South African Weather Service
ISO 9001 Certified Organisation

Seasonal Climate Watch

January to May 2018

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1. Overview

The El Niño-Southern Oscillation (ENSO) has in the last month drastically developed in a cool phase, and predictions now indicate a likelihood of a moderate La Niña to be in effect during late summer (Jan-Feb-Mar). The circulation over the equatorial Pacific Ocean also seems to have responded to the late evolution of a La Niña and might impact South Africa's late summer-rainfall regions. In agreement with this assessment is the late summer-rainfall predictions, indicating that the far north-eastern parts of South Africa as well as parts of the interior are likely to receive above-normal rainfall in late summer.

Potential flooding events then remain a concern through late summer; however, late summer above-normal rainfall tends to be more frequent rather than more intense. It is advised that early-warning systems from the South African Weather Service be followed throughout the summer season.

Lower temperatures on average are also expected throughout the late summer period, as consistent cloud cover and rainfall events are expected to be more dominant than usual. In contrast however, the south-western parts of the country are still expected to experience higher temperatures on average and possibilities for hot spells are more likely during this time.

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

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2. Discussion: State of Climate Drivers

2.1 El Niño-Southern Oscillation

Observations show that ENSO (El Niño-Southern Oscillation) has drastically developed in a cool phase during the last month. Forecasts suggest that it is likely for a moderate La Niña to be in effect during late summer. A La Niña event typically enhances rainfall activities over the summer-rainfall areas of South Africa if the circulation over the equatorial pacific is strong enough.

2.2 Indian Ocean Dipole

The Indian Ocean Dipole (IOD) forecasts indicate neutral conditions during late summer and is not expected to have any influence during this period. The IOD, both tropical and subtropical, can enhance moisture transport towards the continent during positive phases and degrade this transport during negative phases.

2.3 Southern Annular Mode

The Southern Annular Mode (SAM) has been consistently positive the last month and is expected to remain positive 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.

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3. Climate Forecast Details

3.1 Rainfall

The forecasting system indicates above-normal rainfall over the far north-eastern parts of the country as well as over parts of the interior during late summer (Jan-Feb-Mar). It is expected that the total rainfall for these areas would rather be more frequent rainfall events than more intense events. During early autumn (Feb-Mar-Apr) a similar prediction persists with the notable exception of drier conditions over a large part of the Northern Cape. Autumn (Mar-Apr-May) does not indicate any notable direction of seasonal rainfall at this time.

