



**2016-05-24**  
By: J Malherbe, R Kuschke

**Contents**

Summary ..... 2

Rainfall: 1 – 23 May 2016..... 3

Overview of expected conditions over South Africa during the next few days..... 4

    Significant weather events (24 – 30 May 2016) ..... 4

    Conditions in main agricultural production regions (24 – 30 May 2016)..... 4

    Conditions across South Africa during the next 4 days ..... 6

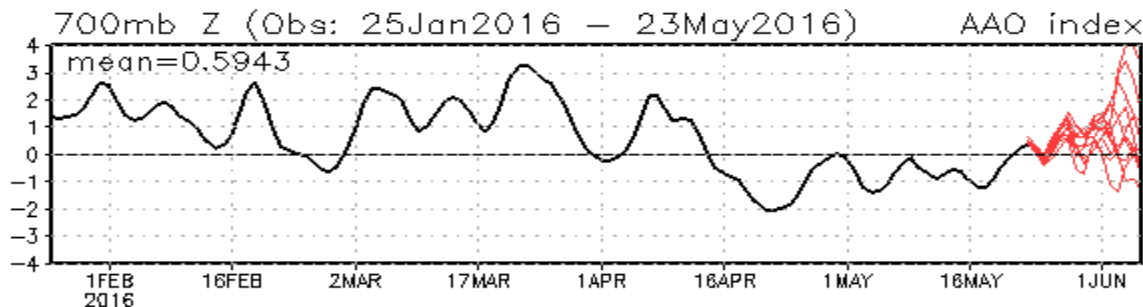
    Possible extreme conditions - relevant to agriculture..... 9

## Summary

Above-normal rain continued during May over most of the summer rainfall region. Precipitation during the month was mostly associated with the development of deep cut-off low-pressure systems over the western interior, resulting in unstable conditions with widespread rain and thundershowers over the interior. The first system (6 – 9 May) resulted in most precipitation over the western and central interior as well as heavy falls along the eastern coastal belt (due to a strong on-shore flow) while the second (13 – 15 May) resulted in most of the precipitation over the central to northeastern provinces. Totals in the order of 60 mm have occurred over large parts of the North West, Gauteng and Free State with soil moisture levels appreciating markedly. Temperature wise, pleasant autumn conditions have dominated during the last few weeks, with temperatures remaining above average and frost mostly confined to parts of the Highveld due to a lack of strong cold fronts moving across the interior. Linked to the tendency for cold fronts to remain somewhat further south in the southern African region, rainfall over the winter rainfall region, which was above normal during March and April, have ceased during May. Despite some frontal rain over the region, especially by the 23<sup>rd</sup>, totals for the month remain mostly under 20 mm over the wheat production areas.

Yet another upper-air system will be responsible for some rain over the interior during the next few days (Wednesday to Friday), but this time projections favor rainfall mostly over the northeastern parts. Frontal rain over the winter rainfall region is expected to clear today with dry weather expected for the remainder of the week.

