

SEASONAL (3-month seasons) Forecast Overview for SOUTH AFRICA

Issued on Tuesday the 20th of September, 2011

1. ENSO Discussion

ENSO conditions have been shown to be the single most determining factor in South African summer rainfall which can also be effectively forecasted. Other local ocean basins such as those from the Atlantic and Indian oceans have also shown to have very strong influences to South African rainfall, but remain very difficult to forecast for various reasons. Because of this fact, we look at ENSO forecasts to give an indication of whether the seasons ahead would be abnormally wet (La Nina) or dry (El Nino). Below are some forecasts from international and local centers:

[European Centre for Medium-Range Weather Forecasts \(ECMWF\)](#)

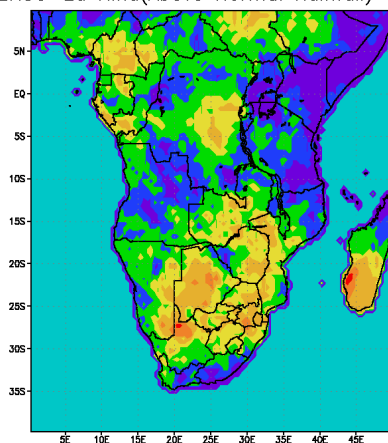
[Climate Prediction Center – National Centers for Environmental Prediction \(CPC-NCEP\)](#)

[International Research Institute Climate and Society \(IRI\)](#)

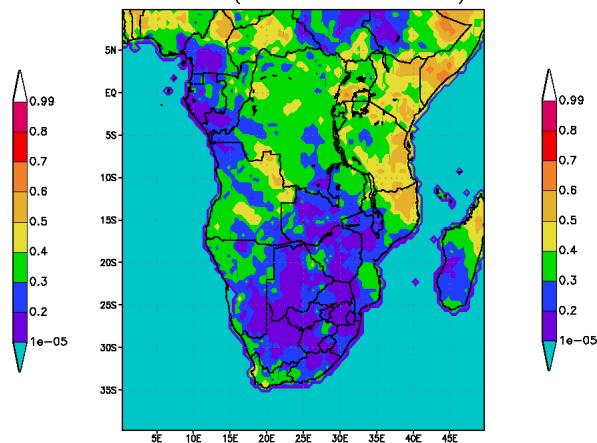
[Risk & Vulnerability Atlas \(RAVA\)](#)

ENSO is currently in a Weak La Nina phase and is predicted to be in a La Nina phase for most of the forecast period. Below is a visual depiction of the frequency of above-normal (left) and below-normal (right) events when there was a La Nina ENSO in effect in a specific forecast season. The October-November-December (OND) season show favored above-normal observed category when there is an ENSO La Nina phase in effect for parts of the summer rainfall areas.

