

# AFRICA: Monthly Climate Outlook May to February

**Issued: August 2024**

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# Overview

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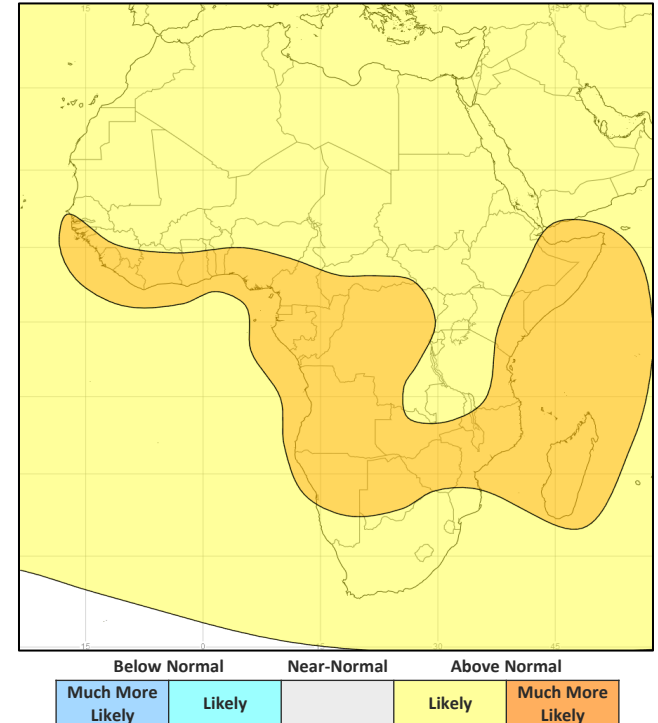
[Global Outlook – Rainfall](#)

# Africa Current Status and Outlook - Temperature

**Current Status:** Predominately warm or hot over the past three months. The main exceptions have been across the DRC, Sudan and parts of Ethiopia where temperatures have been near normal or cool at times. Madagascar was cold in May with cool conditions in South Africa during July.

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

3-Month Outlook September to November - Temperature



# Africa Current Status and Outlook - Rainfall

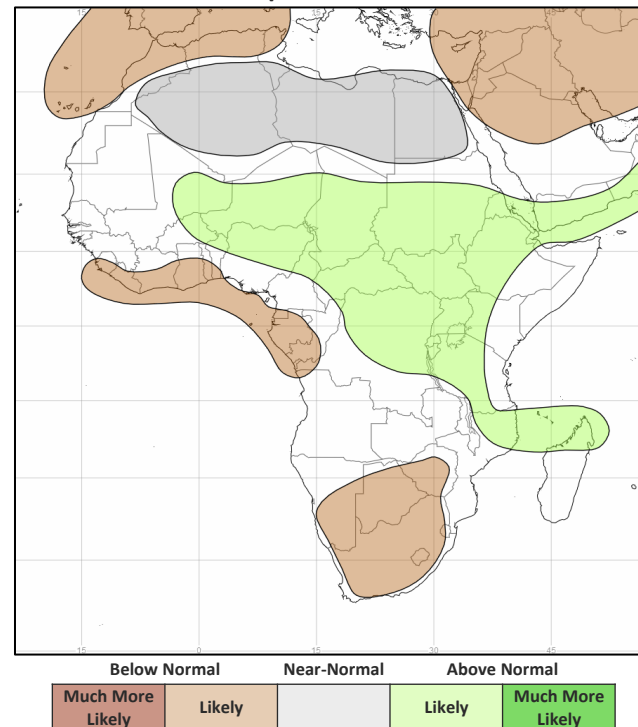
**Current Status:** Broadly speaking central and eastern parts of Africa had normal or dry conditions, with areas further north (stretching from Mali across Ethiopia) generally wet or very wet. South Africa was often wet, with a mix of conditions across Madagascar and Mozambique – wet in June and very dry in July.

**Outlook:** The Africa Inter Tropical Front (ITF) is likely to remain further north and more active than normal in the coming months only slowly retreating south, increasing the likelihood of wetter than normal conditions across a region stretching from eastern Mali in the west, to the Ethiopian Highlands in the east. Further south, along and just inland from the Gulf of Guinea coastline, drier than normal conditions are more likely.