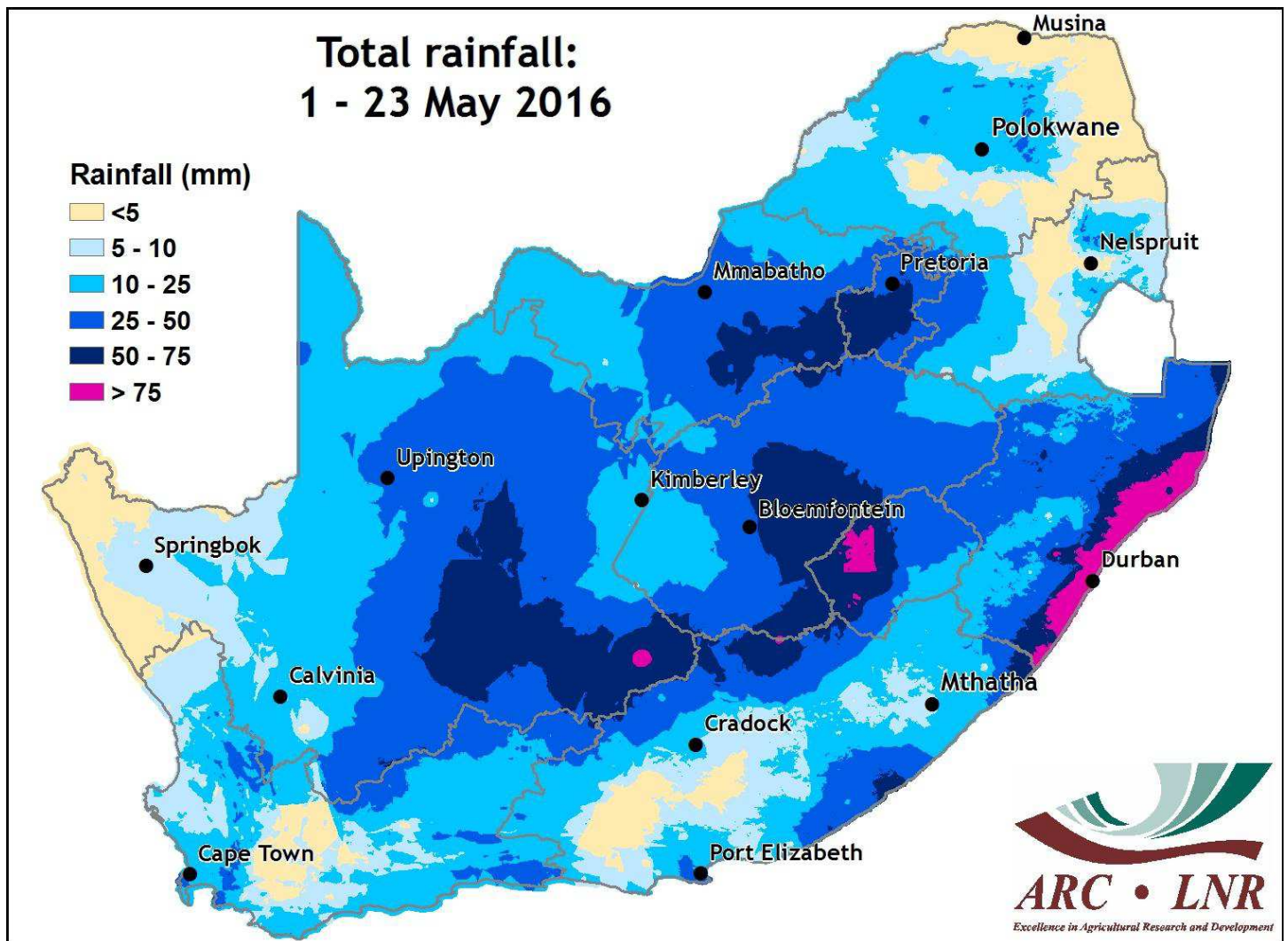
Unstable conditions over the interior, associated with upper-air lows, occurred mostly during a period when the Southern Annular Mode was in a negative phase (figure below). Usually, negative tendencies in the index are also related to more frequent rain over the winter rainfall region, but local circulation patterns didn't support this general observation during the last few weeks. Except for a short decrease over the next few days, the index is generally expected to increase during the next 2 weeks, signaling a build-up period.