ENSO–La Nina(Above Normal Rainfall) OND

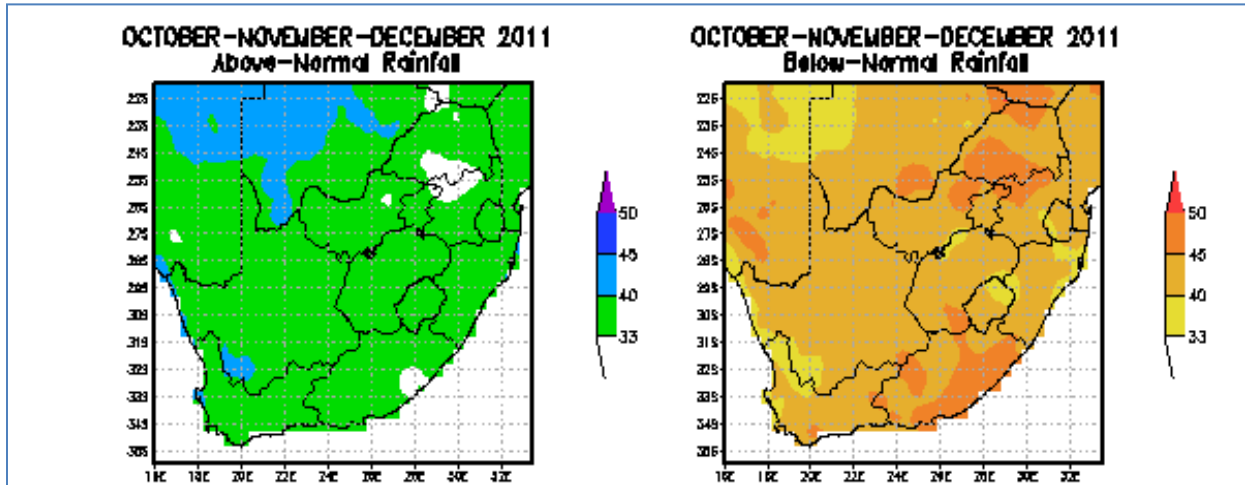


ENSO–La Nina(Below Normal Rainfall) OND



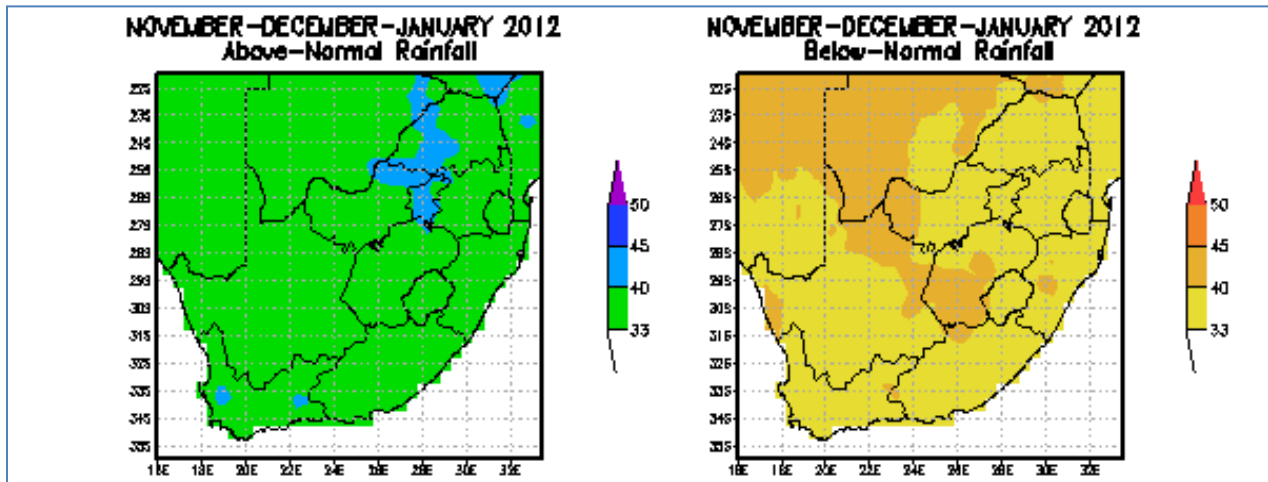
On the maps the frequency can be converted to a percentage by multiplying by 100, for example 0.6 on the above-normal map would mean that in 60% of La Nina cases there was above-normal rainfall totals observed for the specific season.

2. Rainfall Forecast (October 2011 to February 2012)



October-November-December

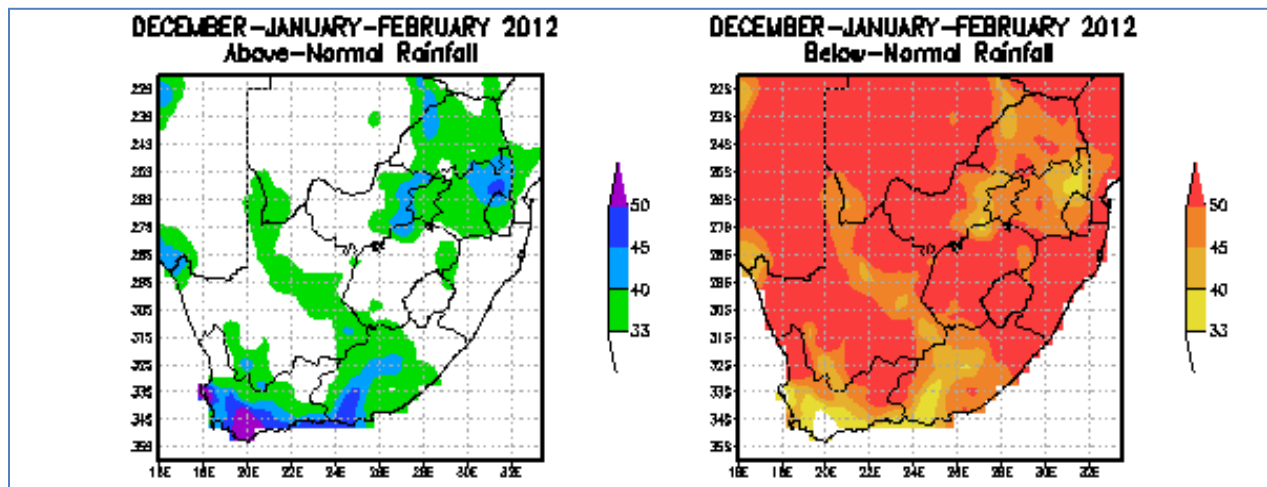
Enhanced probabilities for below-normal rainfall totals are expected for parts of Limpopo, North-West, Gauteng, Mpumalanga, Free State and Eastern Cape.



