South African Weather Service
ISO 9001 Certified Organisation

Seasonal Climate Watch

May to September 2017

Date: May 03, 2017

1. Advisory

There is an indication that some parts of the winter rainfall season may receive much needed above-normal rainfall during early winter (May-June-July). However there is still a strong uncertainty and low confidence component associated with this outlook as the skill levels remain low for winter rainfall forecasts across the country. Other international centres also indicate that there is at this stage no signal that would indicate which direction the rainfall might take for the winter rainfall areas.

Temperature forecasts are inconsistent among forecasting systems, however, the majority seem to indicate a higher chance of colder conditions to occur over the north-east of the country and warmer conditions over the south-west. At this stage there is no forecast available for the next spring and summer seasons starting around September/October 2017. The only indication of what might be in store, is from the ENSO forecast. Currently there is an expectation that an El Niño event would occur during the next spring/summer seasons. This event is usually, but not exclusively, associated with drier summer rainfall conditions.

2. Recommendation

There has been continuous indications of above-normal rainfall for the drought stricken areas in the south west of the country. Unfortunately none of those forecasts show a high degree of confidence and as such should be viewed cautiously. Due to the negative impact of drier conditions that could possibly occur, it is recommended that plans be in place to alleviate the impacts of such an event.

The next outlook for spring/summer is not favourable with regards to rainfall and the public is reminded that if El Niño does occur and exert its usual impact, the country might once again be put under strain with regards to water resources. It is important to note, however, that the summer forecast is not available yet, so there is no indication of what impact (if any) this El Niño event might have on summer rainfall. Precautionary measures are still advised where possible, in the event that the expected El Nino event does have its usual impact. 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 an increased likelihood for an El Niño phase to be in effect towards the spring season. The likelihood has increased from previous assessments and as we near the winter period these forecasts improve in reliability.

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 for spring rainfall regions (east coast) as a result.

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.

4. Climate Forecast Details

4.1 Rainfall

The forecasting system indicates a significant amount of mixed forecasts across the country. There are some indications that the winter-rainfall region as well as the western interior may receive above-normal rainfall during winter, however, this system struggles with forecasts during these seasons.

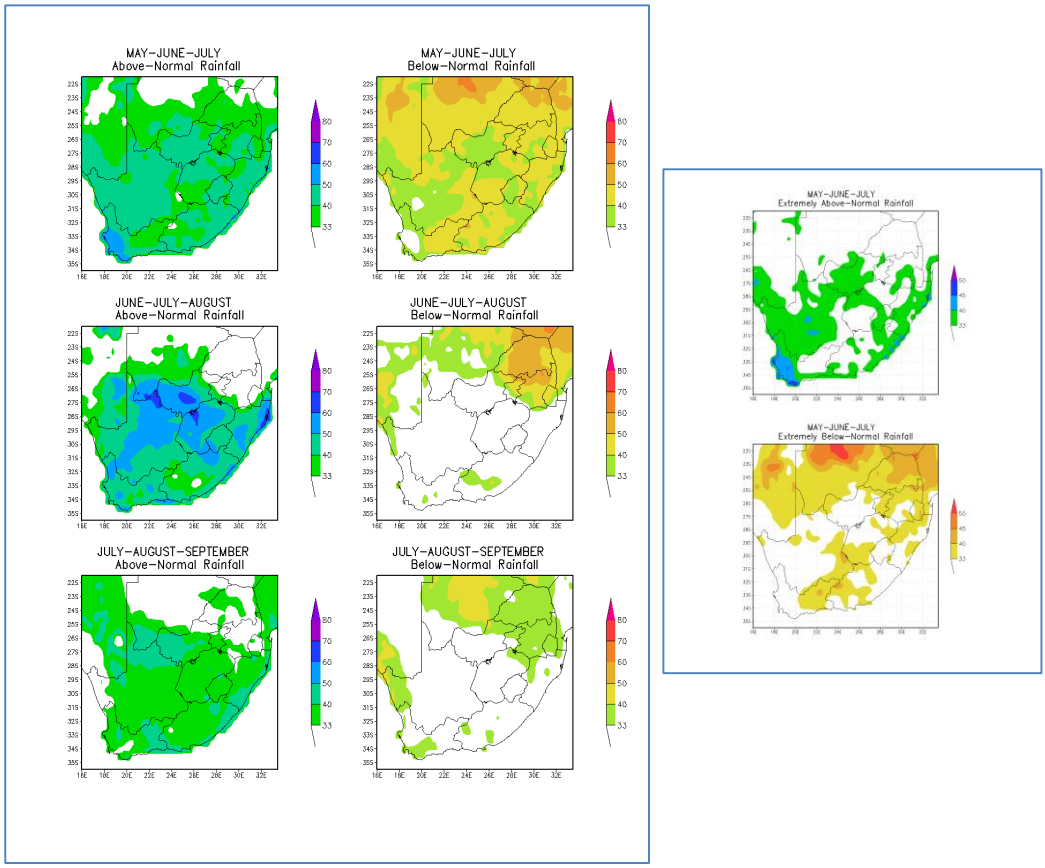

Figure 1: Rainfall forecasts for the three overlapping seasons valid for the period of May to September 2017 and extreme forecasts for May to July 2017 season (right panel). Forecast quality for total seasonal rainfall is indicated in the Appendix (Figure A1).