The Annular Mode Website - <http://www.atmos.colostate.edu/ao/index.html>

The 2015/16 El Niño is coming to an end: *"The tropical Pacific Ocean has returned to a neutral El Niño–Southern Oscillation (ENSO) state. Sea surface temperatures across the tropical Pacific have cooled to neutral levels over the past fortnight, supported by much cooler-than-average waters beneath the surface. In the atmosphere, indicators such as the trade winds, cloudiness near the Date Line, and the Southern Oscillation Index have also returned to neutral levels. Outlooks suggest little chance of returning to El Niño levels, in which case mid-May will mark the end of the 2015–16 El Niño..... Changes in the tropical Pacific Ocean and atmosphere, combined with current climate model outlooks, suggest the likelihood of La Niña forming later in 2016 is around 50%....."* - Australian Bureau of Meteorology - <http://www.bom.gov.au>

## Rainfall: 1 – 23 May 2016



Most of the rain fell over the interior during May to date. Winter rainfall areas received less than 25 mm for the most part.

## Overview of expected conditions over South Africa during the next few days

### Significant weather events (24 – 30 May 2016)

The main feature for the remainder of the week will be the development of a weak upper-air cut-off low over the northern interior, expected to move eastwards during the 25<sup>th</sup> and 26<sup>th</sup>, resulting in some showers and thundershowers over the northeastern areas. Falls are expected to remain between 1 and 20 mm. Rain over the winter rainfall region is expected to clear today, with drier weather during the next few days.

As the frontal system resulting in some showers on Monday over the winter rainfall region is followed by a strong ridge of the Atlantic Ocean Anticyclone spreading rainfall along the southern to eastern coastal areas. Due to the ridging to the south of the country, cooler moist air will invade the country from the east, supporting precipitation over the northeastern parts in the vicinity of the upper-air low with the dominant flow over the country becoming easterly, curving to a northerly flow in the west. While cloudy and cooler conditions will dominate in the east until Friday, the off-shore component to the wind will result in higher temperatures over the western parts.

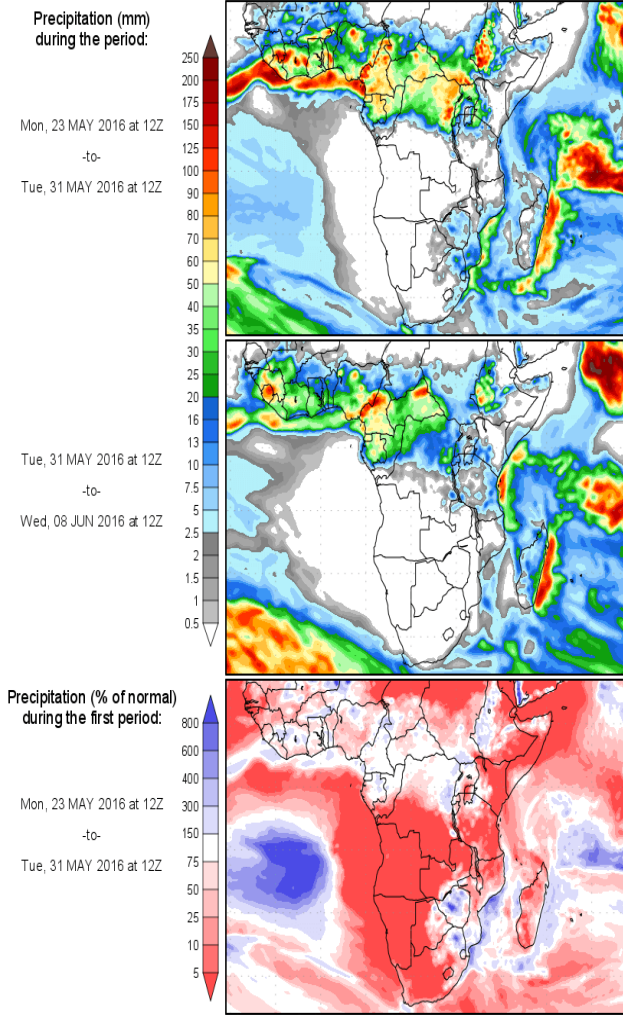
On average, temperatures over the western parts will be near normal to above normal, but somewhat below normal over the northeastern parts (see maps on next page). The below-normal temperatures over the northeastern parts will result rather because of lower day-time temperatures due to cloud cover and the easterly on-shore flow, and not so much due to low minimum temperatures. Due to the summery nature of circulation patterns, rainfall over the northeastern part will be somewhat above normal and will remain below normal, according to current projections, over the winter rainfall region. .

