



# **AFRICA:** Monthly Climate Outlook July to April

**Issued: October 2024** 

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# Overview

Africa Current Status and Outlook – Temperature

Africa Current Status and Outlook – Rainfall

<u>Global Outlook – Temperature</u>

<u>Global Outlook – Rainfall</u>

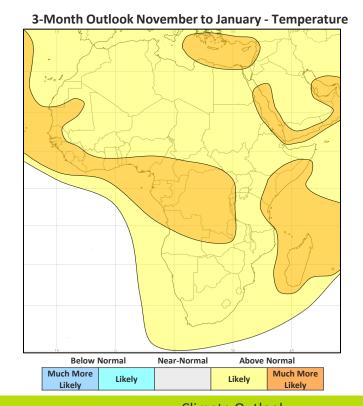




### Africa Current Status and Outlook - Temperature

**Current Status**: Many areas were warm or hot over the last three months. There have been some exceptions with parts of Ethiopia having experienced below normal temperatures over the last three months. Temperatures were also more mixed across the Sahel with some areas seeing near or below normal temperatures. Parts of Southern Africa also had near or below normal temperatures at times between July and September, including Madagascar which was cool or cold in August and September.

**Outlook**: Consistent with a warming climate, warmer than normal conditions are likely across the whole continent.







### Africa Current Status and Outlook - Rainfall

**Current Status:** The West African monsoon has brought wet or very wet conditions to much of the Sahel between July and September. Areas further south over West Africa have seen normal or dry conditions. Conditions were more mixed across East Africa in what tends to be a drier part of the year for these areas. Much of southern Africa tends to see little rainfall through this period though southwestern parts of South Africa were wet or very wet during July and August.

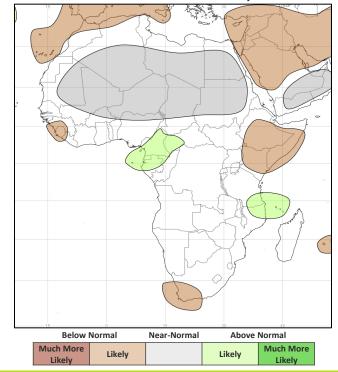
**Outlook:** The West African monsoon is now coming to end. Rainfall returning to normal for most of these areas though Cameroon is likely to be wetter than normal.

Signals are weak across East Africa during the 'Short Rains' season. Somalia, Kenya and eastern Ethiopia are likely to be drier than normal whilst parts of Tanzania and Mozambique are likely to be wetter than normal.

Consistent with the start of the wet season across Southern Africa, rainfall starts to increase during this period. Signals are currently limited with a similar likelihood of above and below normal rainfall. Should La Niña become fully established, this may start to favour above normal rainfall across parts of Southern Africa during the rainy season.

*Tropical cyclones* – The Southwest Indian ocean season typically begins during December before peaking between January and March. Early indications suggest an above average season is likely with a slightly greater risk than normal of landfalls over Madagascar and Mozambique.

#### 3-Month Outlook November to January - Rainfall



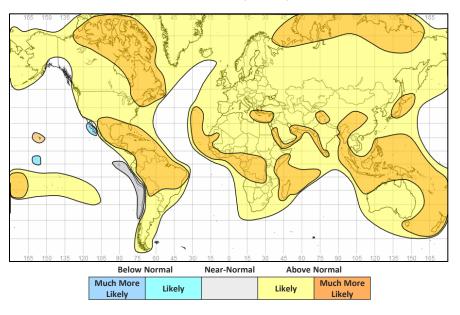




### Global Outlook - Temperature

**Outlook:** Consistent with a warming climate, warmer than normal conditions are likely across most land areas. There are only very limited exceptions, most notably some Pacific coastal districts in the Americas where near normal or colder than normal conditions are more likely – this linked to cooler sea surface temperatures associated with the developing La Niña.

