

# AFRICA: Monthly Climate Outlook October to July

**Issued: January 2025**

[Overview](#)

[Current Status](#)

[Outlooks](#)

[Annex 1 – Supplemental Information](#)

# Overview

[Africa Current Status and Outlook – Temperature](#)

[Africa Current Status and Outlook – Rainfall](#)

[Global Outlook – Temperature](#)

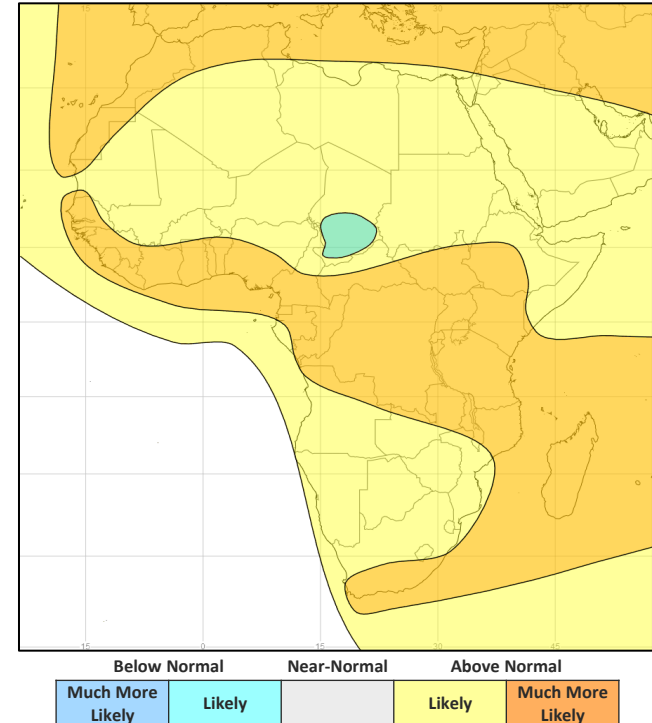
[Global Outlook – Rainfall](#)

# Africa Current Status and Outlook - Temperature

**Current Status:** Many areas across Africa were warm or hot over the last three months. There have been some exceptions with parts of Sudan seeing below normal temperatures during October and November. Temperatures have also been more mixed across the Sahel with some areas seeing near or below normal temperatures. Parts of Southern Africa also had near normal or normal temperatures at times. Madagascar was mixed, and cold in places in October and December.

**Outlook:** Consistent with a warming climate, warmer than normal conditions are likely or very likely across the whole continent. The exception being small parts of the Sahel, which may be influenced by increased Harmattan winds. However, this effect is likely to be very small and of very little impact.

3-Month Outlook February to April - Temperature



# Africa Current Status and Outlook - Rainfall

**Current Status:** The West Africa Monsoon has now ended although its effects can be seen during October, with wet to very wet conditions experienced across parts of the region. This region was more mixed during November and December with many places being normal or dry. Parts of central Africa have been dry during the last three months, including DRC. During November Uganda, western Kenya, western Tanzania and parts of Malawi and Zambia were wetter than normal, with more mixed conditions in December.

