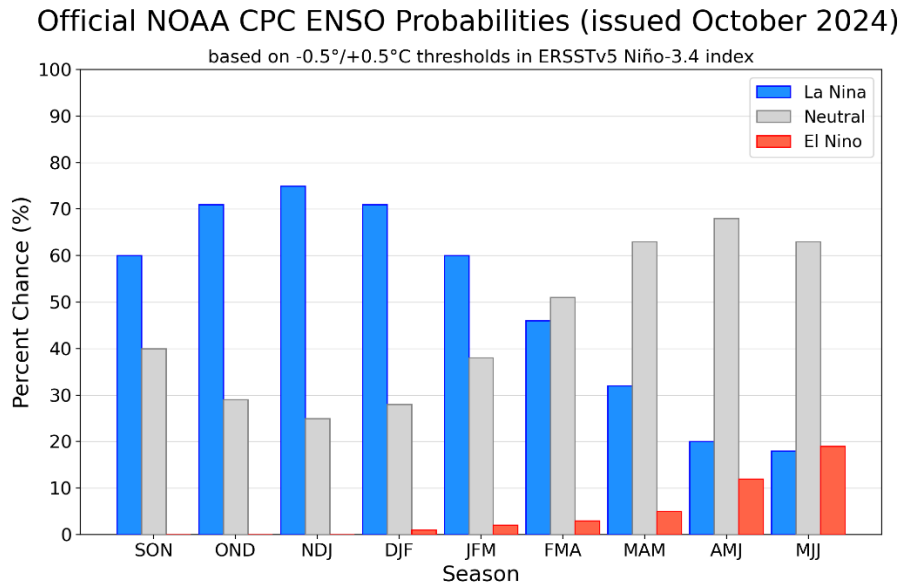
- **Cold, wet and windy conditions may negatively impact small stock:**
 - Interior of the Eastern Cape: **Sunday to Monday (10th – 11th)**.

Seasonal forecast

Current ENSO conditions:

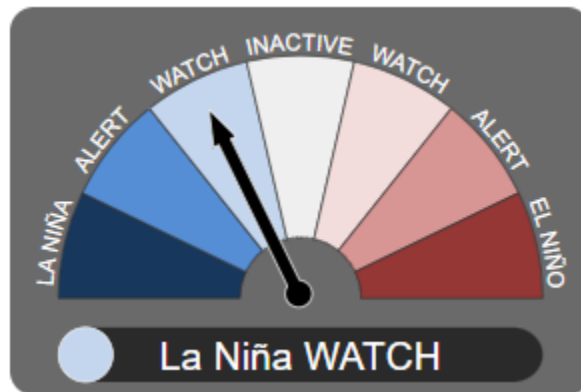
ENSO is in neutral state and while there are still some indications that a La Niña will develop during the next few months, the likelihood of SSTs reaching the La Niña threshold during the next few months has diminished. The atmospheric indicators, such as trade winds along the equator and cloud patterns, have at times been indicative of a developing La Niña, but not consistently. The IRI forecast leans more strongly to the expectation of a La Niña during the coming summer, while the Australian Bureau of Meteorology model data are more indicative of ENSO neutral conditions this coming summer.

The graph below shows the International Research Institute for Climate and Society (IRI)'s latest ENSO forecast which maintains the expectation of borderline La Niña conditions by mid-summer:



International Research Institute for Climate and Society- <http://iri.columbia.edu/>

Likewise, the Australian Bureau of Meteorology keeps their outlook to “La Niña Watch”