#### 3-Month Outlook November to January - Temperature







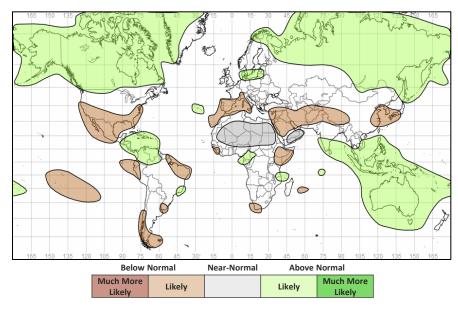
### Global Outlook - Rainfall

#### Outlook:

**El Niño-Southern Oscillation (ENSO)** – ENSO is currently neutral. Equatorial sea surface temperatures across the central and eastern Pacific are around or below average. Atmospheric indicators have been largely consistent with ENSO neutral. Over the last few weeks, the likelihood of La Niña emerging has declined with a moderate chance (40-60%) of La Niña over the next couple of months. Should La Niña emerge, it would most likely be a weak event. A transition to La Niña would improve the predictability of global weather patterns on seasonal timescales, particularly in the tropics, though its influence may not be as strong as some La Niña events over recent years.

Indian Ocean Dipole (IOD) — The IOD is currently neutral. Recent sea surface temperature patterns across the Indian Ocean are suggestive of a negative IOD but haven't been prolonged enough to meet the threshold for an event to be declared. Most forecasts suggest the IOD will remain neutral or weakly negative over the next couple of months thus providing only limited signals for seasonal predictions. Skilful prediction of the IOD at this time of year tends to be limited beyond a couple of months ahead.

#### 3-Month Outlook November to January - Rainfall







# **Current Status**

**Current Status maps** 

Western Africa

Central Africa

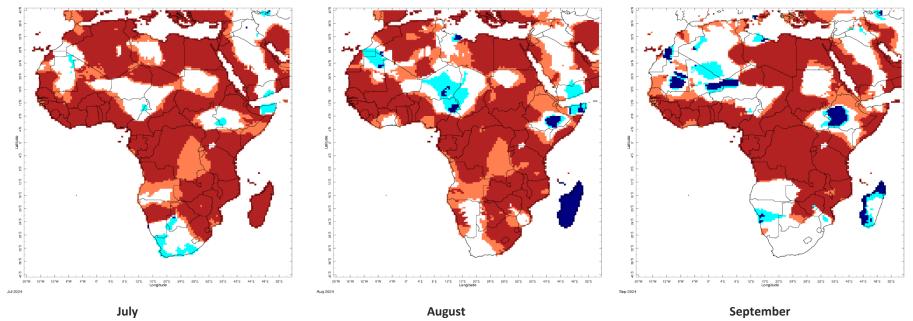
Eastern Africa

Southern Africa





### Current Status – Temperature percentiles



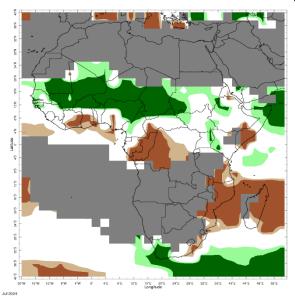


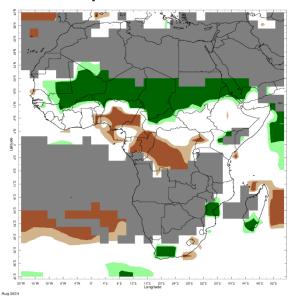
**Notes:** The percentiles shown in the map indicate a ranking of temperature, with the 0th percentile being the coolest and the 100th percentile being the warmest in the 1981-2010 climatology. Orange and red shading represent values above the 80th (Warm) and 90th (Hot) percentile, respectively; regions shaded in light and dark blue indicate values below the 20th (Cool) and 10th (Cold) percentile, with respect to the 1981-2010 climatology. The data used in this map are from the NOAA Climate Prediction Center.