Across central and eastern parts of Africa wetter than normal conditions are most likely. However, there is no signal for this across Somalia and Coastal Plains of Kenya and Tanzania where the chances of wetter or drier than normal conditions are evenly balanced (Climatological Odds). This wet signal extends into northern Mozambique. Otherwise, much of southern Africa is more likely to be drier than normal, although in absolute terms the potential rainfall deficit is likely to be small as this is towards the end of the dry season.

**Tropical cyclones** – Slight increase in the chance of early season storms (November onwards) in the southwest Indian Ocean impacting Madagascar and Mozambique.

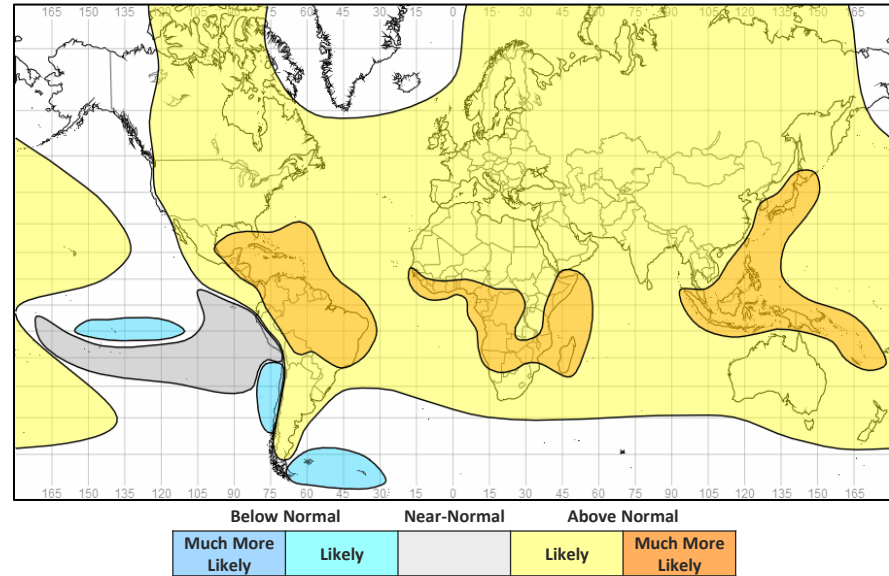
## 3-Month Outlook September to November - Rainfall



# Global Outlook - Temperature

**Outlook:** Consistent with a warming climate, warmer than normal conditions are very likely across large parts of the globe. There are limited exceptions, most notably western parts of South America and the Central Pacific where near normal or colder than normal conditions are more likely – this linked to cooler sea surface temperatures in the Pacific.

**3-Month Outlook September to November - Temperature**



# Global Outlook - Rainfall

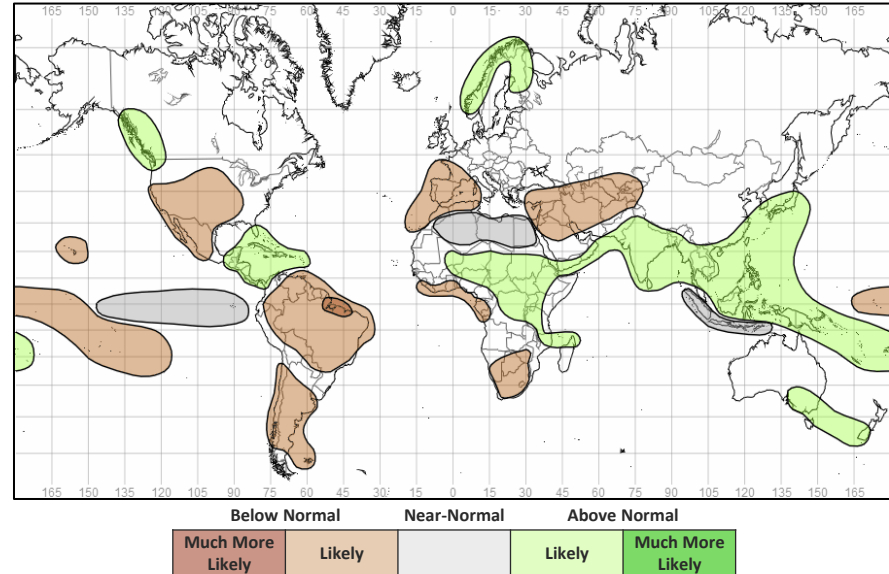
## Outlook:

**El Niño-Southern Oscillation (ENSO)** – Both oceanic and atmospheric indicators are consistent with ENSO-neutral conditions. ENSO-neutral is expected to prevail over the next couple of months. There is a chance of La Niña developing at longer forecast lead times (mid-to late-autumn), though still with some uncertainty. Latest model predictions continue to either delay and/or reduce the likelihood of a La Niña event developing.

According to CPC, the chance of La Niña developing in the period September-November is around 66%, rising to 74% in the early winter (November-January). However, other centres (such as BoM) have predictions which are much more finely balanced between ENSO-neutral and La Niña. Clearly, there is some uncertainty with predictions. Most likely is that ENSO-neutral conditions will persist for the next couple of months, with any transition to La Niña taking place from October onwards (45-65% likelihood). As such, predictability of weather patterns across many parts of the globe, is likely to be lower than this time last year, when an El Niño event was underway.

**Indian Ocean Dipole (IOD)** – The Indian Ocean Dipole (IOD) is currently neutral. Predictability of the IOD remains low with a wide range of outcomes in the coming months. In the short term, the IOD is most likely to remain neutral over the next month. However, later in the period, the chance of a negative IOD developing is slightly higher than either neutral or positive IOD development.

## 3-Month Outlook September to November - Rainfall



# Current Status

[Current Status maps](#)

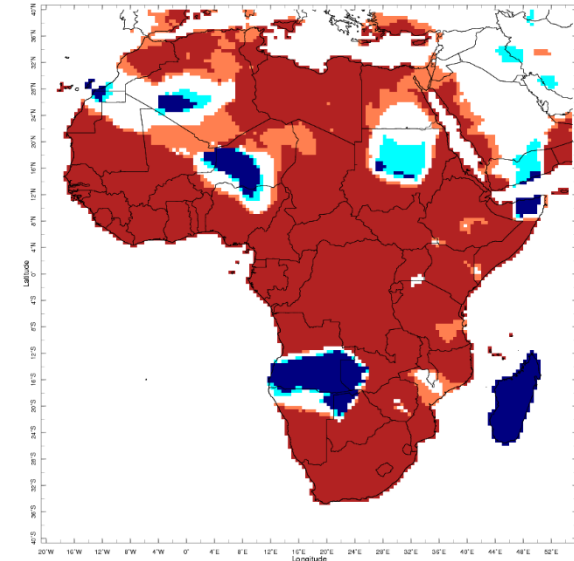
[Western Africa](#)

[Central Africa](#)

[Eastern Africa](#)

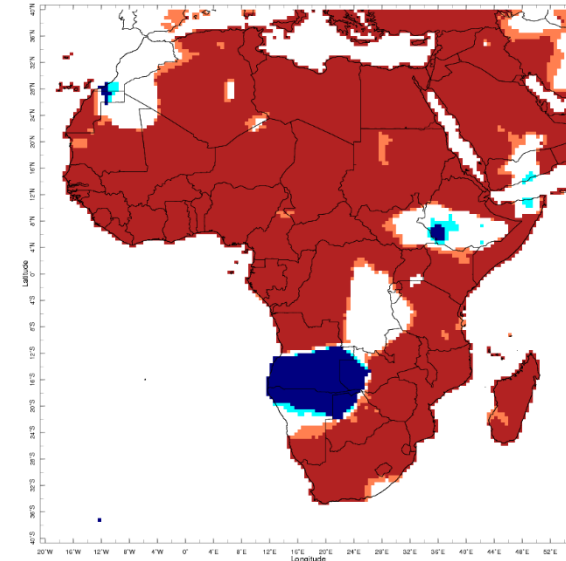
[Southern Africa](#)