November-December-January

No Enhanced probabilities for a specific category to occur.

Enhanced Probabilities is considered to be more than 45% probability for a specific category. If there are areas that do not show an indication of more than 45% probability, then the forecasts for that area is considered to be uncertain.

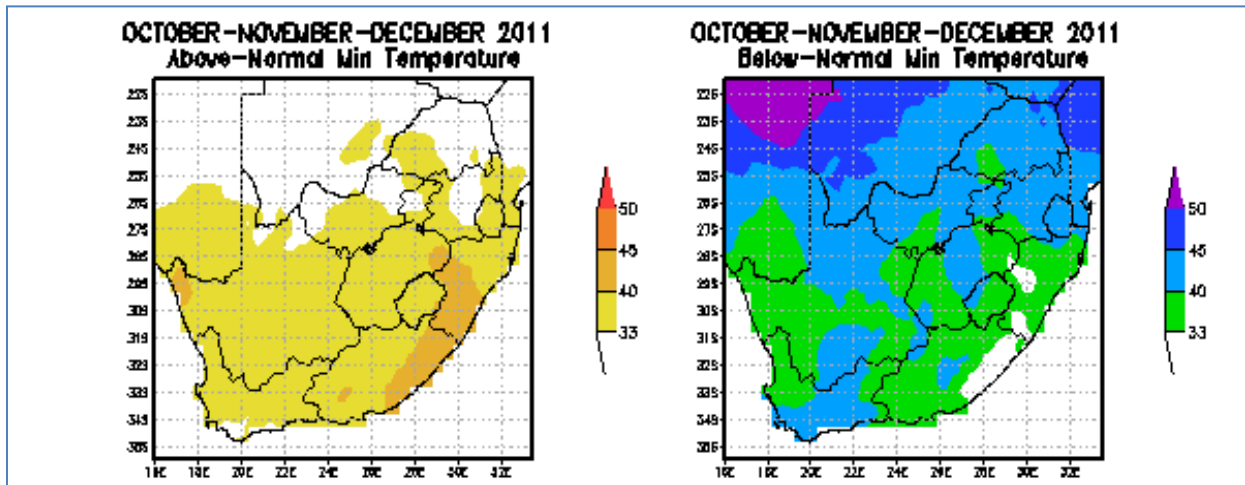


December-January-February

Enhanced probabilities for above-normal rainfall totals are expected for parts of Mpumalanga, Western Cape and Eastern Cape. Enhanced probabilities for below-normal rainfall totals are expected for most parts of South Africa.

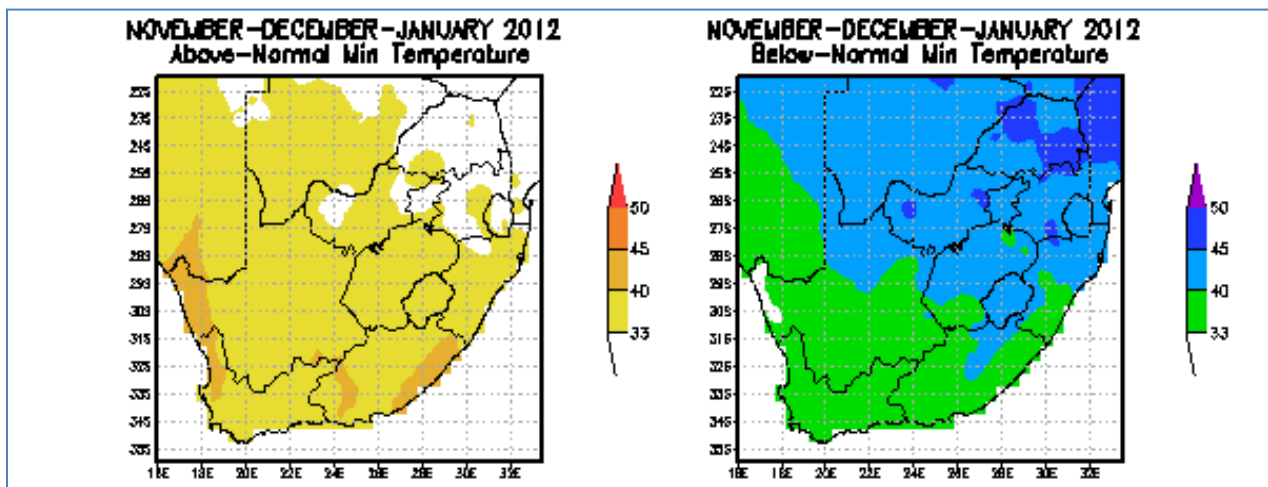
Enhanced Probabilities is considered to be more than 45% probability for a specific category. If there are areas that do not show an indication of more than 45% probability, then the forecasts for that area is considered to be uncertain.