### Conditions in main agricultural production regions (24 – 30 May 2016)

**Maize production region:** Sunny and mild conditions will give way to cloudy and cool conditions, with showers especially over the eastern areas later this week, clearing again by the weekend.

**Swartland, Cape Wine Lands and Ruens:** Rain with a westerly to northwesterly wind over the region will give way to clear conditions. Warming is expected later in the week as the flow becomes more northerly to northeasterly. High temperatures may occur over the northern parts of the West Coast.

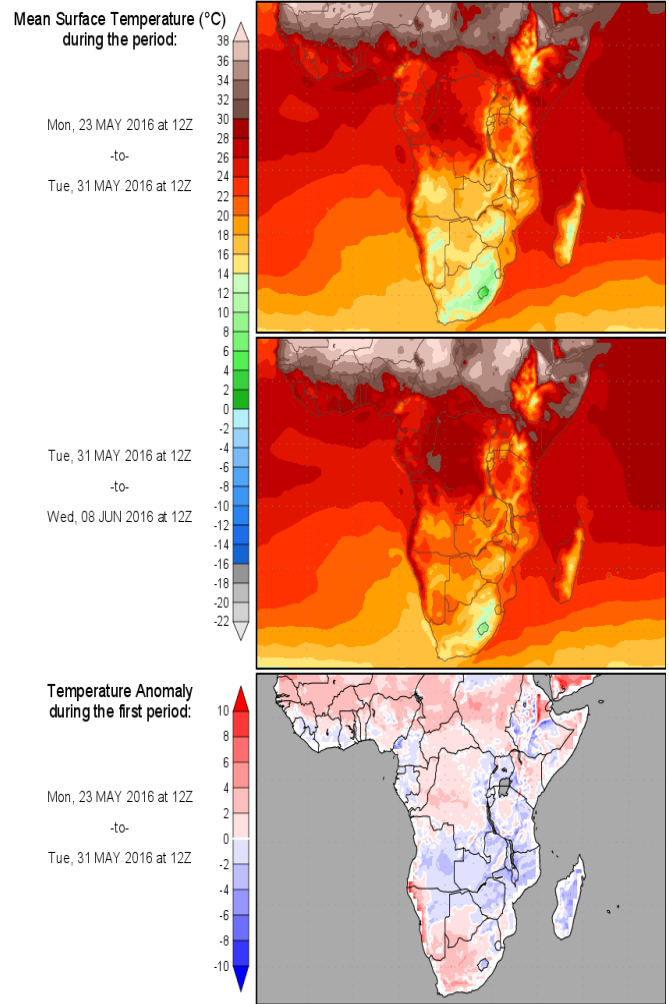
### Precipitation Forecasts



Precipitation forecasts from the National Centers for Environmental Prediction.  
 Normal rainfall derived from Xie-Arkin (CMAP) Monthly Climatology for 1979-2003.  
 Forecast Initialization Time: 12Z23MAY2016

GIADS/COLA

### Temperature Forecasts



Temperature forecasts from the National Centers for Environmental Prediction.  
 Normal Temperature derived from CRU monthly climatology for 1901-2000.  
 Forecast Initialization Time: 12Z23MAY2016