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4.2 Minimum and Maximum Temperatures

There is mostly an indication that the north-east of the country would experience colder conditions during winter. The south-west, however, seems to indicate that warmer conditions can be expected.

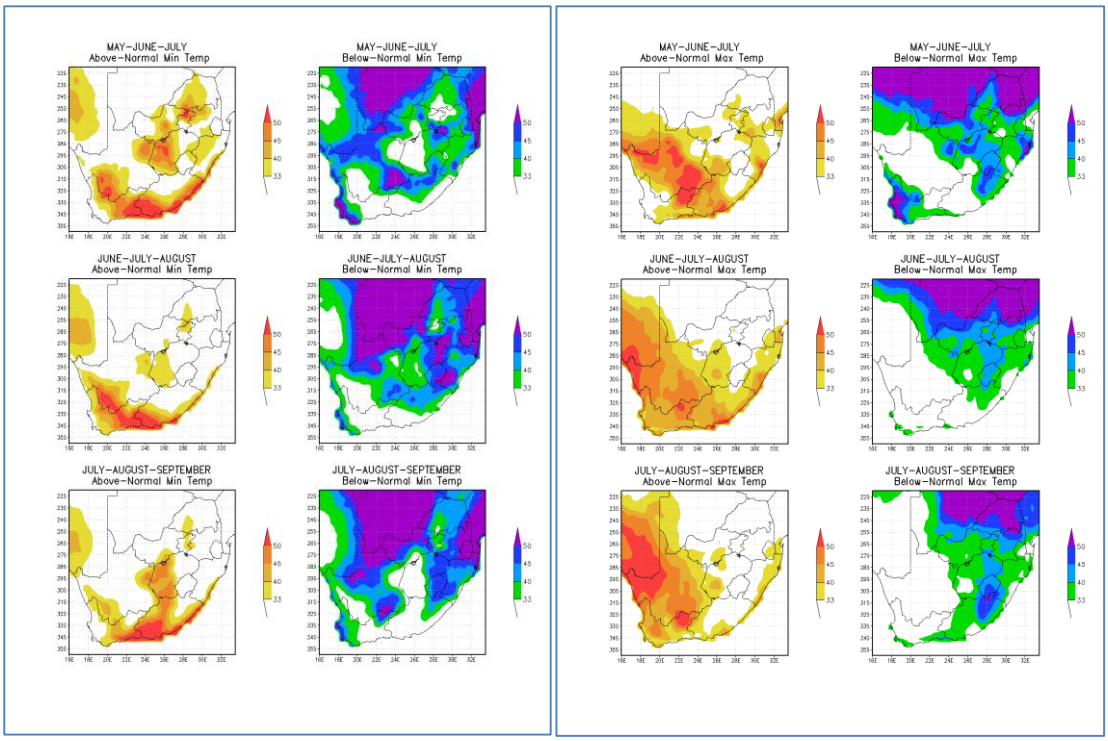

Figure 2: Probabilistic minimum (left panel) and maximum (right panel) temperature forecasts for the three overlapping seasons valid for the period of May to September 2017. Forecast quality for average seasonal temperature is indicated in the Appendix (Figure A2).

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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

