

---

# Seasonal Climate Watch

October 2017 to February 2018

Date issued: Sep 29, 2017

## I. Overview

During the last month there has been a drastic change in the expected El Niño Southern Oscillation (ENSO) phase. The current predictions now indicate a high likelihood for a weak La Niña to develop during the early and mid-summer months (Nov-Dec-Jan and Dec-Jan-Feb). This, supported by the regional forecasts, indicates that the summer rainfall areas (north-eastern parts of South Africa) can expect above-normal rainfall during these periods. However regional forecasts as well as conditions over the Indian Ocean suggests that the late spring period (Oct-Nov-Dec) may receive below-normal rainfall in parts of the summer rainfall areas.

Temperatures mimic the rainfall outlook, with warmer temperatures expected across the country during late spring, but some areas across the interior of the country are expected to be cooler during early and late summer, likely connected to increased rainfall conditions.

It is important to note that even though above-normal rainfall is predicted over the south-western parts of the country, it is not expected to be significant and the current drought conditions in the area are expected to deteriorate further during the summer months.

The South African Weather Service will continue its dissemination of any future assessments that may provide more clarity on the current expectations for the coming seasons.

## 2. Discussion: State of Climate Drivers

### 2.1 El Niño Southern Oscillation

Observations show that [ENSO](#) (El Niño Southern Oscillation) is continuing towards a cool phase but is still currently in a neutral phase. Forecasts suggest that ENSO will continue towards this cool phase, with at least a weak La Niña expected to develop during early and mid-summer. A La Niña event typically enhances rainfall activities for the summer rainfall areas of South Africa.

### 2.2 Indian Ocean Dipole

The Indian Ocean Dipole ([IOD](#)) forecasts indicate a slow evolution towards a positive phase of the tropical IOD for Spring 2017 and indicates favourable rainfall for the Equatorial East African region for that period. For South Africa, however, the conditions over the south-west Indian Ocean are more important. Current conditions south of Madagascar and the Mozambique channel indicate cooler ocean temperatures which could contribute to a below-normal late spring season over parts of South Africa. The Indian Ocean Dipole, both tropical and subtropical, can enhance moisture transport towards the continent during positive phases and degrade the transport during negative phases.