GIADS/COLA

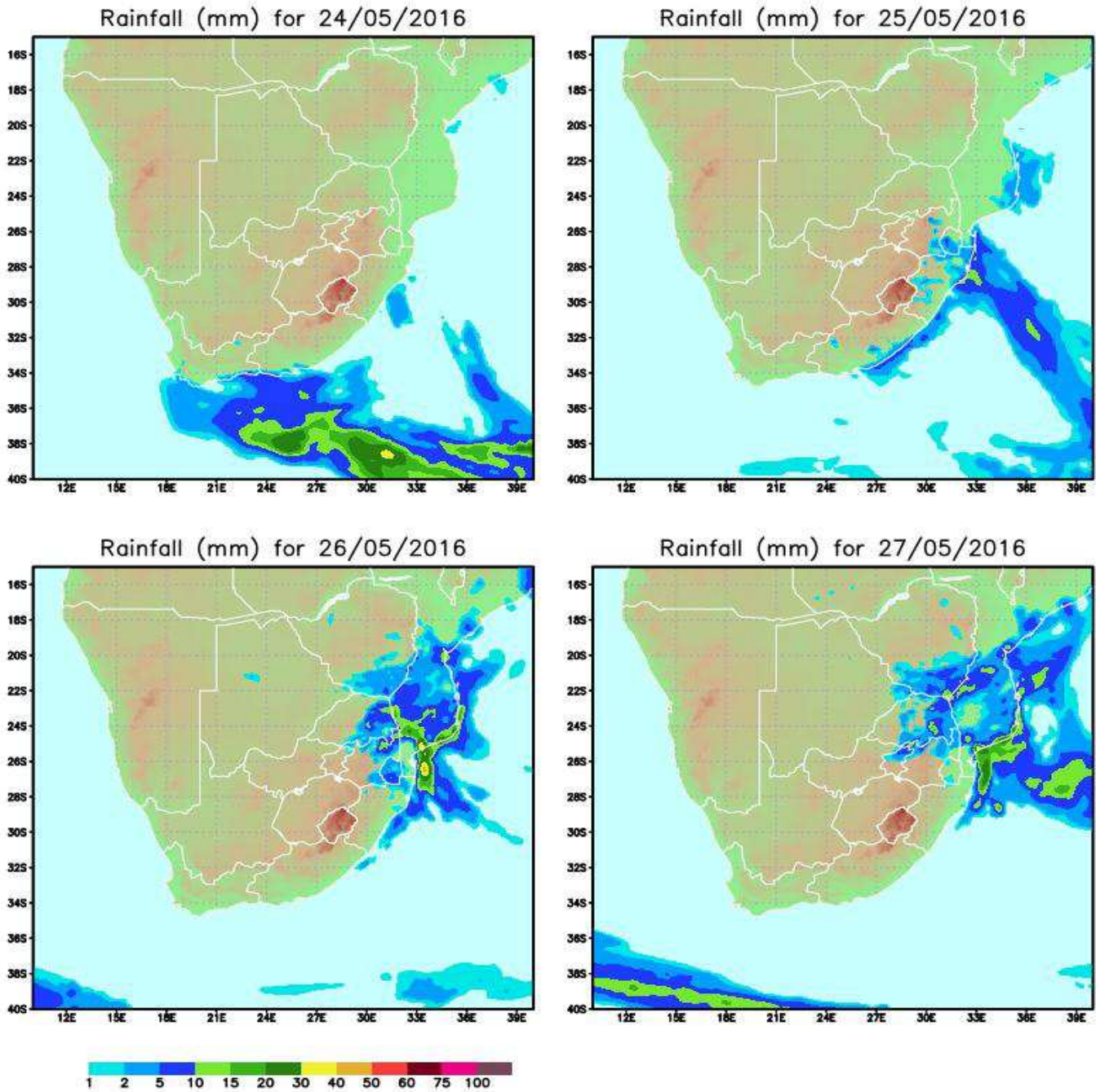
Center for Ocean-Land-Atmosphere Studies (COLA) and Institute of Global Environment and Society (IGES) – <http://Wxmaps.org>