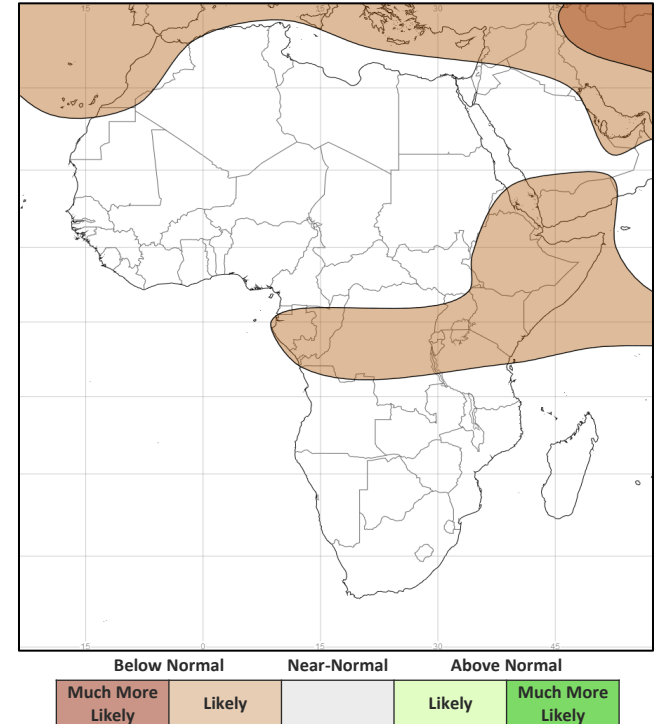
**Outlook:** The development of La Niña usually increases slightly the chance of a wetter than normal season across parts of southern Africa although these signals are not currently evident, with balanced chances of wet or dry conditions.

Very little signal for the precipitation outlook across southeast Africa, with the chances of wet and dry similar. Across central and parts of northern East Africa, there is a signal for conditions to be drier than normal. This is consistent with expected signals for La Niña conditions.

The West African monsoon has now ended, many parts usually receive very little rain with rainfall confined to areas adjacent to the Gulf of Guinea. Signals here are fairly weak.

*Tropical cyclones* – The season typically begins during December before peaking between January and March. Indications suggest near-average activity but with a risk of landfalls being more frequent than usual over parts of southeast Africa.

3-Month Outlook February to April - Rainfall

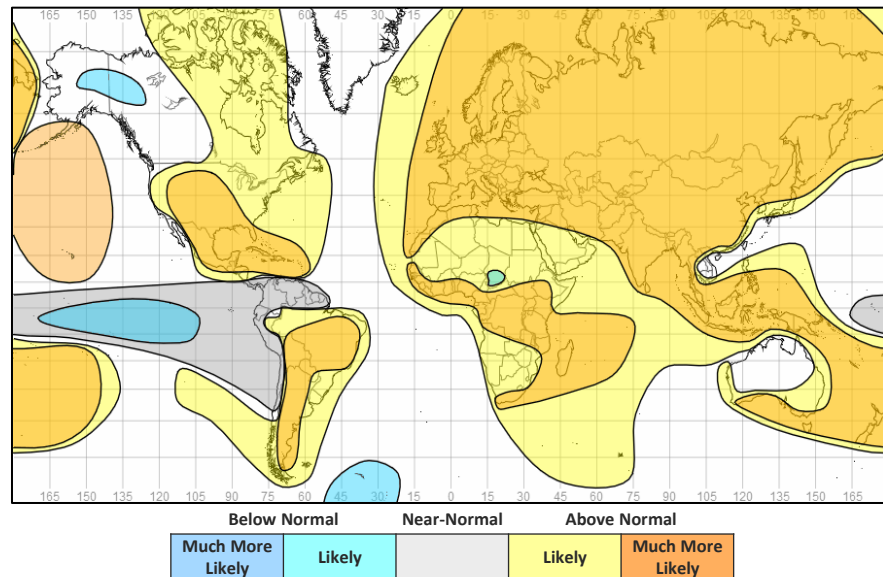


# Global Outlook - Temperature

**Outlook:** La Niña-like conditions have now developed and are likely to persist over the next two or three months, transitioning back to ENSO-Neutral in the northern hemisphere spring. More details in the precipitation section.

Many parts of the globe are likely to see warmer than normal conditions through the next three months. However, consistent with known La Niña connections, parts of Alaska, western Canada, and the south Pacific are more likely to be colder than normal.