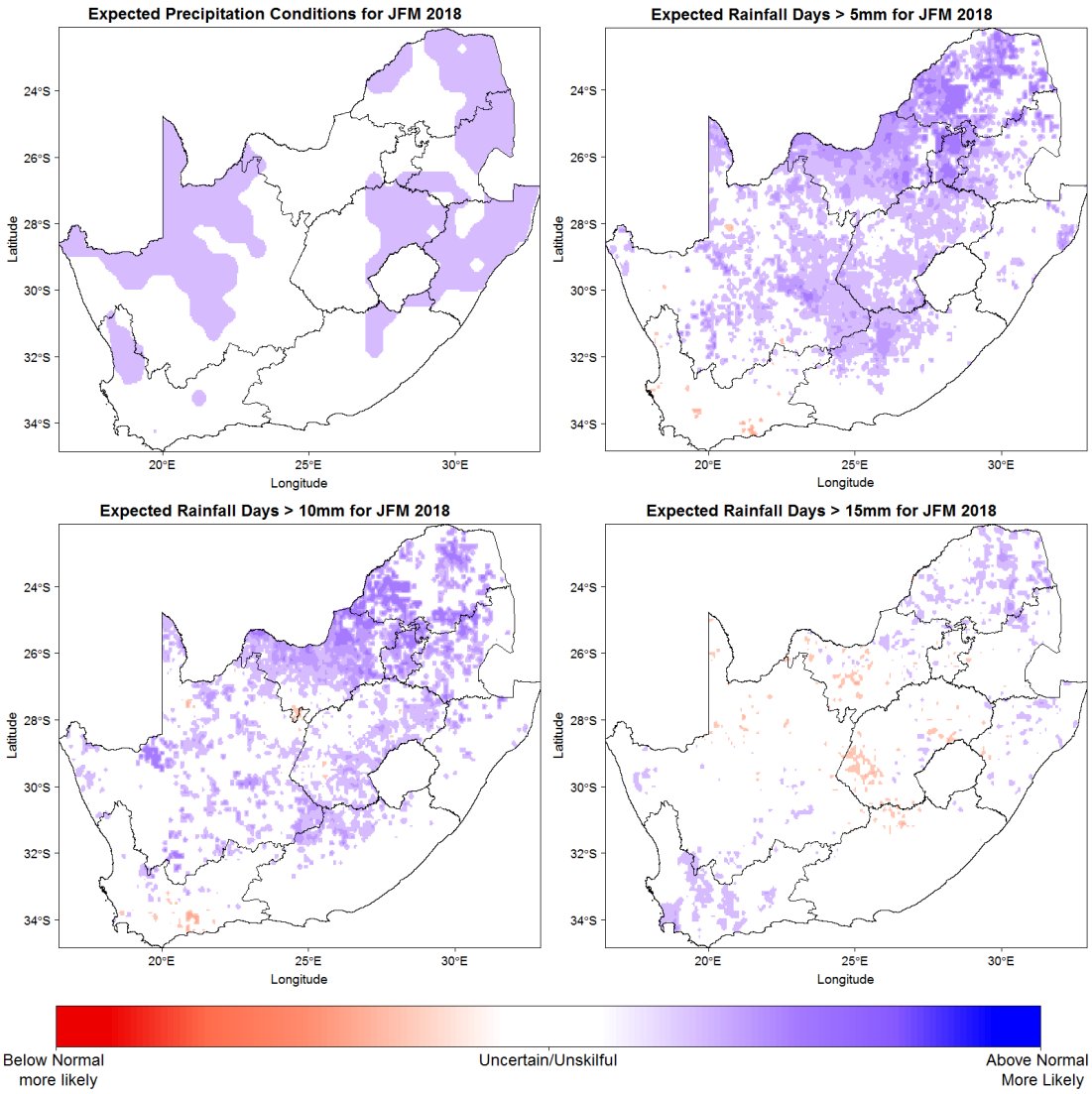

Figure 1: Rainfall forecasts for Jan-Feb-Mar 2018, showing chances for total precipitation (top left), frequency of rainfall days above 5 mm (top right), frequency of rainfall days above 10 mm (bottom left) and frequency of rainfall days above 15 mm (bottom right)

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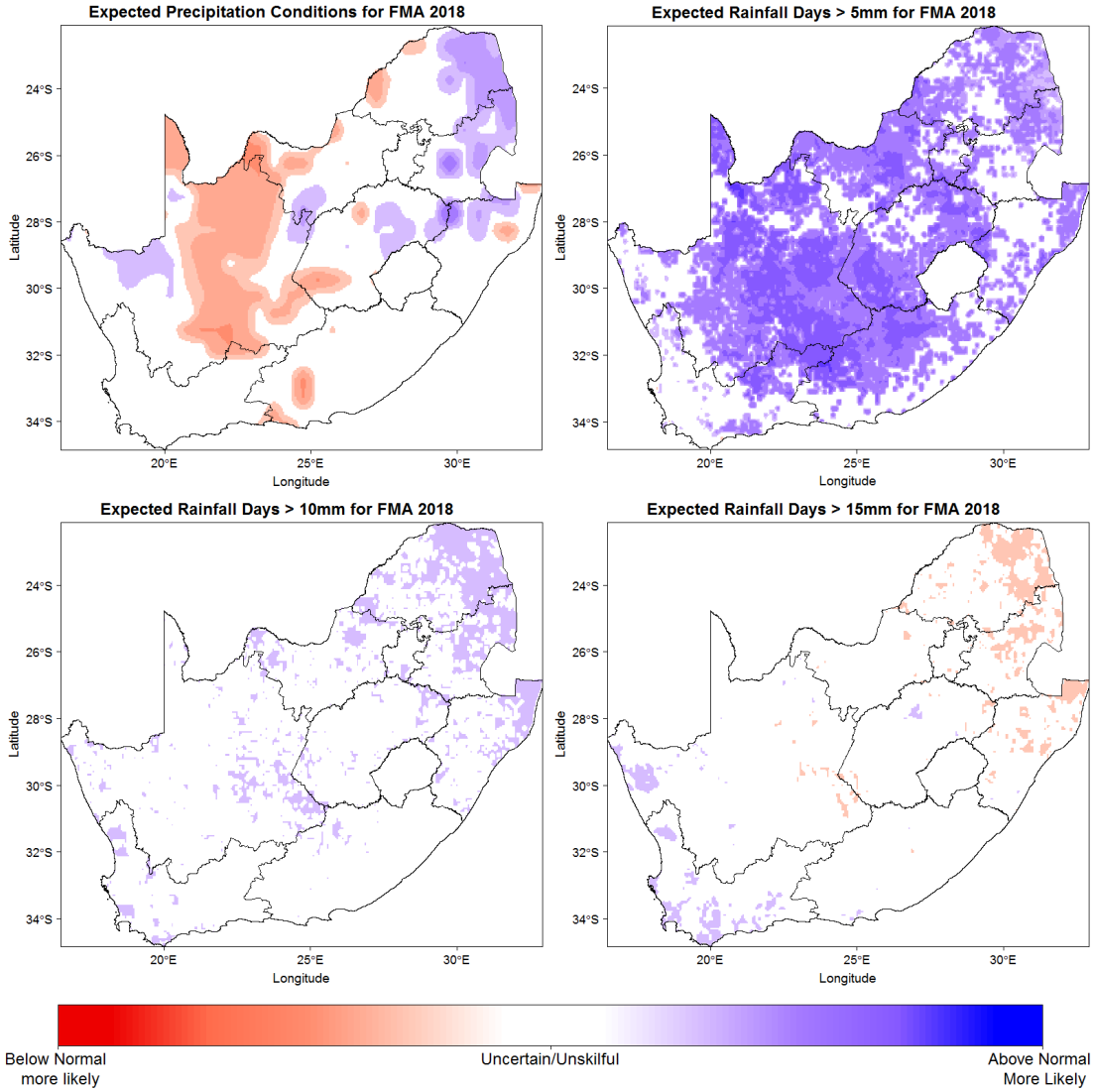