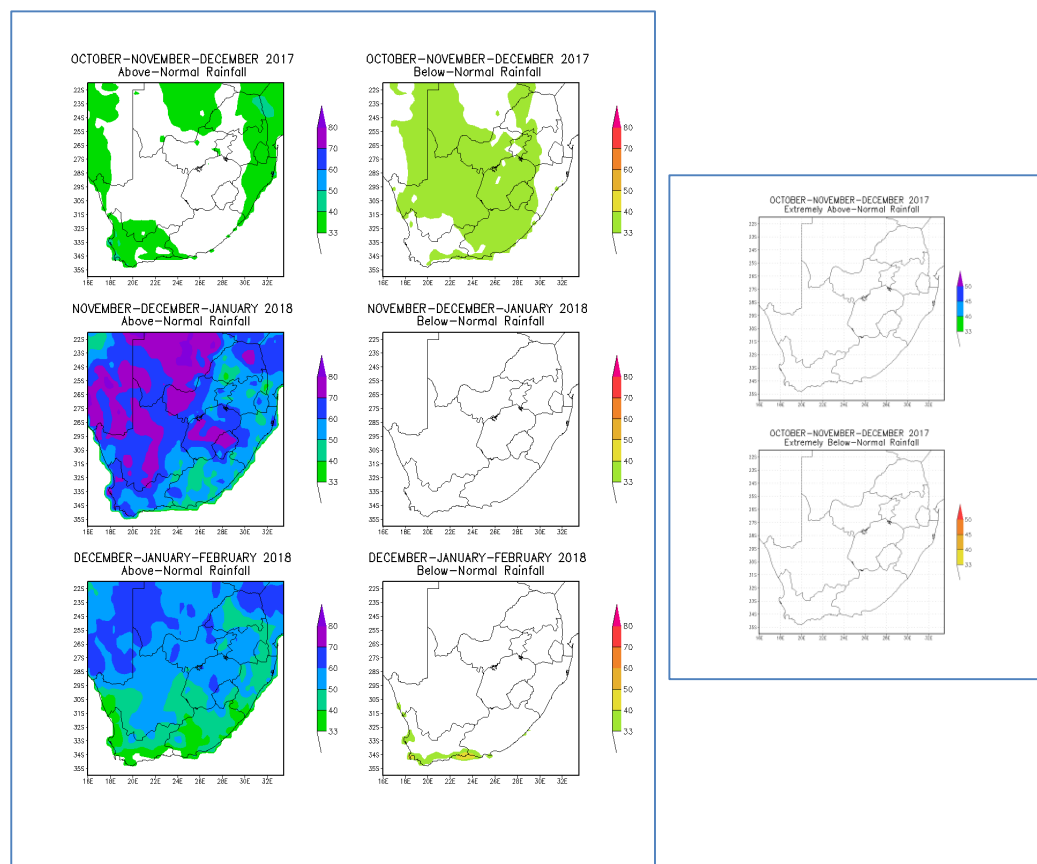
### 2.3 Southern Annular Mode

The Southern Annular Mode ([SAM](#)) has remained in a positive phase over the last few weeks, and the forecast indicates a weakening of the system for the coming weeks. The effect of SAM is expected to be minimal during the summer periods as it mostly impacts winter rainfall systems which will move pole-wards in summer and are unlikely to impact the country.

### 3. Climate Forecast Details

#### 3.1 Rainfall

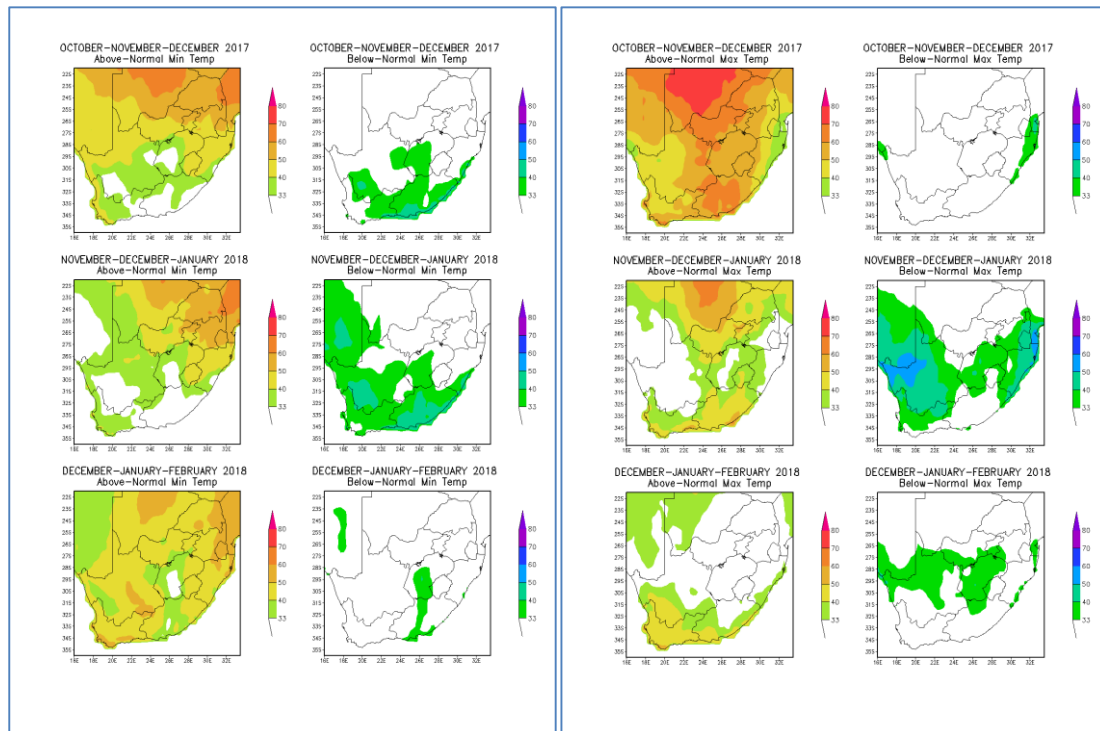
The forecasting system is currently very uncertain on a specific direction of rainfall during late spring; however, there are strong indications that wetter conditions could be expected from early to mid-summer. This is, however, only expected to be significant for the summer-rainfall areas of South Africa.