# Current Status – Temperature percentiles



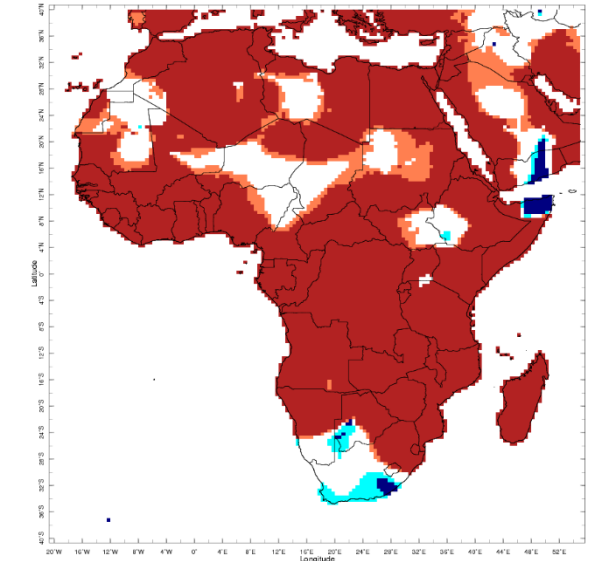
May 2024

May



Jun 2024

June



Jul 2024

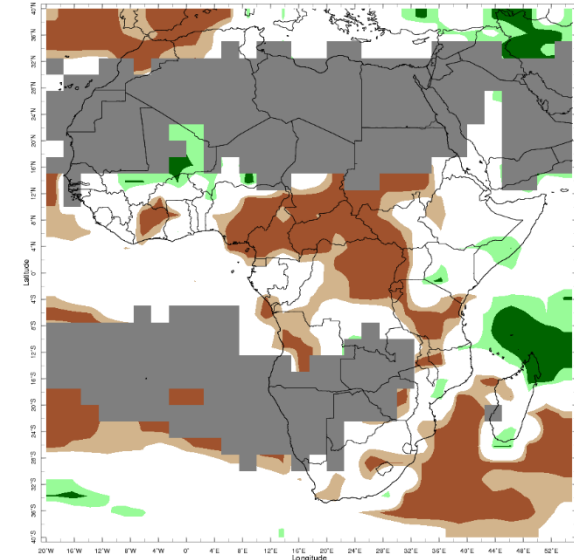
July



**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.

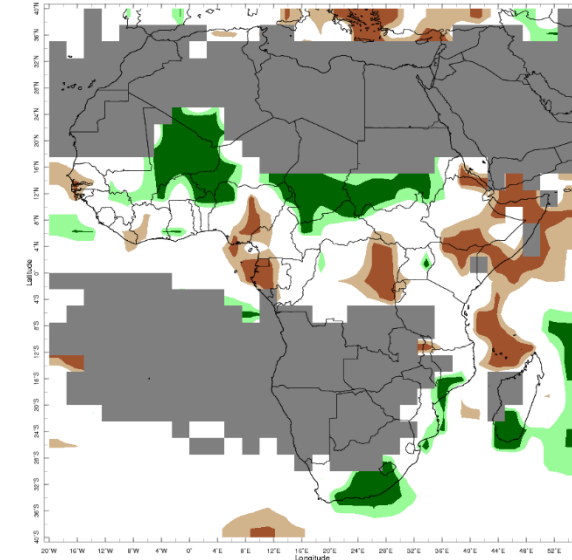


# Current Status – Precipitation percentiles



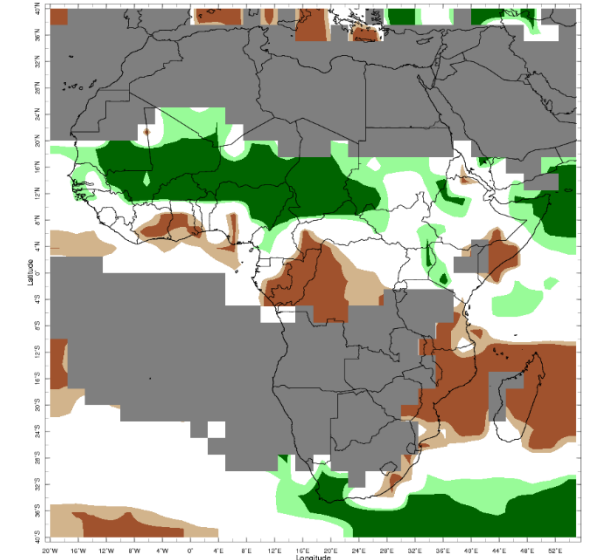
May 2024

May



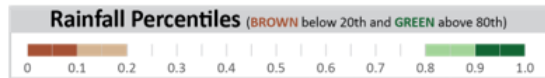
Jun 2024

June



Jul 2024

July



**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

Current Status: Temperature

	May	June	July
Sierra Leone	Hot	Hot	Hot
Liberia	Hot	Hot	Hot
Mali	Hot	Hot	Hot
Ghana	Hot	Hot	Hot
Nigeria	Mixed (1)	Hot	Hot (2)
Cameroon	Hot	Hot	Hot

Current Status: Rainfall

May	June	July
Normal	Normal	Normal
Normal	Normal	Normal
Wet	Very Wet	Very Wet
Normal	Normal	Normal
Very Dry	Mixed	Normal (3)
Very Dry	Normal	Normal (3)

### 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/>.

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

### Additional Information:

- (1) **Note:** Hot in the southwest, cool in the northeast
- (2) **Note:** Normal in the northeast
- (3) **Note:** Very Wet in the north

## Current Status – Central Africa

### Current Status: Temperature

	May	June	July
Niger	Mixed	Hot	Normal
Chad	Hot	Hot	Hot (3)
DRC	Hot	Mixed (1)	Hot

### Current Status: Rainfall

	May	June	July
Niger	Normal*	Wet	Very Wet
Chad	Very Dry	Very Wet	Very Wet
DRC	Very Dry	Mixed (2)	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:

<http://iridl.ldeo.columbia.edu/maproom/>.

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

#### Additional Information:

- (1) Note:** Hot in the north and west, normal elsewhere
- (2) Note:** Dry or very dry in the northeast, normal elsewhere
- (3) Note:** Normal in the west