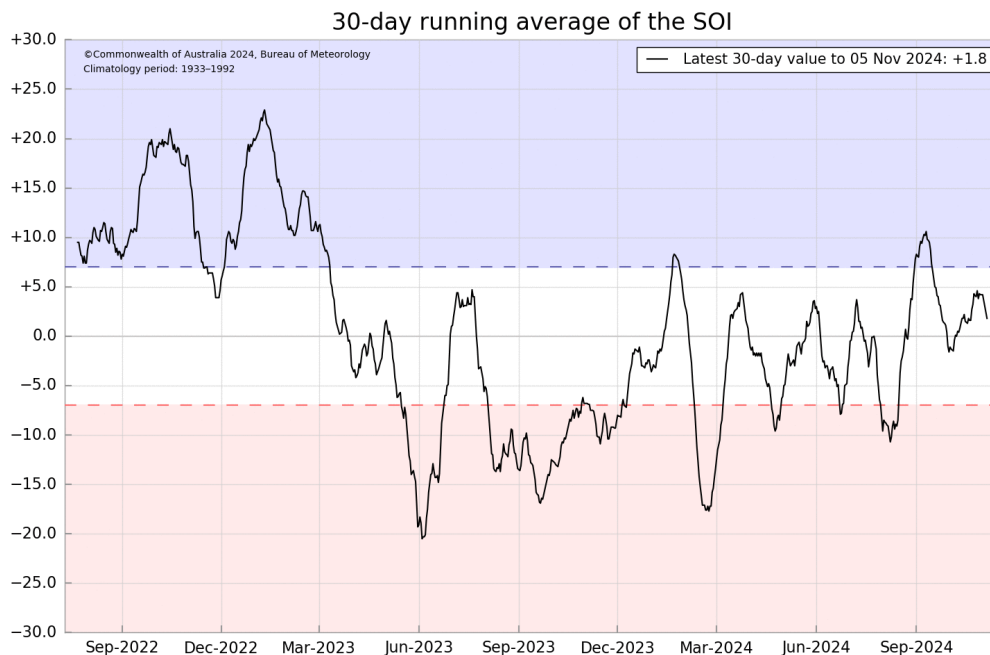
Australian Bureau of Meteorology - <http://www.bom.gov.au>

In their most recent update (issued 10 October), the **IRI** notes that “As of mid-September 2024, ENSO-neutral conditions persist in the western equatorial Pacific, while oceanic and atmospheric indicators started to show signs of La Niña development, including a sustained strengthening of trade winds, and reduced convection over the central-eastern Pacific during last two months. In line with the strengthened trades, the subsurface cold temperature anomalies have also strengthened during recent weeks. The IRI ENSO prediction plume forecasts equal chances for ENSO-neutral conditions and La Nina for Sep-Nov, 2024. Borderline La Niña conditions are forecasted during Oct-Dec (60% chances) that continue during the boreal winter. ENSO-neutral conditions subsequently re-emerge as the most likely during the boreal spring and remain so till the end of the forecast period.”.... <https://iri.columbia.edu>

In their most recent update (29 October), the **Australian Bureau of Meteorology** states that “The El Niño–Southern Oscillation (ENSO) remains neutral, with sea surface temperatures (SSTs) in the central equatorial Pacific Ocean at ENSO-neutral levels. Atmospheric indices, such as those related to patterns of surface pressure, cloud and trade winds, are broadly consistent with an ENSO-neutral state. While some atmospheric indices have displayed La Niña-like signals over recent months, a consistent/sustained shift has not been observed.

The Bureau's model suggests SSTs are likely to remain within the ENSO-neutral thresholds ($-0.8\text{ }^{\circ}\text{C}$ to $+0.8\text{ }^{\circ}\text{C}$) throughout the forecast period to February 2025. Of the 6 other climate models surveyed, only one model suggests SSTs in the tropical Pacific are likely to exceed the La Niña threshold (below $-0.8\text{ }^{\circ}\text{C}$) throughout November to February, which is sufficient time to be classified as a La Niña event. All models forecast neutral ENSO values by March...” - <http://www.bom.gov.au>.