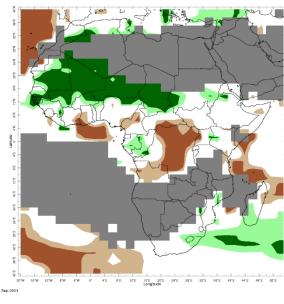




### Current Status – Precipitation percentiles







| Section | Column |

August September

Notes: The percentiles shown in the map indicate a ranking of rainfall, with the 0th percentile being the driest and the 100th percentile being the wettest in the 1981-2010 climatology. Green and dark green shading represent values above the 80th (Wet) and 90th (Very Wet) percentile, respectively; regions shaded in light and dark brown indicate rainfall below the 20th (Dry) and 10th (Very Dry) percentile, with respect to the 1981-2010 climatology. Grey areas on the map mask out regions that receive less than 10 mm/month of rainfall on normal in the 1981-2010 climatology for the month. The data used in this map are from the NOAA Climate Prediction Center.





## Current Status – Western Africa (1)

	Current Status: Temperature		
	July	September	
Mauritania	Mixed (1)	Mixed (1)	Mixed (3)
Sierra Leone	Hot	Hot	Hot
Liberia	Hot	Warm	Hot
Mali	Hot	Hot (2)	Mixed (4)

Cur	Current Status: Rainfall			
July August September				
Very Wet	Very Wet	Very Wet		
Normal	Normal	Normal		
Normal	Normal	Normal		
Very Wet	Very Wet	Very Wet		

#### Notes:

The table gives an assessment of whether temperature and rainfall across each country have been above normal, normal or below normal over the past three months, using data from the NOAA Climate Prediction Center and the IRI Map Room: <a href="http://iridl.ldeo.columbia.edu/maproom/">http://iridl.ldeo.columbia.edu/maproom/</a>.

\* Region usually experiences less than 10mm/month rainfall during the month (dry season).

#### **Additional Information:**

(1) Note: Normal or cold in the north, hot in the south

(2) Note: Normal in the northeast

(3) Note: Large variations across the country

(4) Note: Warm or hot in the southwest, cool to normal in the northeast





## Current Status – Western Africa (2)

	Current Status: Temperature		
	July August		
Ghana	Hot	Hot	Hot
Nigeria	Hot (1)	Hot (1)	Hot (1)
Cameroon	Hot	Hot	Hot
Burkina Faso	Hot	Hot	Hot

Current Status: Rainfall			
July August September			
Dry	Normal	Normal	
Normal (2) Dry (4)		Normal (4)	
Normal (2)	Dry	Normal	
Very Wet	Wet	Wet	

#### Notes:

The table gives an assessment of whether temperature and rainfall across each country have been above normal, normal or below normal over the past three months, using data from the NOAA Climate Prediction Center and the IRI Map Room: <a href="http://iridl.ldeo.columbia.edu/maproom/">http://iridl.ldeo.columbia.edu/maproom/</a>.

\* Region usually experiences less than 10mm/month rainfall during the month (dry season).

#### Additional Information:

(1) Note: Normal or cool in the northeast

(2) Note: Very Wet in the north

(3) Note: Hot in the north, normal in the south

(4) Note: Very wet in the far north





### Current Status – Central Africa

	Current Status: Temperature		
	July August Septe		
Niger	Normal (1)	Normal (3)	Normal (5)
Chad	Hot (2)	Normal (4)	Hot
DRC	Hot	Hot	Hot

Cur	Current Status: Rainfall			
July	July August September			
Very Wet	Very Wet	Very Wet		
Very Wet	Very Wet	Very Wet		
Dry Dry Very Dry				

#### Notes:

The table gives an assessment of whether temperature and rainfall across each country have been above normal, normal or below normal over the past three months, using data from the NOAA Climate Prediction Center and the IRI Map Room: <a href="http://iridl.ldeo.columbia.edu/maproom/">http://iridl.ldeo.columbia.edu/maproom/</a>.

\* Region usually experiences less than 10mm/month rainfall during the month (dry season).