## 3-Month Outlook February to April - Temperature



# Global Outlook - Rainfall

## Outlook:

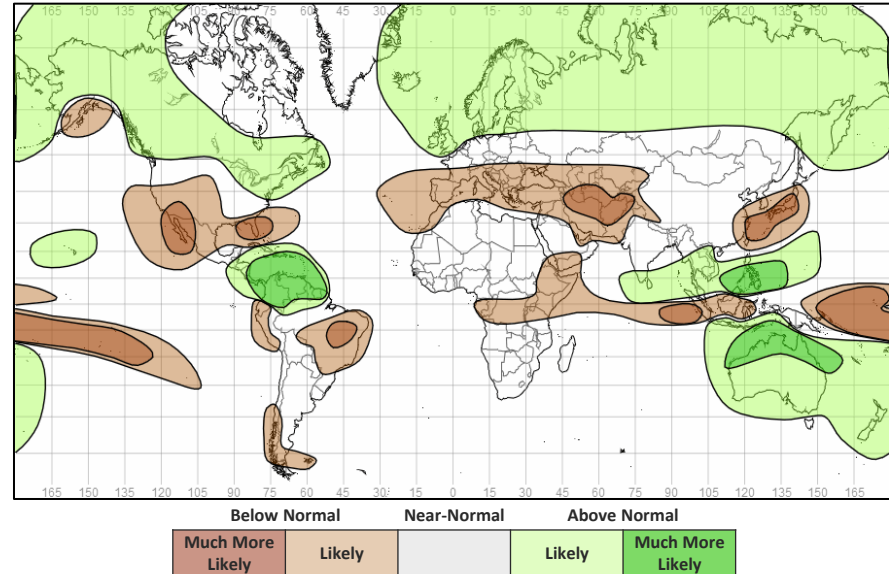
**El Niño-Southern Oscillation (ENSO)** – La Niña has been declared by some climate monitoring services whilst conditions do not quite meet the criteria for others. Nevertheless, La Niña-like conditions now exist and will affect the global climate over the next three months, with then a return to ENSO-neutral in the northern hemisphere spring. Equatorial sea surface temperatures across the central and eastern Pacific are slightly below average. Atmospheric indicators, such as the Southern Oscillation Index (SOI), trade wind strength and dateline cloudiness, are now indicating that some ocean-atmosphere coupling may now be underway. La Niña typically improves 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.

With a couple of notable exceptions (e.g., East Africa) La Niña, very broadly speaking, tends to increase the likelihood of wetter than normal conditions across many land areas of the tropics. More information on typical impacts can be found here

<https://www.metoffice.gov.uk/research/climate/seasonal-to-decadal/gpc-outlooks/el-niño-la-niña/enso-impacts>

**Indian Ocean Dipole (IOD)** – Negative-like IOD conditions were observed through much of October and November. However, this event was never officially declared by the Bureau of Meteorology (BoM), falling short by just one week of the necessary 7 consecutive weeks of an IOD index below  $-0.4^{\circ}\text{C}$ . The IOD is now at neutral levels and is expected to remain so throughout this period, offering little predictive value.

## 3-Month Outlook February to April - Rainfall



# Current Status

[Current Status maps](#)

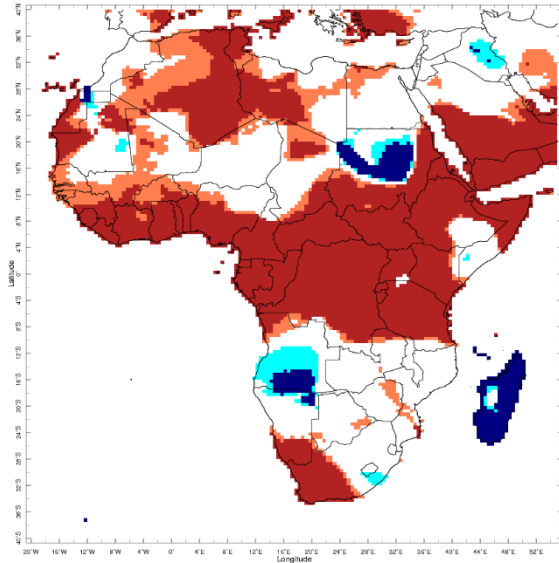
[Western Africa](#)

[Central Africa](#)

[Eastern Africa](#)