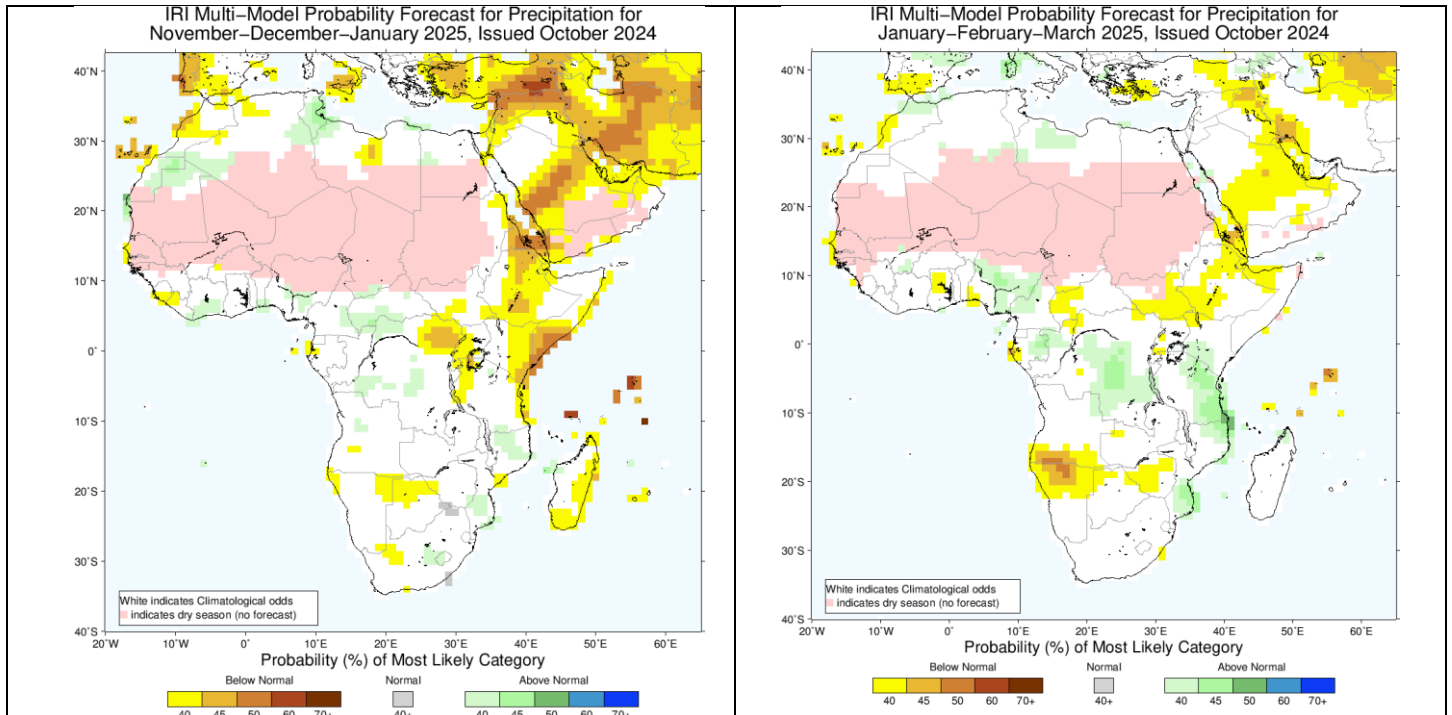
The 30-day Southern Oscillation Index (SOI) is currently +1.8 and therefore representing atmospheric pressure patterns in the Australia – Pacific region indicative of ENSO Neutral conditions. The SOI is however slowly trending more positive.