Figure 2: Rainfall forecasts for Feb-Mar-Apr 2018, showing chances for total precipitation (top left), frequency of rainfall days above 5 mm (top right), frequency of rainfall days above 10 mm (bottom left) and frequency of rainfall days above 15 mm (bottom right)

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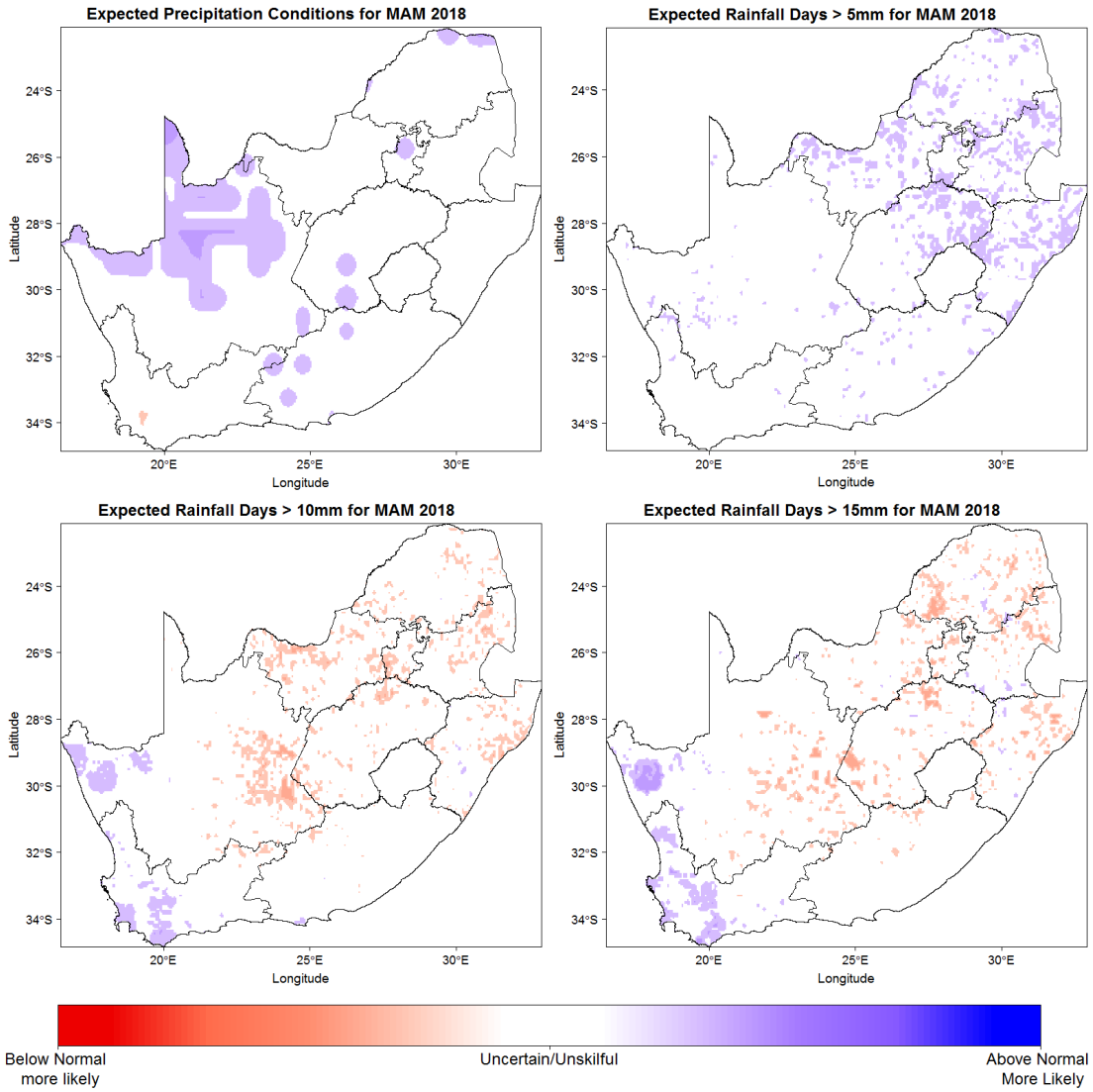