# Conditions across South Africa during the next 4 days

## Rainfall

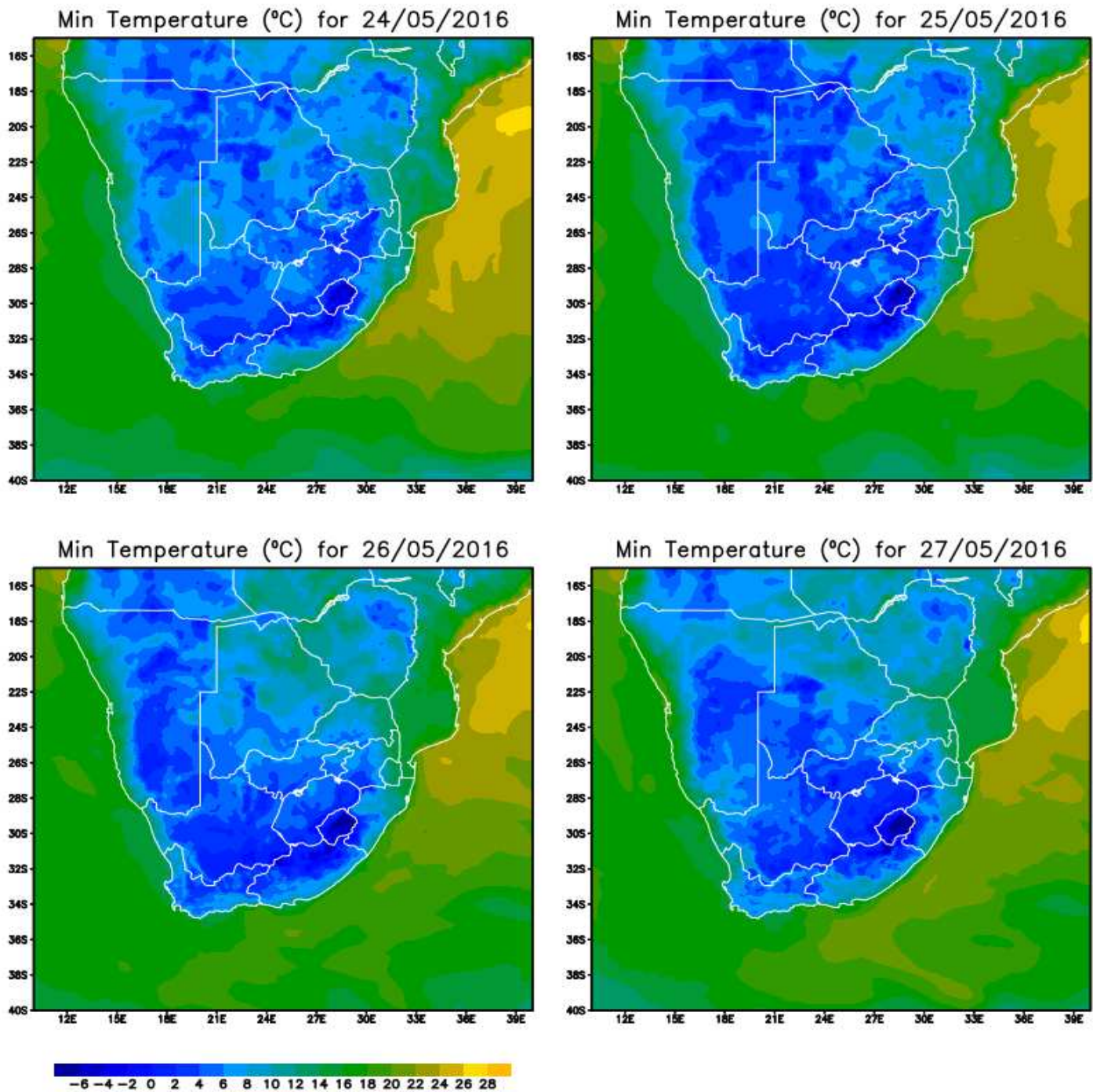
Produced by: The Climate Studies, Modelling and Environmental Health Group of the CSIR.