3. Minimum Temperature Forecast (October 2011 to February 2012)



October-November-December

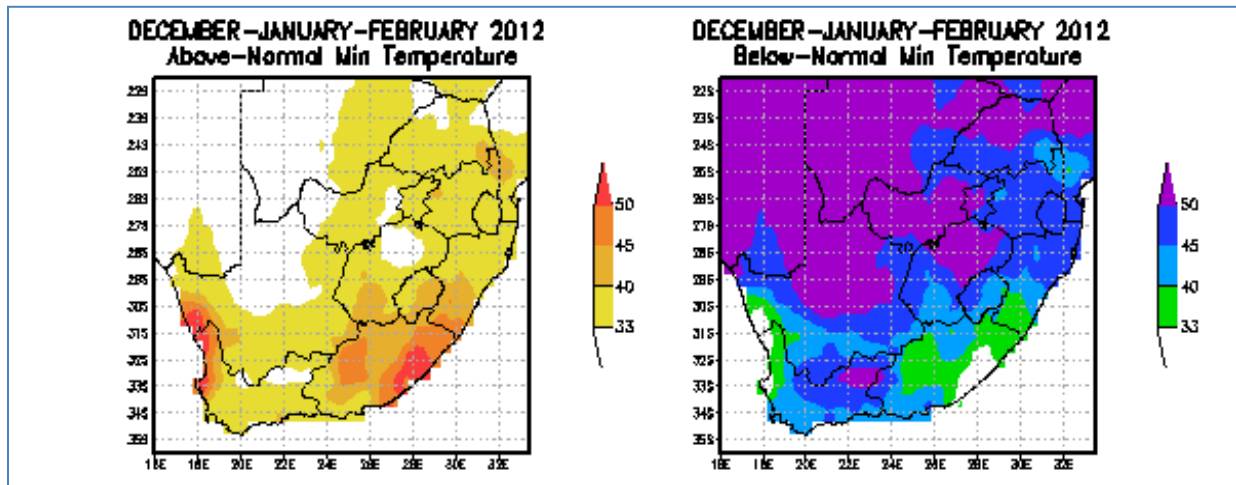
No Enhanced probabilities for a specific category to occur.



November-December-January

Enhanced probabilities for below-normal minimum temperatures expected for parts of Limpopo, North-West and Mpumalanga.

Enhanced Probabilities is considered to be more than 45% probability for a specific category. If there are areas that do not show an indication of more than 45% probability, then the forecasts for that area is considered to be uncertain.