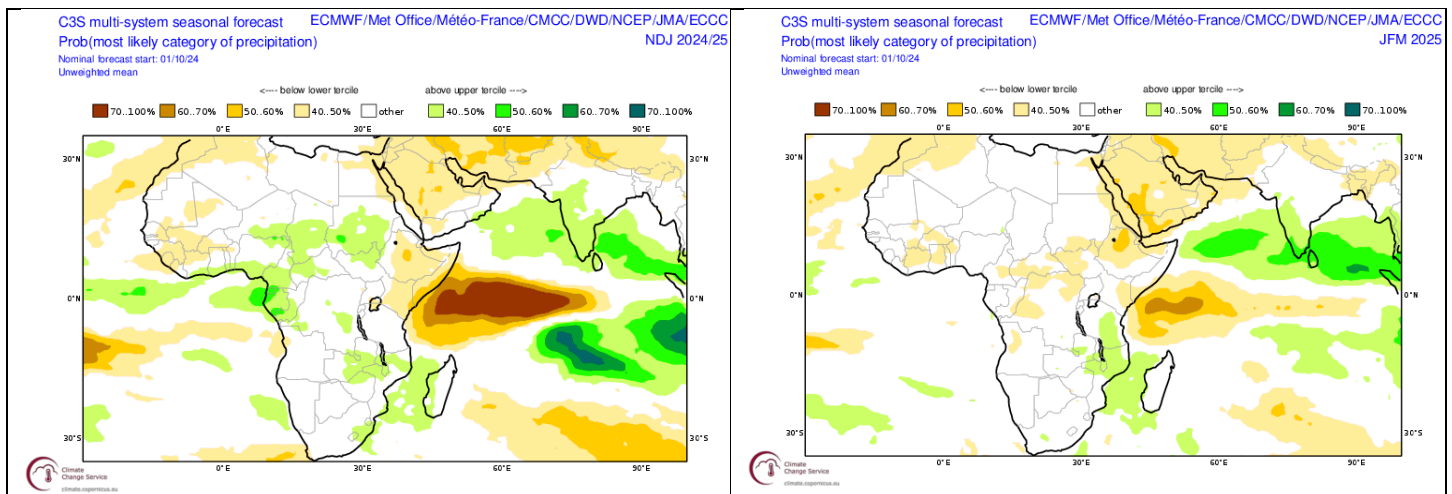
Australian Bureau of Meteorology - <http://www.bom.gov.au>

Seasonal forecasts issued by various international institutions

Seasonal forecasts (updated in October 2024) remain relatively neutral for summer given the weak signal from the Pacific Ocean. For example, the IRI seasonal forecast for January to March doesn't indicate a clear signal for either wet or dry conditions over the summer rainfall region of South Africa. The overall signal over the subcontinent, with a dry bias over northern Botswana and Namibia, is associated with a larger-scale dry signal as would be present during weak El Niño conditions. With the uncertainty regarding further development of a La Niña, these forecasts will likely be adjusted later. The multi-model assimilated forecast (second pair of maps) also doesn't show any strong wet or dry signal over the summer rainfall region.