Residual showers are still possible in the southwest during the beginning of the period. As the high-pressure system ridges around the country, rain and showers are expected along the southern coastal areas, spreading northeastwards along the coast, and finally, with the aid of upper-air instability, into the northeastern interior by Thursday.

## Minimum temperatures

Produced by: The Climate Studies, Modelling and Environmental Health Group of the CSIR.



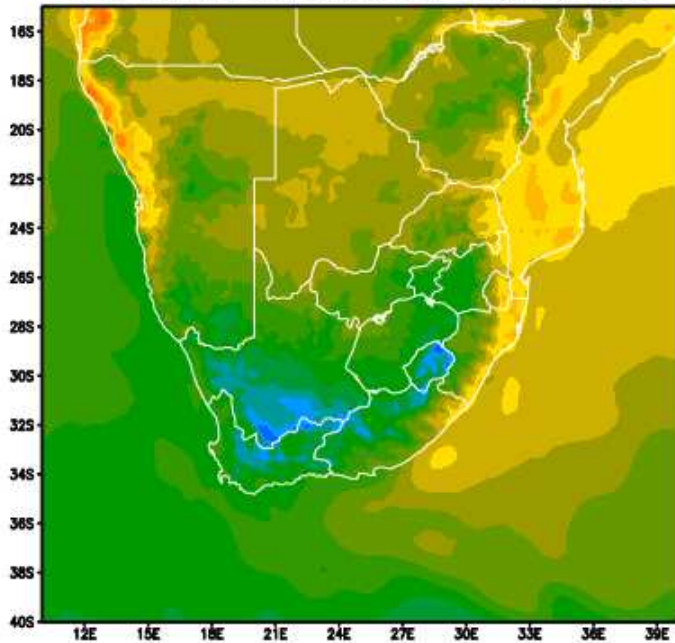
Minimum temperatures will remain fairly similar over most of the country, but increase somewhat in the northeast due to the onshore flow, moisture and cloud cover.



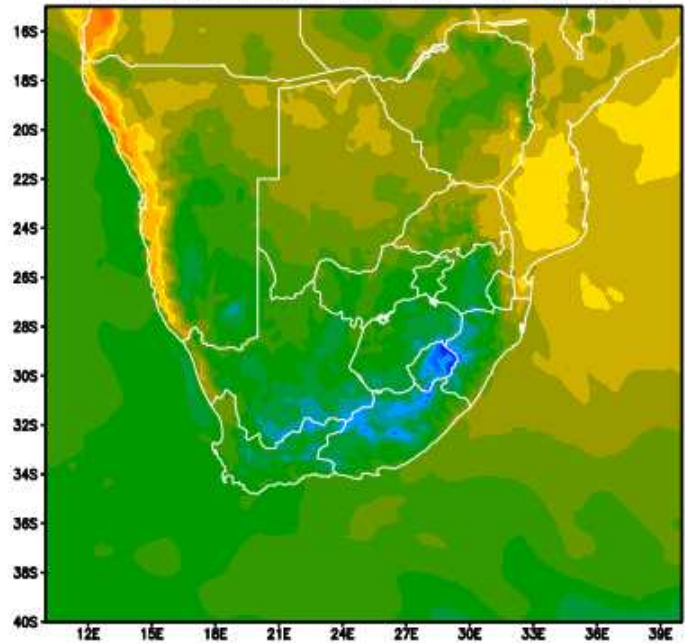
## Maximum temperatures

Produced by: The Climate Studies, Modelling and Environmental Health Group of the CSIR.