**Figure 1:** Rainfall forecasts for the three overlapping seasons valid for the period of October 2017 to February 2018 and extreme forecasts for October to December 2017 season (right panel). Forecast quality for total seasonal rainfall is indicated in the Appendix (Figure A1).

### 3.2 Minimum and Maximum Temperatures

During late spring the temperatures are mostly expected to be above-normal, however the indications for early and mid-summer are that cooler conditions will develop in significant parts of the country. This is likely connected with the above-normal summer rainfall expected later in the period.



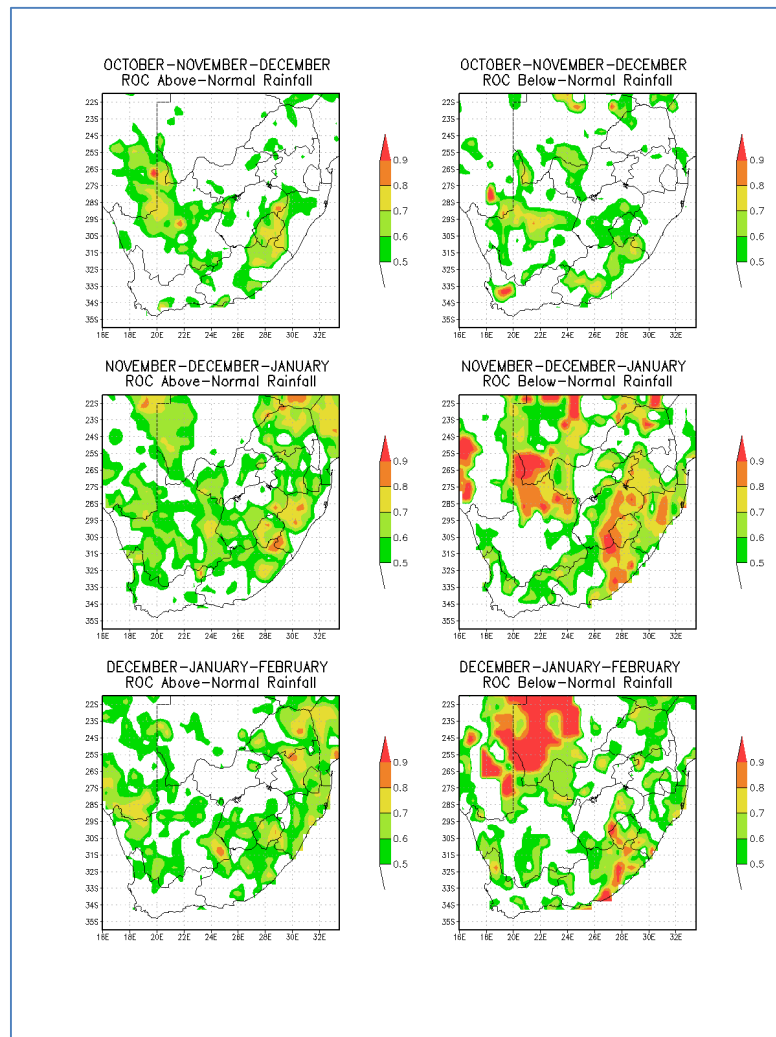
**Figure 2:** Probabilistic minimum (left panel) and maximum (right panel) temperature forecasts for the three overlapping seasons valid for the period of October 2017 to February 2018. Forecast quality for average seasonal temperature is indicated in the Appendix (Figure A2).