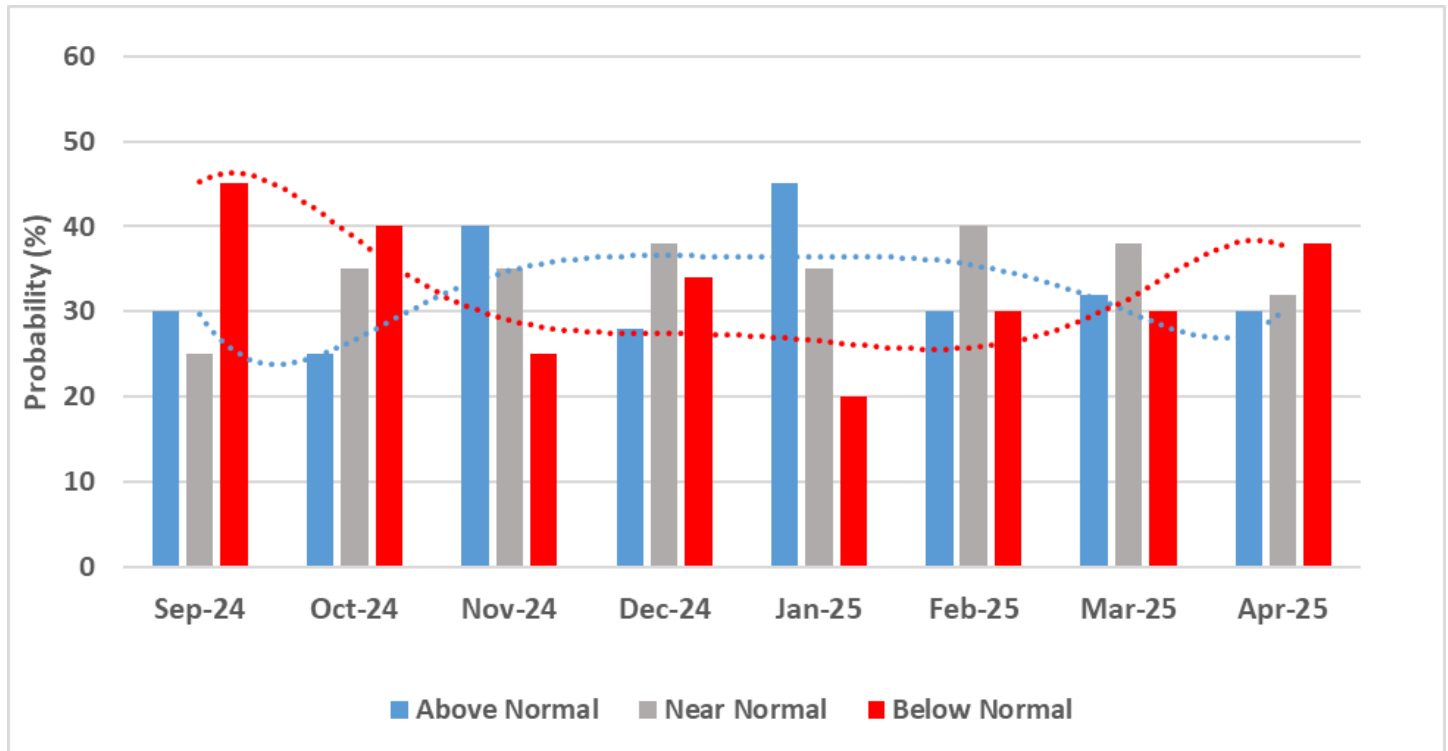
Probabilistic forecasts by the International Research Institute for Climate and Society (IRI) for rainfall for early summer (November-January 2024/25; left - Forecast issued in 2024-10) and late summer (January to March 2025, right – Forecast issued in 2024-10).



Probabilistic multi-model forecasts by the ECMWF Copernicus Programme for rainfall for mid-summer (November-January 2024/25; left - Forecast issued in 2024-10) and late summer (January to March 2025, right – Forecast issued in 2024-10).

CUMULUS seasonal outlook

This outlook is based on the typical observed rainfall patterns over the **north-eastern half** of the country (including most of the summer grain production region), associated with the cyclic variability of the global climate system. Summers that are similar to 2024/25 usually experience near normal rainfall in total, with a delayed start and a wetter signal during November and again by January/February.