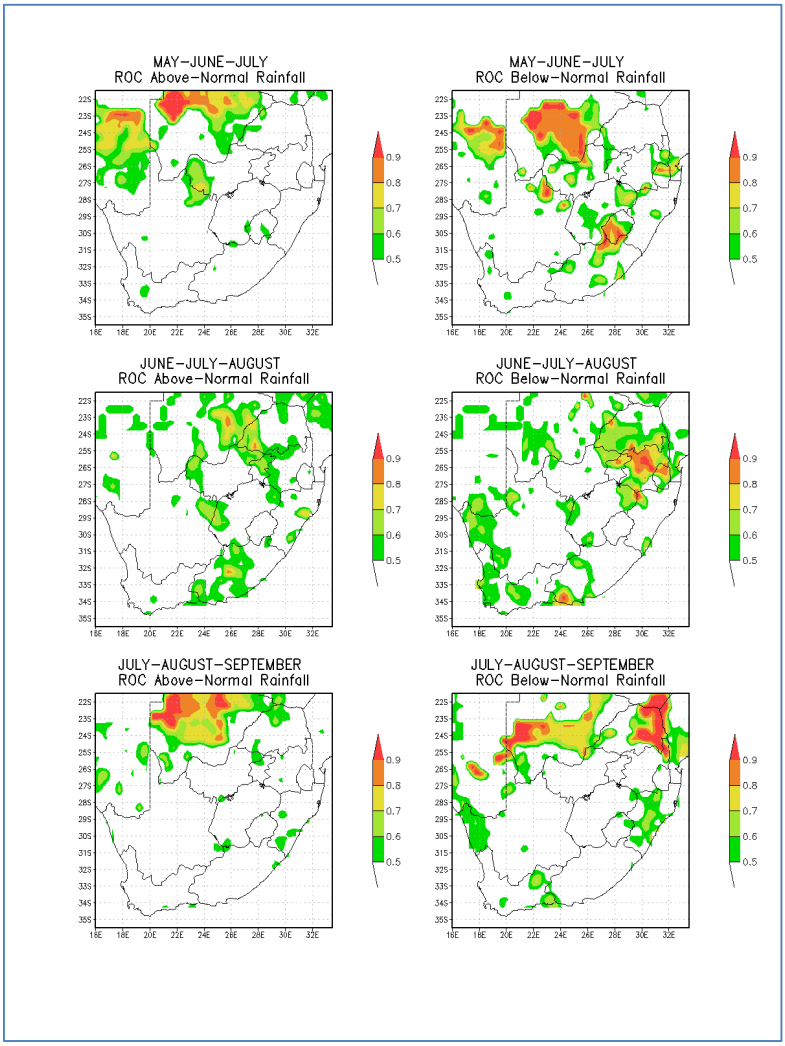

Figure A1: The skill of the forecasting system in discriminating wet or dry events during the forecasting period as shown in the caption of each plot. Those regions with no shades imply that the forecasts are not better than chance.

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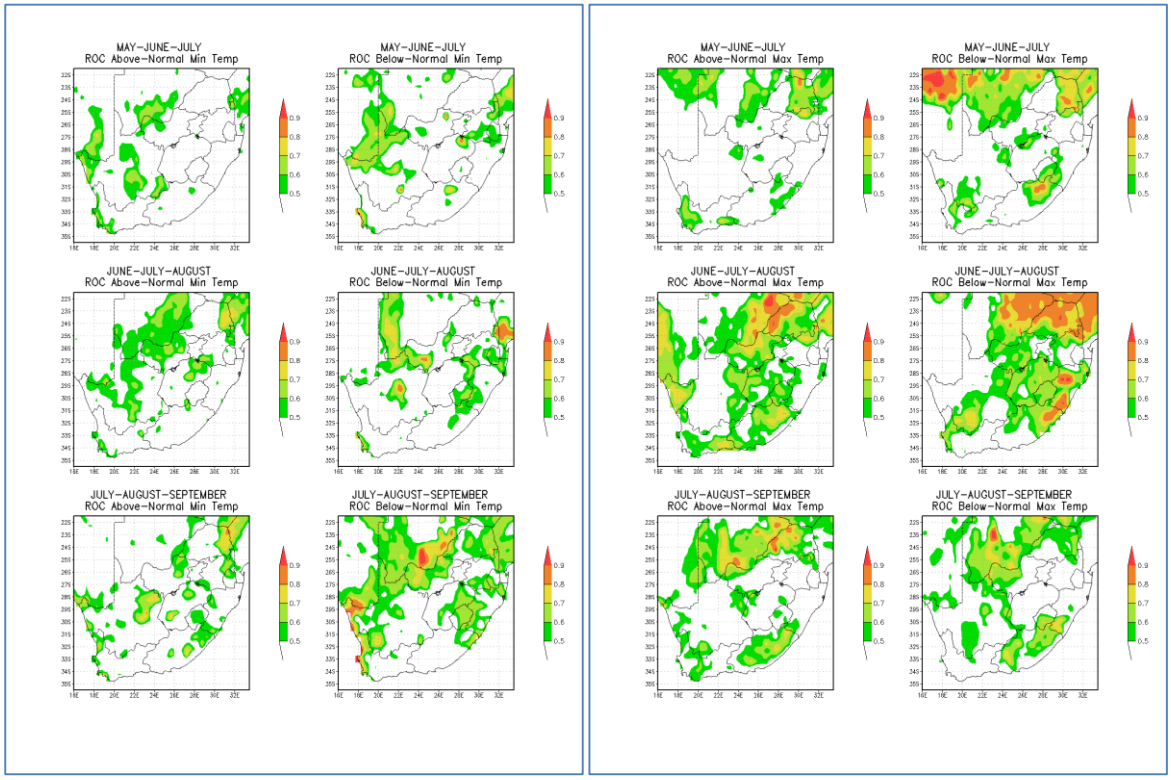

Figure A2: The skill of the forecasting system in discriminating hot or cold events during the forecasting period as shown in the caption of each plot. Those regions with no shades imply that the forecasts are not better than chance.

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