#### Additional Information:

(1) Note: Hot in the north(2) Note: Normal in the west

(3) Note: Hot in the far southwest, cool or normal elsewhere

(4) Note: Warm or hot in the far east and southeast, cool in the far west, normal elsewhere

(5) Note: Hot in the northeast, cold in the northwest, else normal





# Current Status – Eastern Africa (1)

	Current Status: Temperature		
	July August September		
Sudan	Mixed (1)	Hot	Hot
South Sudan	Hot	Hot	Mixed (3)
Uganda	Hot	Hot	Hot
Rwanda	Warm	Hot	Hot

Current Status: Rainfall			
July August September			
Wet	Very Wet	Mixed (2)	
Normal	Normal	Normal	
Wet	Dry	Normal	
Normal	Normal	Normal	

#### Notes:

The table gives an assessment of whether temperature and rainfall across each country have been above normal, normal or below normal over the past three months, using data from the NOAA Climate Prediction Center and the IRI Map Room: <a href="http://iridl.ldeo.columbia.edu/maproom/">http://iridl.ldeo.columbia.edu/maproom/</a>.

\* Region usually experiences less than 10mm/month rainfall during the month (dry season).

#### **Additional Information:**

(1) Note: Hot or warm in the east, normal elsewhere

(1) Note: Wet in parts of the south

(2) Note: Hot in the west, cool in the far east, normal elsewhere





### Current Status – Eastern Africa (2)

	Current Status: Temperature		
	July	September	
Tanzania	Hot	Hot	Hot
Eritrea	Hot	Warm	Warm
Ethiopia	Mixed (1)	Mixed (4)	Mixed (1)
Kenya	Hot	Hot	Hot
Somalia	Mixed (2)	Mixed (2)	Hot

Current Status: Rainfall			
July August September			
Very Dry	Normal*	Normal*	
Normal	Very Wet	Normal	
Normal	Normal	Normal	
Normal	Normal	Normal	
Mixed (3)	Normal	Normal	

#### Notes:

The table gives an assessment of whether temperature and rainfall across each country have been above normal, normal or below normal over the past three months, using data from the NOAA Climate Prediction Center and the IRI Map Room: <a href="http://iridl.ldeo.columbia.edu/maproom/">http://iridl.ldeo.columbia.edu/maproom/</a>.

#### **Additional Information:**

(1) Note: Warm or hot in the north and east, cool or cold in the southwest

(2) Note: Mostly hot but normal or cool in the north (3) Note: Very dry in the south, very wet in the north

(4) Note: Warm or hot in the northwest, cool or cold in the southeast

<sup>\*</sup> Region usually experiences less than 10mm/month rainfall during the month (dry season).





### Current Status – Southern Africa

	Current Status: Temperature		
	July	August	September
South Africa	Mixed (1)	Mixed (1)	Normal
Zambia	Hot	Hot	Hot
Zimbabwe	Hot	Hot	Hot
Mozambique	Hot	Hot	Hot
Malawi	Hot	Hot	Hot
Madagascar	Hot	Cold	Cool

Cur	Current Status: Rainfall			
July	August	September		
Dry (2)	Dry (2)	Normal (5)		
Normal*	Normal*	Normal*		
Normal*	Normal*	Normal*		
Very Dry	Normal (3)	Normal		
Very Dry	Normal*	Normal*		
Very Dry	Normal (4)	Mixed (6)		

#### Notes:

The table gives an assessment of whether temperature and rainfall across each country have been above normal, normal or below normal over the past three months, using data from the NOAA Climate Prediction Center and the IRI Map Room: http://iridl.ldeo.columbia.edu/maproom/.

#### Additional Information:

(1) Note: Cool in the south, hot in the north, normal elsewhere

(2) Note: Very wet in the southwest (3) Note: Very wet in central areas

(4) Note: Very wet in the far south (5) Note: Wet in parts of the east

(6) Note: Wet in parts of the south, dry in the northeast, normal elsewhere

<sup>\*</sup> Region usually experiences less than 10mm/month rainfall during the month (dry season).





# Outlooks

Notes for use

Western Africa

Central Africa

Eastern Africa

Southern Africa





### Outlooks: Notes for use

#### Outlooks for months 4 to 6:

As forecast uncertainty generally increases with longer range the 4-6-month outlook is less reliable than the 1-3 month outlook. Outlook information will only be provided when the model data signals likely outcomes. Additionally, the longer range outlook utilises fewer models because not all seasonal models are available for the extended range.