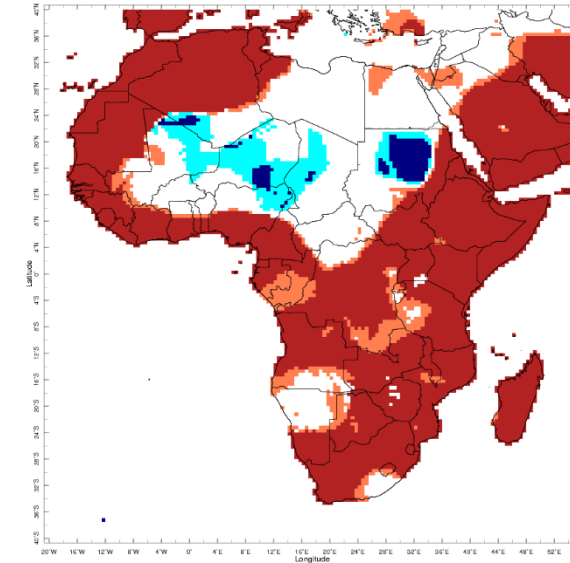
[Southern Africa](#)

# Current Status – Temperature percentiles



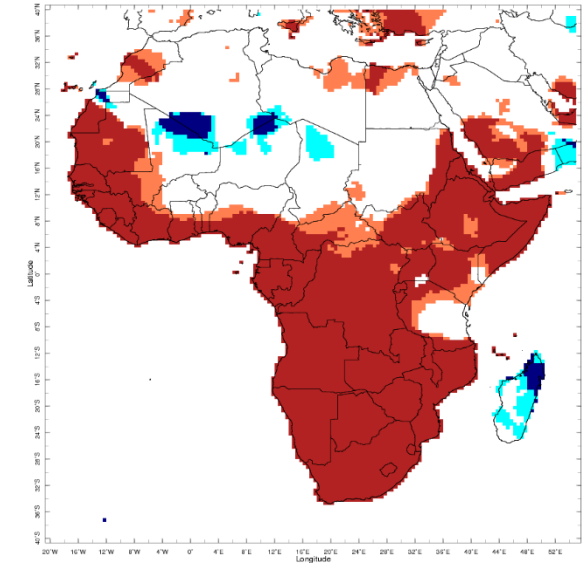
Oct 2024

October



Nov 2024

November



Dec 2024

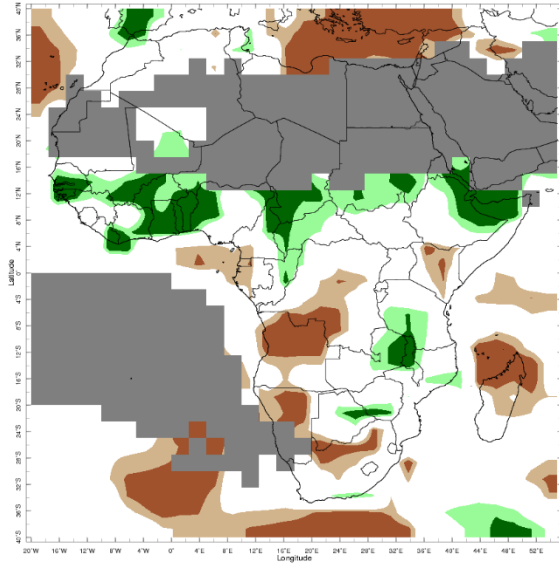
December



**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.

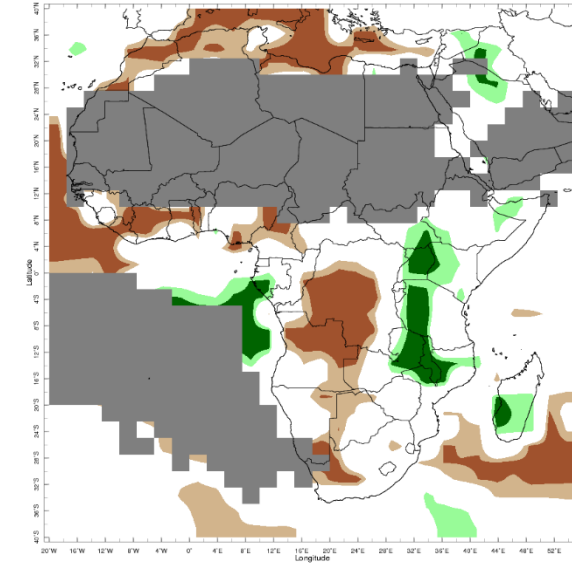


# Current Status – Precipitation percentiles



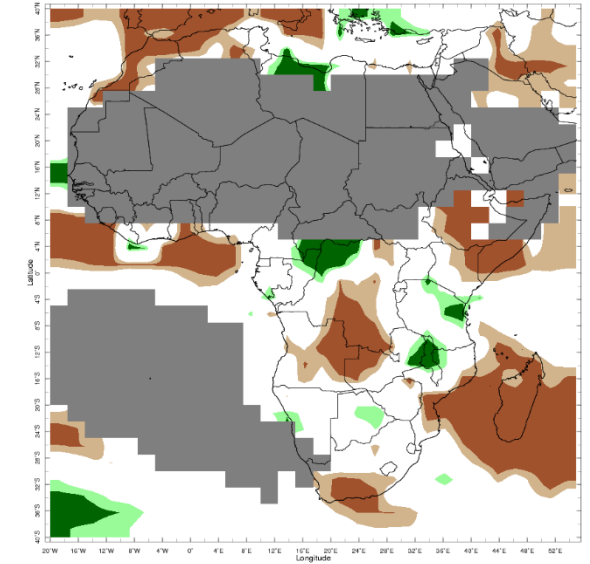
Oct 2024

October



Nov 2024

November



Dec 2024

December



**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		
	October	November	December
Mauritania	Normal	Hot	Hot (4)
Sierra Leone	Warm	Hot	Hot
Liberia	Hot	Hot	Hot
Mali	Normal	Normal	Mixed (5)

	Current Status: Rainfall		
	October	November	December
Mauritania	Mixed (1)	Normal*	Normal*
Sierra Leone	Normal	Normal	Normal*
Liberia	Mixed (2)	Very Dry	Very Dry
Mali	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:

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

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

## Additional Information:

- (1) Note:** Normal but wet in the north
- (2) Note:** Normal in the west, very wet in the east
- (3) Note:** Normal\* in the north, very wet in the south
- (4) Note:** Normal in the north
