South African Weather Service
ISO 9001 Certified Organisation

Seasonal Climate Watch

June to October 2017

Date: May 25, 2017

1. Advisory

The forecasting system does not indicate a strong enough signal to determine the expected rainfall conditions during mid-winter (Jun-Jul-Aug) over the winter-rainfall areas of South Africa. There is still a strong uncertain component associated with winter seasonal outlooks in general for South Africa. Other international centres also indicate similar uncertainties in their forecasts. Temperature forecasts however indicate warmer conditions for most parts of the country during mid and late winter.

Moreover, there is still an expectation that an El Niño event would occur during the coming spring/summer seasons; however, the likelihood has decreased from the previous month's expectation. This event is usually, but not exclusively, associated with drier summer-rainfall conditions.

2. Recommendation

It is not possible to give a clear indication regarding the expected rainfall conditions for the winter-rainfall area of South Africa, as the initial prospect for above-normal rainfall has diminished. Due to the negative impact of drier conditions that could possibly occur, it is recommended that current drought measures in place continue for the foreseeable future.

Even with the decreased likelihood of an El Niño event to occur, it is still at this stage the most likely expected outcome during the latter part of 2017. Precautionary measures are still advised where possible, in the event that the expected El Niño event does have its usual impact of drier summer-rainfall conditions. It is therefore very important to keep monitoring any developments that may provide more clarity on the current expectations for the coming seasons.

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3. State of Climate Drivers

Observations show that ENSO (El Niño Southern Oscillation) is gradually making its way from a cool to a warm phase. It is, however, still expected to remain within the neutral phase for the first half of 2017. Forecasting systems currently indicate a likelihood for an El Niño phase to be in effect towards the spring season. The likelihood has decreased from previous assessments and as we near the end of the winter period these forecasts tend to be more reliable.

The Indian Ocean Dipole (IOD) forecasts indicate a slow evolution towards a positive phase of the tropical IOD for spring 2017, even though it is less certain than previous indications. This could indicate 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. Depending on the south-western Indian Ocean conditions during spring this year, above-normal rainfall could occur over the east coast of South Africa.

The Southern Annular Mode (SAM) has been showing a tendency towards a negative phase since November. However, the system is hovering around the neutral mark at this stage, with a slight tendency of a positive phase during the next few weeks. A negative (positive) phase of the SAM and the weakening (strengthening) of the polar vortex are often associated with colder (warmer) and wetter (drier) conditions over the winter-rainfall region of South Africa, through frontal activities. This system, however, is not predictable on a seasonal timescale, which complicates the winter assessment for the winter-rainfall region at this stage.

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4. Climate Forecast Details

4.1 Rainfall

The forecasting system is currently very uncertain on a specific direction of rainfall throughout the country. This is particularly common during winter as the forecasting systems are unable to predict the important rainfall bearing system this time of the year.