# Current Status – Eastern Africa (1)

	Current Status: Temperature		
	May	June	July
Sudan	Mixed (1)	Hot	Warm
South Sudan	Mixed (2)	Mixed (2)	Warm
Uganda	Hot	Hot	Hot
Rwanda	Hot	Warm	Hot

	Current Status: Rainfall		
	May	June	July
	Very Dry	Very Wet	Wet
	Very Dry	Normal	Normal
	Mixed (3)	Normal	Wet
	Very Dry	Dry	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:

<http://iridl.ldeo.columbia.edu/maproom/>.

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

## Additional Information:

- (1) **Note:** Hot in the south, cool in the north
- (2) **Note:** Hot in the west, normal in the east
- (3) **Note:** Very Dry in the west, normal in the east

## Current Status – Eastern Africa (2)

Current Status: Temperature

	May	June	July
Tanzania	Hot	Hot	Hot
Ethiopia	Hot	Mixed (1)	Mixed (1)
Kenya	Hot	Hot	Hot
Somalia	Mixed	Mixed (2)	Mixed (2)

Current Status: Rainfall

	May	June	July
	Dry	Normal	Very Dry
	Normal	Dry	Normal
	Normal	Dry	Normal
	Normal	Dry	Mixed (3)

### 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/>.

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

### Additional Information:

- (1) **Note:** Hot in the north and east, normal or cool elsewhere
- (2) **Note:** Mostly hot but normal or cool in the north
- (3) **Note:** Very dry in the south, very wet in the north.

# Current Status – Southern Africa

### Current Status: Temperature

	May	June	July
South Africa	Hot	Hot	Mixed (4)
Zambia	Hot	Mixed (2)	Hot
Zimbabwe	Hot	Hot	Hot
Mozambique	Hot	Hot	Hot
Malawi	Hot	Hot	Hot
Madagascar	Cold	Hot	Hot

### Current Status: Rainfall

	May	June	July
	Normal	Wet	Dry (5)
	Normal*	Normal*	Normal*
	Normal*	Normal*	Normal*
	Normal	Wet	Very Dry
	Dry	Normal*	Very Dry
	Normal (1)	Mixed (3)	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:

<http://iridl.ldeo.columbia.edu/maproom/>.