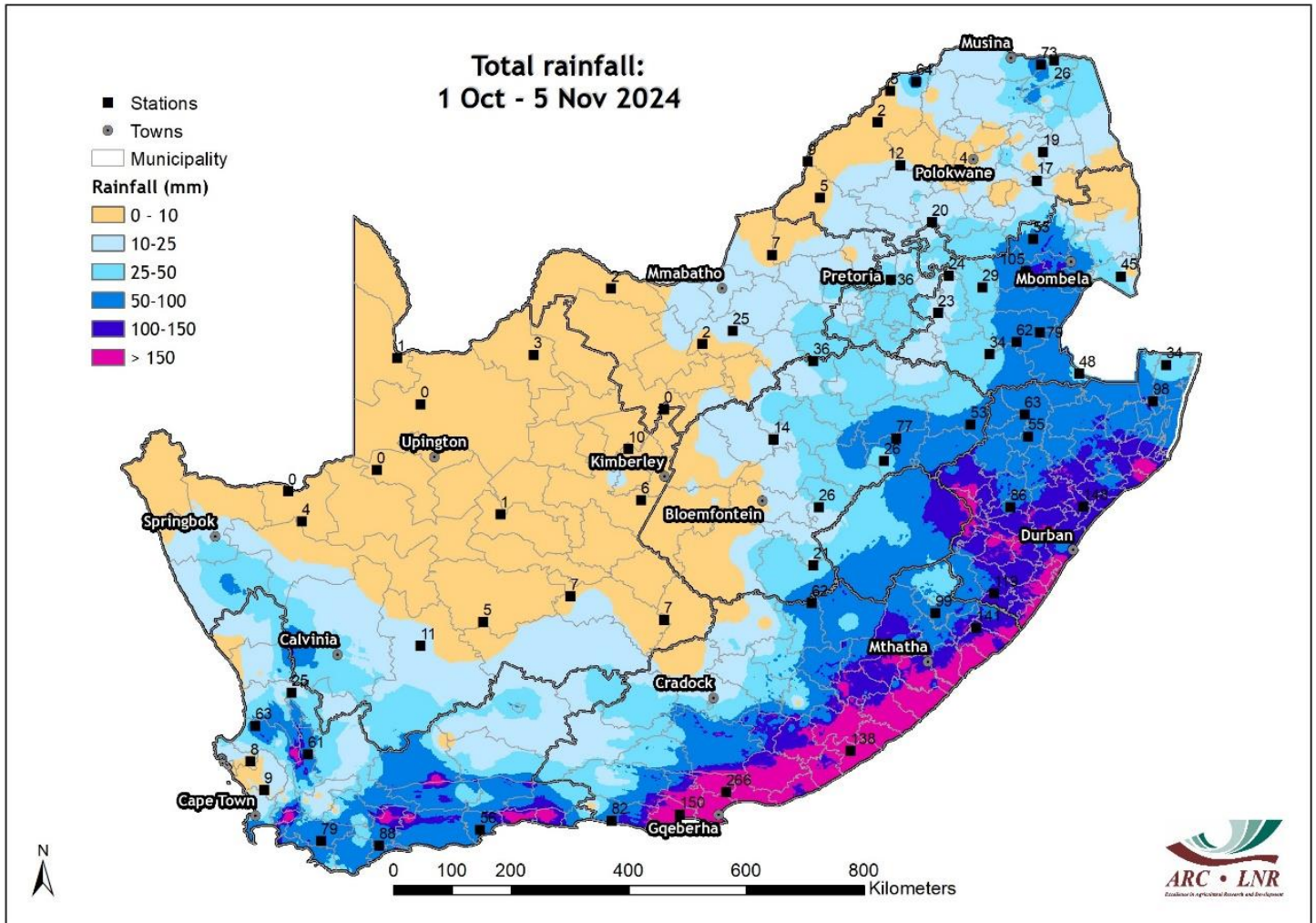
Probabilistic forecast for rainfall over the summer rainfall region, based on the natural cyclic nature of the climate system as seen in decadal variability, per month for the period September 2024 – April 2025 (Forecast issued in 2024-10).

Typical patterns during similar summers, over the north-eastern half of the summer rainfall region, are:

- September – October: Relatively dry conditions over the north-eastern half of the summer rainfall region
- November: Near-normal to above-normal rainfall over the north-eastern half of the summer rainfall region
- December: Near normal to below-normal rainfall over the north-eastern half of the summer rainfall region
- January: Above-normal rainfall over the north-eastern half of the summer rainfall region
- February-March: Near-normal rainfall over the north-eastern half of the summer rainfall region
- April: Below-normal rainfall over the north-eastern half of the summer rainfall region