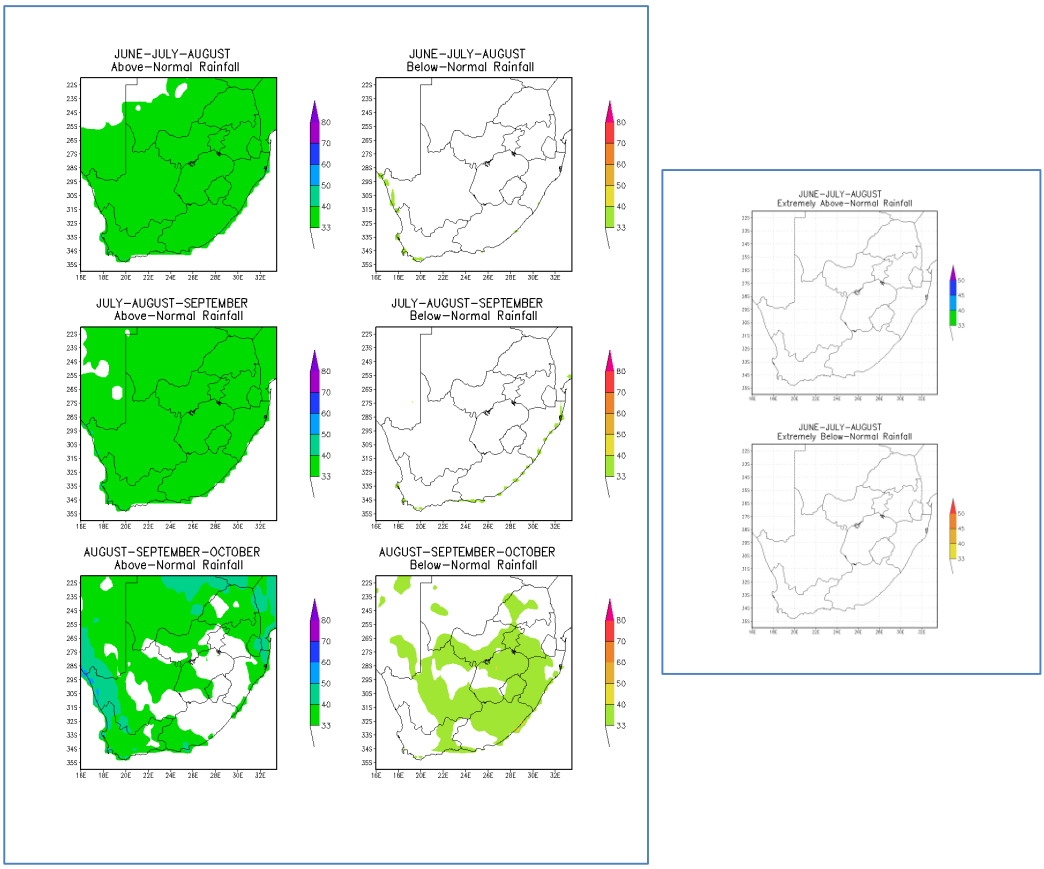

Figure 1: Rainfall forecasts for the three overlapping seasons valid for the period of June to October 2017 and extreme forecasts for June to August 2017 season (right panel). Forecast quality for total seasonal rainfall is indicated in the Appendix (Figure A1).

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4.2 Minimum and Maximum Temperatures

Despite the fact that temperature forecasts were inconsistent during the past few months, it is expected that temperatures across the country will be higher with the exception of the south-western parts, especially during mid-winter.

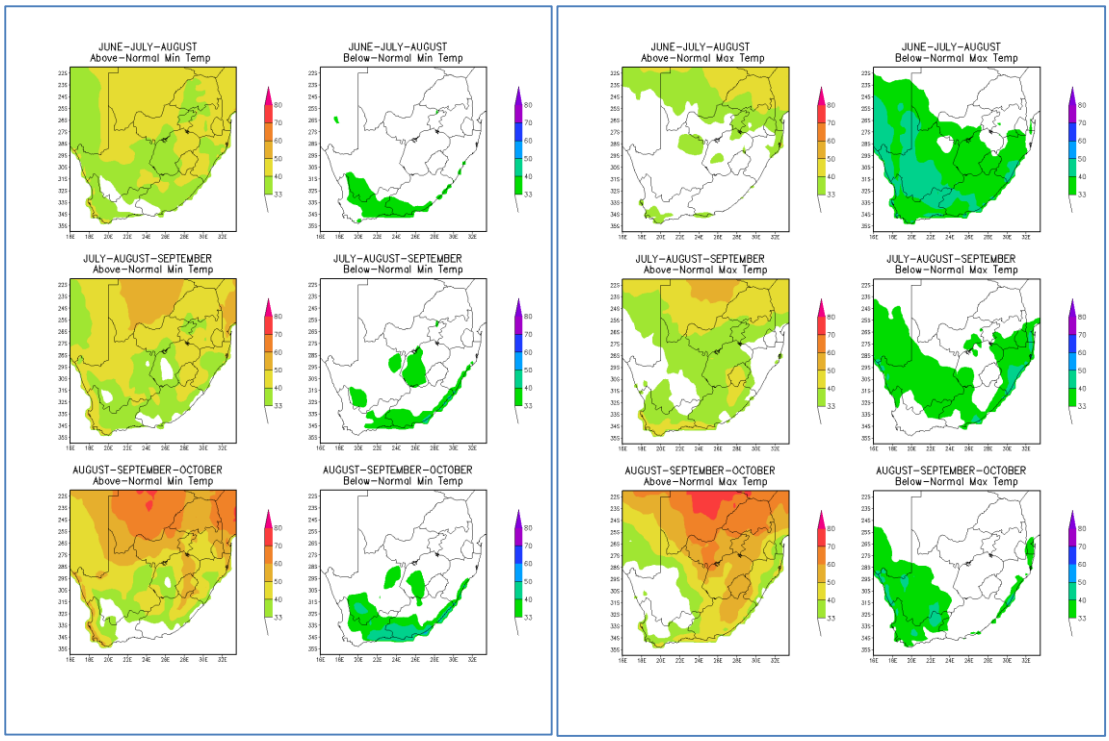

Figure 2: Probabilistic minimum (left panel) and maximum (right panel) temperature forecasts for the three overlapping seasons valid for the period of June to October 2017. Forecast quality for average seasonal temperature is indicated in the Appendix (Figure A2).

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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:

Appendix

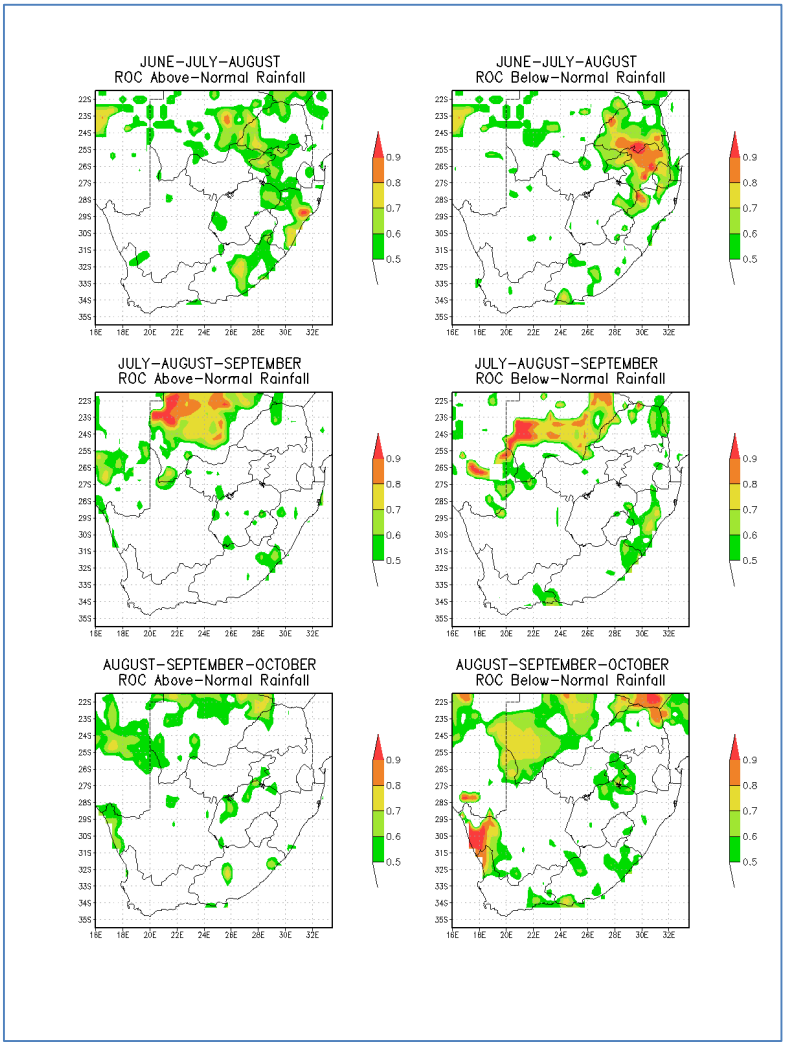

Figure A1: The skill of the forecasting system in discriminating wet or dry events during the forecasting period as shown in the caption of each plot. Those regions with no shades imply that the forecasts are not better than chance.

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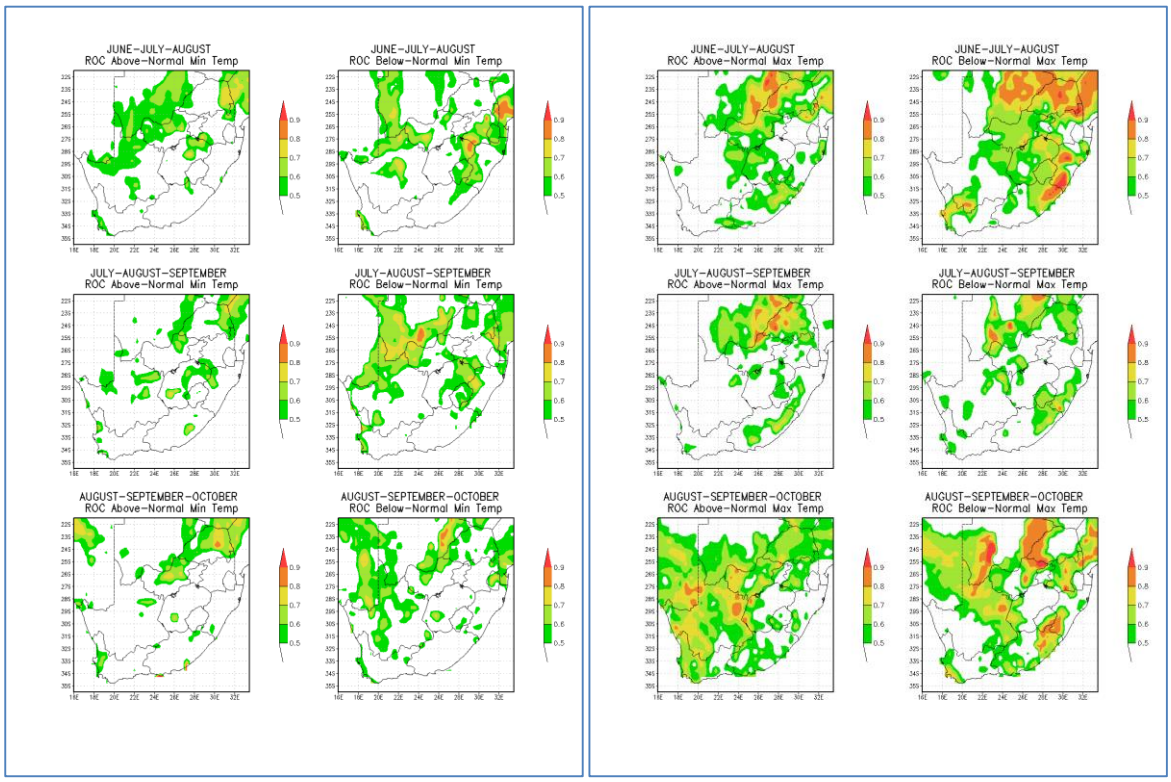

Figure A2: The skill of the forecasting system in discriminating hot or cold events during the forecasting period as shown in the caption of each plot. Those regions with no shades imply that the forecasts are not better than chance.

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