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

#### Additional Information:

- (1) **Note:** Very Wet in the northeast
- (2) **Note:** Cold in the west, hot in the east
- (3) **Note:** Very wet in the south, normal elsewhere
- (4) **Note:** Cool in the south, hot in the north, normal elsewhere
- (5) **Note:** Very wet in the southwest

# 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: September to February – Western Africa (1)

		Forecast summary		
		September	September to November	December to February
Sierra Leone	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	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	Likely to be warmer than normal
	Rainfall	Climatological odds	Likely to be drier than normal	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 wetter than normal	Likely to be wetter than normal in the east, Climatological odds in the west	Climatological odds
Ghana	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Likely to be drier than normal	Climatological odds

**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.

## Outlook: September to February – Western Africa (2)

		Forecast summary		
		September	September to November	December to February
Nigeria	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 in the north, Climatological odds in the south	Likely to be wetter than normal in the north, Climatological odds in the south	Climatological odds
Cameroon	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 wetter than normal in the north, Climatological odds in the south	Likely to be wetter than normal in the north, Climatological odds in the south	Climatological odds

**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.

# Outlook: September to February – Central Africa

		Forecast summary		
		September	September to November	December to February
Niger	Temperature	Likely to be near-normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal	Climatological odds
Chad	Temperature	Likely to be near-normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal	Climatological odds
Democratic Republic of Congo	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 wetter than normal in the northeast, Climatological odds in the southwest	Likely to be wetter than normal in the northeast, Climatological odds in the southwest	Climatological odds

**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.

# Outlook: September to February – Eastern Africa (1)

		Forecast summary		
		September	September to November	December to February
Sudan	Temperature	Likely to be near-normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Likely to be wetter than normal	Likely to be wetter than 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	Likely to be wetter than normal	Climatological odds
Uganda	Temperature	Likely to be near-normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal	Climatological odds
Rwanda	Temperature	Likely to be near-normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal	Climatological odds

**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.

## Outlook: September to February – Eastern Africa (2)

		Forecast summary		
		September	September to November	December to February
Tanzania	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	Likely to be wetter than normal but Climatological odds along the Coastal Plain	Climatological odds
Ethiopia	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	Likely to be wetter than normal in the west, Climatological odds in the east	Climatological odds
Kenya	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	Likely to be wetter than normal but Climatological odds along the Coastal Plain	Climatological odds
Somalia	Temperature	Much more 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

**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.

# Outlook: September to February – Southern Africa (1)

		Forecast summary		
		September	September to November	December to February
South Africa	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	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	Likely to be drier than normal	Climatological odds
Zimbabwe	Temperature	Likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Likely to be drier than normal	Climatological odds
Mozambique	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Likely to be wetter than normal in the north, Climatological odds in the south	Climatological odds

**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.

# Outlook: September to February – Southern Africa (1)

		Forecast summary		
		September	September to November	December to February
Malawi	Temperature	Much more 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
Madagascar	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Likely to be wetter than normal in the north, Climatological odds in the south	Climatological odds

**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.

# 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](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 ([WMO Factsheet](#)), including:

- Greater Horn of Africa Climate Outlook Forum (GHACOF): [GHACOF 68 Statement](#) (August 2024)
- PRÉvisions climatiques Saisonnières en Afrique Soudano-Sahélienne (PRESASS): [PRESASS 11 Statement](#) (July 2024)
- Southern African Regional Climate Outlook Forum (SARCOF): SARCOF-29 (held 26-28 August 2024) output not yet available
- PRÉvisions climatiques Saisonnières en Afrique, pays du Golfe de Guinée (PRESAGG): [PRESAGG Special Bulletin](#) (March 2024)

# 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 probability 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 CPTC (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)

# Enquiries

Email: [internationaldevelopment@metoffice.gov.uk](mailto:internationaldevelopment@metoffice.gov.uk)

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