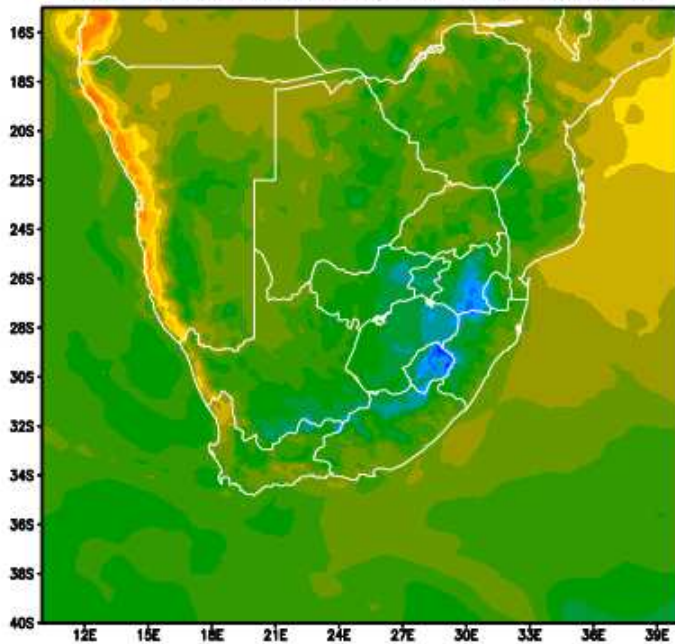
Max Temperature (°C) for 24/05/2016



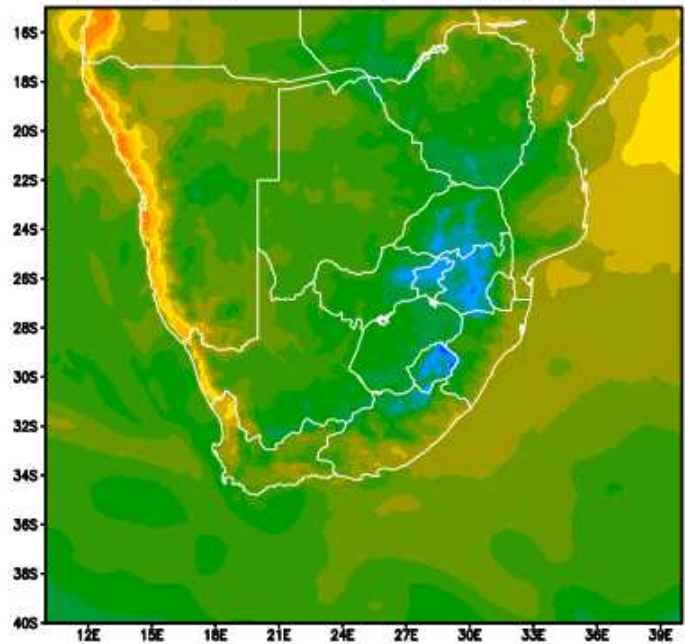
Max Temperature (°C) for 25/05/2016



Max Temperature (°C) for 26/05/2016



Max Temperature (°C) for 27/05/2016



Due to the developing easterly flow over the country, daytime temperatures will decrease over the northeastern parts, but increase over the southwestern interior and West Coast as well as along the Garden Route.



## 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 one single weather model (GFS atmospheric model - *Center for Ocean-Land-Atmosphere Studies (COLA) and Institute of Global Environment and Society (IGES)* – <http://Wxmaps.org>) considered here in the beginning of a week-long (starting 24 May) period. It is therefore advised to keep track of warnings that may be issued by the SAWS ([www.weathersa.co.za](http://www.weathersa.co.za)) as the week progresses.

According to current model projections (GFS atmospheric model) of weather conditions during the coming week, the following may be deduced:

- An off-shore flow over the southeastern to eastern parts today may enhance the probabilities for the development and spread of wild fires over parts of the Eastern Cape and KwaZulu-Natal today
- Cloudy, wet and cool to cold conditions will occur over the eastern and northeastern high-lying areas by Thursday and Friday
- Warm to hot conditions may develop over parts of the West Coast and possibly the southern parts later this week and the weekend due to an off-shore flow