Information provided in this presentation should be used to raise early awareness of potential hazards only and should be updated with the 3-month outlook when available.

#### **Climatological odds:**

A forecast is only provided in the outlooks where there is information in the model data about likely outcomes. Therefore, where the likelihoods for above, near and below normal conditions are evenly balanced the phrase 'climatological odds' will be used. This means the outcome could fall anywhere within the possible climatological range. Near-normal conditions should not necessarily be assumed, and users should update with shorter-term forecasts when available.





## Outlook: November to April – Western Africa (1)

		Forecast summary		
		November	November to January	February to April
Mauritania	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds
Sierra Leone	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Much more likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Climatological odds
Liberia	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Much more likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Mali	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds





## Outlook: November to April – Western Africa (2)

		Forecast summary		
		November	November to January	February to April
Ghana	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Much more likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Nigeria	Temperature	Much more likely to be warmer than normal in the south; Likely to be warmer than normal in the north	Much more likely to be warmer than normal in the south; Likely to be warmer than normal in the north	Likely to be warmer than normal
	Rainfall	Likely to be near-normal	Climatological odds	Climatological odds
Cameroon	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Much more likely to be warmer than normal
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal	Climatological odds
Burkina Faso	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds





# Outlook: November to April – Central Africa

		Forecast summary		
		November	November to January	February to April
Niger	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds
Chad	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds
Democratic	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Much more likely to be warmer than normal
Republic of Congo	Rainfall	Climatological odds	Likely to be near-normal	Climatological odds





## Outlook: November to April – Eastern Africa (1)

			Forecast summary	
		November	November to January	February to April
Sudan	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds
South Sudan	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be wetter than normal	Climatological odds	Climatological odds
Uganda	Temperature	Much more likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds





### Outlook: November to April – Eastern Africa (2)

		Forecast summary			
		November	November to January	February to April	
Tanzania	Temperature	Likely to be warmer than normal	Likely to be warmer than normal in the west, Much more likely to be warmer than normal in the east	Likely to be warmer than normal	
	Rainfall	Climatological odds	Likely to be wetter than normal in the southeast, otherwise Climatological odds	Climatological odds	
Rwanda	Temperature	Much more likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal	
	Rainfall	Climatological odds	Climatological odds	Climatological odds	
Eritrea	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Much more likely to be warmer than normal	
	Rainfall	Likely to be near-normal	Climatological odds	Climatological odds	





### Outlook: November to April – Eastern Africa (3)

		Forecast summary		
		November	November to January	February to April
Ethiopia	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Much more likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Climatological odds
Kenya	Temperature	Likely to be warmer than normal	Likely to be warmer than normal in the west, Much more likely to be warmer than normal in the east	Likely to be warmer than normal
	Rainfall	Climatological odds	Likely to be drier than normal	Climatological odds
Somalia	Temperature	Likely to be warmer than normal in the north, Much more likely to be warmer than normal in the south	Likely to be warmer than normal in the north, Much more likely to be warmer than normal in the south	Much more likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Climatological odds





## Outlook: November to April – Southern Africa (1)

		Forecast summary		
		November	November to January	February to April
South Africa	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Likely to be drier than normal in the southwest, otherwise Climatological odds	Climatological odds
Zambia	Temperature	Likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Zimbabwe	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Mozambique	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Likely to be wetter than normal in the northeast, otherwise Climatological odds	Climatological odds





### Outlook: November to April – Southern Africa (2)

			Forecast summary	
		November	November to January	February to April
Malawi	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Madagascar	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Much more likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds





# Annex 1 – Supplemental Information





### For further information

WMO Lead Centre for Long-Range Forecast Multi-Model Ensemble (LC-LRFMME) https://www.wmolc.org/seasonPmmeUI/plot\_PMME

International Research Institute for Climate and Society (IRI) http://iridl.ldeo.columbia.edu/maproom/