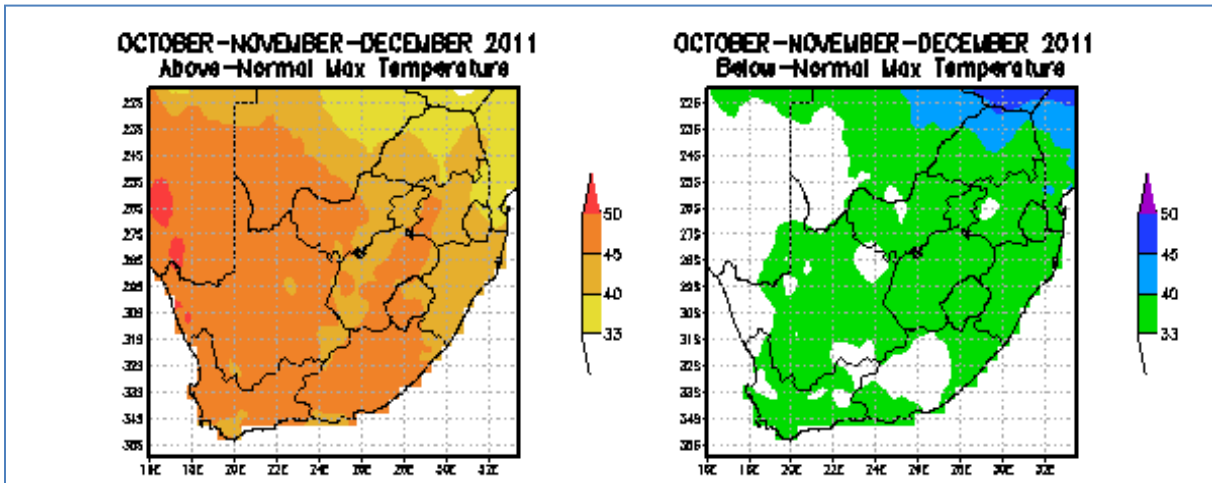


December-January-February

Enhanced probabilities for above-normal minimum temperatures expected for parts of Northern Cape, Kwazulu-Natal, Eastern Cape and Western Cape. Enhanced probabilities of below-normal minimum temperatures expected for most parts of South Africa.

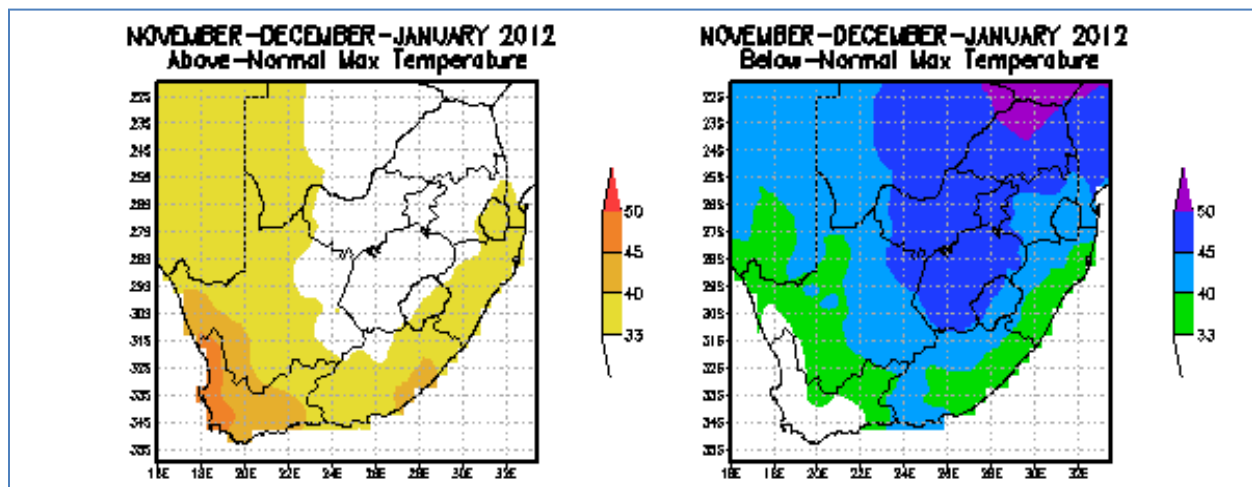
Enhanced Probabilities is considered to be more than 45% probability for a specific category. If there are areas that do not show an indication of more than 45% probability, then the forecasts for that area is considered to be uncertain.

4. Maximum Temperature Forecast (October 2011 to February 2012)



October-November-December

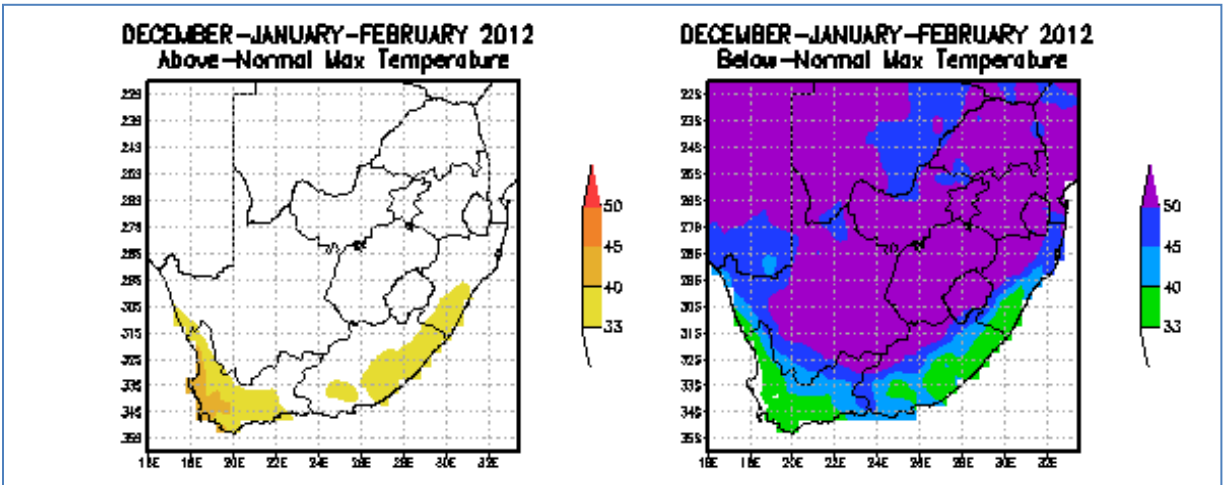
Enhanced probabilities for above-normal maximum temperatures expected for parts of North-West, Mpumalanga, Northern Cape, Free State, Eastern Cape and Western Cape.