- (5) Note:** Normal, but hot in the southwest and cool or cold in the far northeast

## Current Status – Western Africa (2)

	Current Status: Temperature		
	October	November	December
Ghana	Hot	Hot	Hot (4)
Nigeria	Mixed (1)	Mixed (1)	Hot (4)
Cameroon	Hot	Hot	Hot (4)
Burkina Faso	Warm	Normal	Normal

	Current Status: Rainfall		
	October	November	December
	Very Wet	Dry	Normal (5)
	Mixed (2)	Dry	Normal (6)
	Mixed (3)	Dry	Normal (7)
	Very wet	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:

<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, normal or cool in the north
- (2) **Note:** Very wet in the west and northeast, otherwise normal
- (3) **Note:** Very wet in the northeast, dry in the far west, otherwise normal
- (4) **Note:** Normal in the north
- (5) **Note:** Very dry in the south
- (6) **Note:** Very dry in the east
- (7) **Note:** Normal, wet in the southeast

# Current Status – Central Africa

## Current Status: Temperature

	October	November	December
Niger	Normal	Cool	Normal (4)
Chad	Normal (1)	Cool	Normal
DRC	Hot	Hot	Hot

## Current Status: Rainfall

	October	November	December
	Normal*	Normal*	Normal*
	Mixed (2)	Normal*	Normal*
	Mixed (3)	Mixed (3)	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 far north and southeast