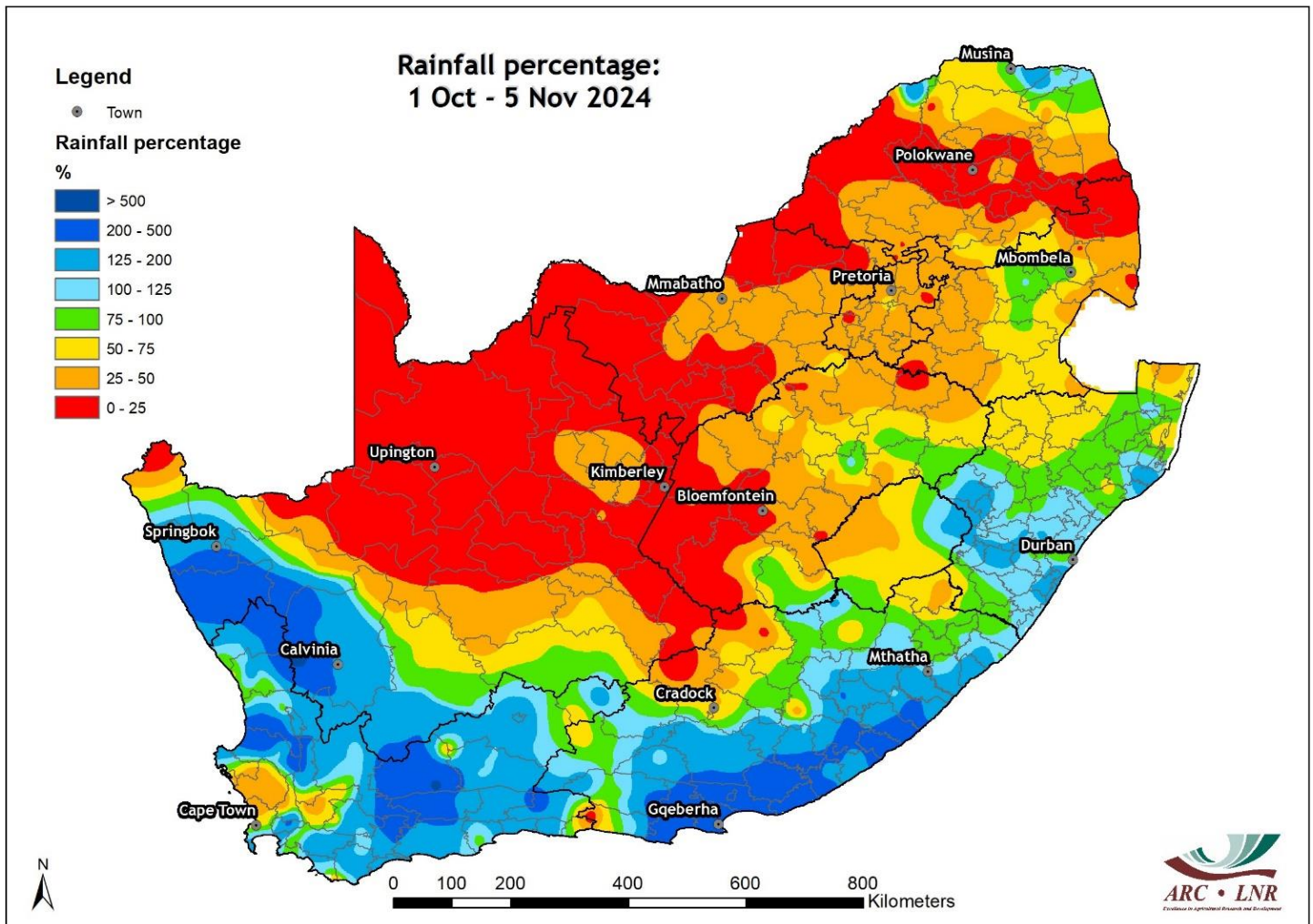
Observed conditions

Rainfall (mm): 1 Oct 2024 – 5 Nov



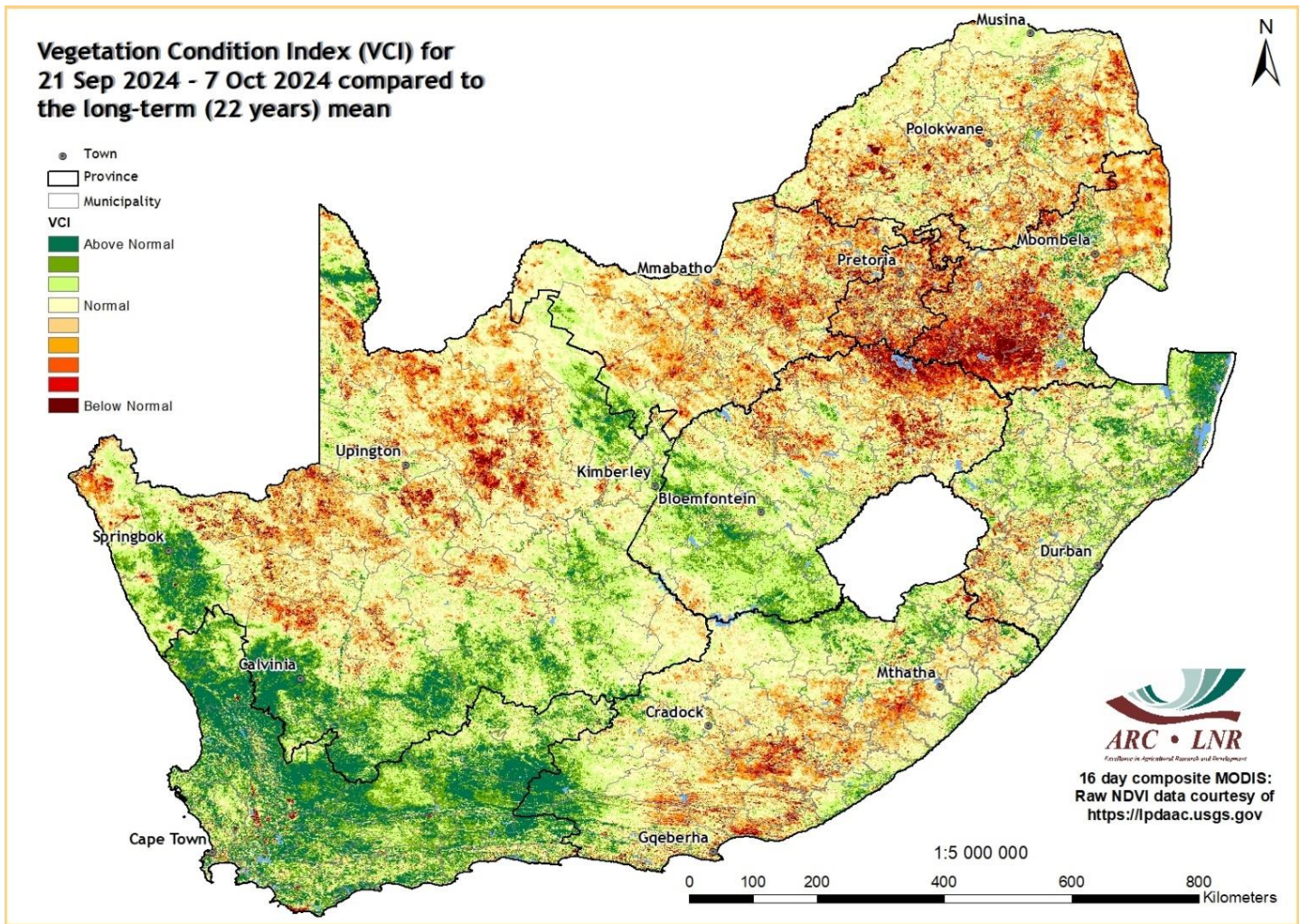
The coastal belt and adjacent interior of the Eastern Cape received in excess of 150 mm of rain during October until early November. Most of the summer-grain production region received between 10 and 40 mm of rain, with totals exceeding 50 mm over the far eastern parts of the region.

Rainfall (% of long-term mean): 1 Oct – 5 Nov 2024



The far eastern to southeastern and southern parts of the country received above-average rainfall during the period 1 October to 5 November. Most of the winter rainfall region also received above-average rainfall. Most of the summer-grain-production region received less than 50% of the long-term average.

Vegetation Condition Index: September 2024



By early October, vegetation activity is clearly below normal over the northern parts of the Free State and most of the maize region in Mpumalanga, Gauteng and North West. These are some of the areas where the planting window is relatively early, and widespread rain is urgently needed. Vegetation activity is above normal over the western to southern Free State and KZN, where spring rainfall was more favourable. Vegetation activity is also above normal over the winter rainfall region following above-normal rainfall during winter.