November-December-January

Enhanced probabilities for above-normal maximum temperatures expected for parts of Western Cape. Enhanced probabilities of below-normal maximum temperatures expected for parts of Limpopo, North-West, Gauteng, Mpumalanga, Northern Cape and Free State.

Enhanced Probabilities is considered to be more than 45% probability for a specific category. If there are areas that do not show an indication of more than 45% probability, then the forecasts for that area is considered to be uncertain.



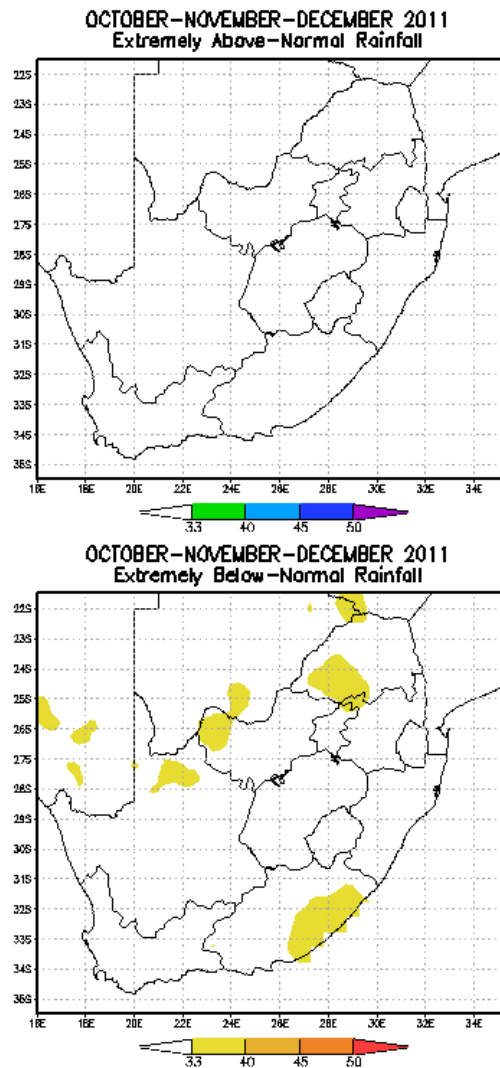
December-January-February

Enhanced probabilities of below-normal maximum temperatures expected for most parts of South Africa.

Enhanced Probabilities is considered to be more than 45% probability for a specific category. If there are areas that do not show an indication of more than 45% probability, then the forecasts for that area is considered to be uncertain.

Forecast of EXTREME rainfall conditions: October-November-December 2011

EXTREMES refer to the highest or lowest 15% of the climatological record. The bar on the bottom of each map below shows the probabilities of exceeding the highest or lowest 15% thresholds.



No enhanced probabilities for extremely above- or below-normal rainfall totals.

The Extreme forecast gives users an indication of whether droughts (extremely below-normal rainfall totals) or floods (extremely above-normal rainfall totals) may occur. Keep in mind that floods and droughts or the lack thereof may also be a result of land use and water resource management effects as well as extreme rainfall events.

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



Useful internet sites to visit:

[Global Forecasting Centre for Southern Africa \(GFCSA\)](#)

[Risk & Vulnerability Atlas \(RAVA\)](#)

[International Research Institute Climate and Society \(IRI\)](#)

[European Centre for Medium-Range Weather Forecasts \(ECMWF\)](#)

[Climate Prediction Center – National Centers for Environmental Prediction \(CPC-NCEP\)](#)

ENQUIRIES

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