NOAA El Niño technical info https://www.ncei.noaa.gov/access/monitoring/enso/

Met Office

https://www.metoffice.gov.uk/services/government/international-development

Climate Outlook Fora (<a href="https://public.wmo.int/en/our-mandate/climate/regional-climate-outlook-products">https://public.wmo.int/en/our-mandate/climate/regional-climate-outlook-products</a>), including:

Greater Horn of Africa Climate Outlook Forum (GHACOF): GHACOF 64 Statement (May 2023)

PRÉvisions climatiques Saisonnières en Afrique Soudano-Sahélienne (PRESASS): http://acmad.net/rcc/presassS.php (April 2022)

Southern African Regional Climate Outlook Forum (SARCOF): <a href="http://csc.sadc.int/en/news-and-events/338-the-twenty-sixth-southern-africa-regional-climate-outlook-forum-sarcof-26">http://csc.sadc.int/en/news-and-events/338-the-twenty-sixth-southern-africa-regional-climate-outlook-forum-sarcof-26</a> (August 2022)

PRÉvisions climatiques Saisonnières en Afrique, pays du Golfe de Guinée (PRESAGG): <a href="https://agrhymet.cilss.int/doss/tocharg/2023/02/COMMUNIQUE-">https://agrhymet.cilss.int/doss/tocharg/2023/02/COMMUNIQUE-</a>

FINAL\_PRESAGG\_2023\_VF\_Engl.pdf (February 2023)

South-West Indian Ocean Climate Outlook Forum (SWIOCOF) - <a href="https://www.commissionoceanindien.org/wp-content/uploads/2022/10/SWIOCOF11">https://www.commissionoceanindien.org/wp-content/uploads/2022/10/SWIOCOF11</a> Statement-FN final pdf (Soutomber 2022)

EN-final.pdf (September 2022)





### Technical notes

The WMO lead centre for long-range forecast multi-model ensemble (LC-LRFMME) produce a probabilistic multi-model mean forecast product in which the multi-model mean is based on uncalibrated model output with a model weighting system that accounts for errors in both the forecast probabilistic and ensemble mean. The method used by LC-LRFMME separately computes a probabilistic forecast and calculates tercile probabilities with respect to climatology for each individual model, before creating the weighted multi-model mean. In seasonal prediction, shifts in the tercile probabilities are always closely associated with the shifts in the probability of extremes, and we can use the probability of terciles to provide information on the likelihood of above- or below- normal conditions. The thresholds used in the forecast summaries are defined below.

Seasonal forecasts rely on the aspects of the global weather and climate system that are more predictable, such as tropical sea-surface temperatures or the El Niño–Southern Oscillation (ENSO). However, whilst such forecasts may be able to show what is more or less likely to occur, they acknowledge that other outcomes are possible.

In addition, forecast uncertainty generally increases with longer range so the 6-month outlook is less reliable. It is also based on less information, because not all models are available to this range. Therefore the information presented here should be used to raise early awareness of potential hazards, and should be updated with the 3-month outlook when available.

In the report and tables precipitation is referred to as rainfall but in fact encompasses any form of water, liquid or solid, falling from the sky. Temperatures are the (2 metre) near-surface temperature.

Description	Definition
Much more likely to be below normal	When probability of lower tercile > 70%
More likely to be below normal	When probability of lower tercile is 40-70%
Likely to be near-normal	When probability of middle tercile is 40-70%
Much more likely to be near-normal	When probability of middle tercile > 70%
Likely to be above normal	When probability of upper tercile is 40-70%
Much more likely to be above normal	When probability of upper tercile > 70%
Climatological odds	When probabilities for all categories are roughly 33%

### Global Producing Centres (GPC) forecasts used by WMO LC-LRFMME:

- GPC CPTEC (INPE),
- GPC ECMWF,
- GPC Exeter (Met Office),
- GPC Melbourne (BOM),
- GPC Montreal (CMC),
- GPC Moscow (Hydromet Centre of Russia),
- GPC Offenbach (DWD),
- GPC Pretoria (SAWS),
- GPC Seoul (KMA),
- GPC Tokyo (JMA),
- GPC Toulouse (Meteo France),
- GPC Washington (NCEP)

**Africa: July to April** 





# Enquiries

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