#### 4. Contributing Institutions

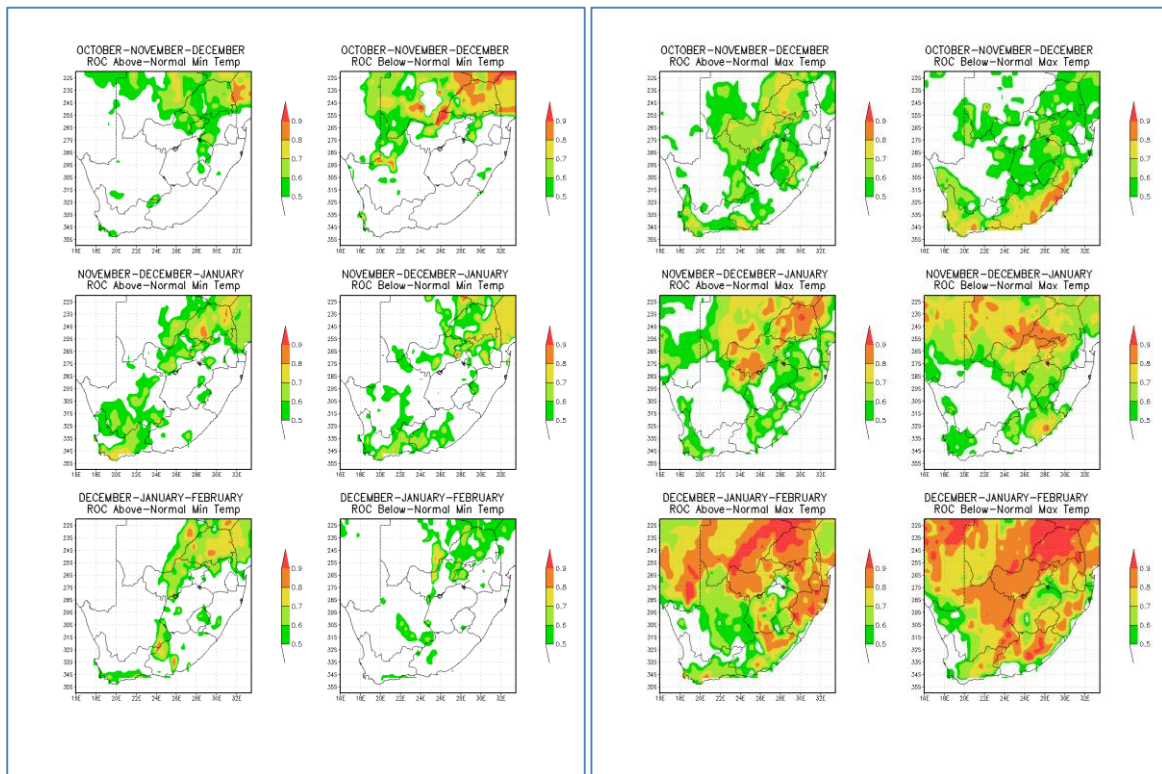
All the forecasts are a result of an objective multi-model prediction system developed at the South African Weather Service. This system consists of long-range forecasts produced by the following institutions:



## 5. Appendix



**Figure AI:** The skill of the forecasting system in discriminating wet or dry events during the forecasting period as shown in the caption of each plot. Those regions with no shades imply that the forecasts are not better than chance.



**Figure A2:** The skill of the forecasting system in discriminating hot or cold events during the forecasting period as shown in the caption of each plot. Those regions with no shades imply that the forecasts are not better than chance.