Figure 3: Rainfall forecasts for Mar-Apr-May 2018, showing chances for total precipitation (top left), frequency of rainfall days above 5 mm (top right), frequency of rainfall days above 10 mm (bottom left) and frequency of rainfall days above 15 mm (bottom right)

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3.2 Minimum and Maximum Temperatures

Currently temperature predictions mainly indicate on average lower temperatures. A notable exception however, is expected over parts of the Western Cape where generally higher temperatures are expected during late summer and autumn.

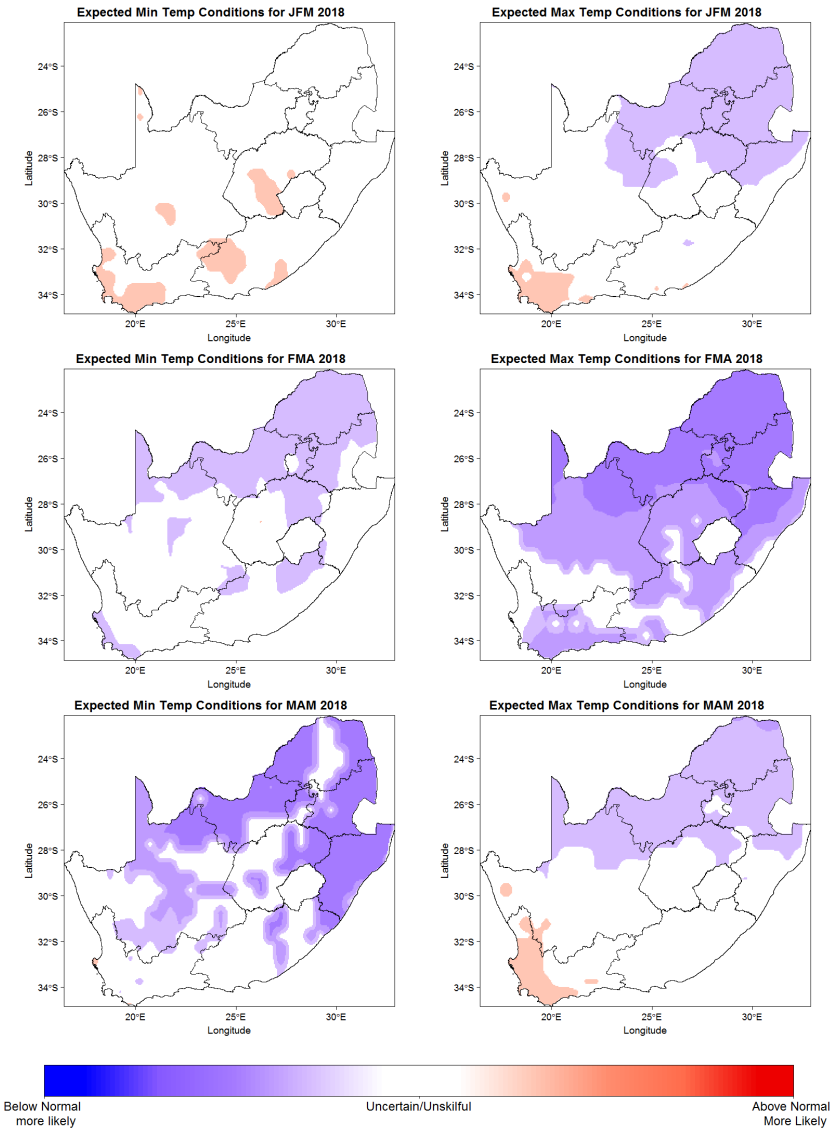

Figure 2: Chances for Minimum (left side) and Maximum (right side) temperatures for the three overlapping seasons valid for the period of January to May 2018.

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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:

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