**(2) Note:** Very wet in the south, otherwise normal\*

**(3) Note:** Dry or very dry in the southwest, otherwise normal

**(4) Note:** Cool or cold in the far north

# Current Status – Eastern Africa (1)

	Current Status: Temperature		
	October	November	December
Sudan	Mixed (2)	Mixed (2)	Normal (3)
South Sudan	Hot	Hot	Hot
Uganda	Hot	Hot	Hot
Rwanda	Hot	Warm	Hot

	Current Status: Rainfall		
	October	November	December
Sudan	Mixed (1)	Normal*	Normal*
South Sudan	Normal	Normal (1)	Mixed (4)
Uganda	Normal	Very Wet	Very Wet
Rwanda	Normal	Wet	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:** Wet in parts of the south
- (2) Note:** Cold in the north, hot in the south
- (3) Note:** Hot in the far east
- (4) Note:** Normal, but wet or very wet in parts of the south

## Current Status – Eastern Africa (2)

Current Status: Temperature

	October	November	December
Tanzania	Hot	Hot	Mixed (6)
Eritrea	Hot	Hot	Hot
Ethiopia	Mixed (2)	Hot	Hot
Kenya	Hot	Hot	Hot
Somalia	Mixed (1)	Hot	Hot

Current Status: Rainfall

	October	November	December
	Normal (3)	Mixed (5)	Mixed (5)
	Very Wet	Normal*	Normal*
	Mixed (4)	Normal	Mixed (8)
	Dry	Mixed (5)	Mixed (7)
	Mixed (5)	Normal	Mixed (9)

### 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:** Warm or hot in the north and east, cool or cold in the southwest
- (2) **Note:** Warm or hot in the northwest, cool or cold in the southeast
- (3) **Note:** Wet in parts of the south
- (4) **Note:** Very wet in the northeast, otherwise normal
- (5) **Note:** Normal, Wet or very wet in parts of the east.
- (6) **Note:** Normal in eastern and central parts, but hot in the north, west and south
- (7) **Note:** Normal, Dry or very dry in the East.
- (8) **Note:** Normal, dry or very dry central and south west.
- (9) **Note:** Normal\*, dry or very dry in south and parts of north.

# Current Status – Southern Africa

## Current Status: Temperature

	October	November	December
South Africa	Mixed (9)	Hot	Hot
Zambia	Normal	Hot	Hot
Zimbabwe	Normal	Hot	Hot
Mozambique	Normal	Hot	Hot
Malawi	Normal	Hot	Hot
Madagascar	Cold	Hot	Mixed (7)

## Current Status: Rainfall

	October	November	December
	Mixed (3)	Normal	Mixed (8)
	Normal (2)	Mixed (5)	Mixed (5)
	Normal (1)	Normal	Normal
	Normal	Normal (6)	Normal (6)
	Very Wet	Very Wet	Very Wet
	Mixed (4)	Mixed (10)	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:** Mainly normal, very wet in the south
- (2) **Note:** Wet in parts of the east
- (3) **Note:** Very dry in parts of the north, otherwise normal
- (4) **Note:** Very dry in the north, normal in the south.
- (5) **Note:** Very Wet in the east, dry in the west.
- (6) **Note:** Very Wet in the north.
- (7) **Note:** Mainly normal or cool but cold in the north
- (8) **Note:** Mainly normal, but very dry in parts of the west
- (9) **Note:** Mainly normal, hot in the west
- (10) **Note:** Wet or very wet in parts of the south.

# 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: February to July – Western Africa (1)

		Forecast summary		
		February	February to April	May to July
Mauritania	Temperature	Likely to be warmer than normal, and <b>Much more likely to be warmer than normal</b> in the far west	Likely to be warmer than normal	Likely to be warmer than normal, and Much more likely to be warmer than normal in the north
	Rainfall	Likely to be near-normal	Climatological odds	Climatological odds
Sierra Leone	Temperature	<b>Much more likely to be warmer than normal</b>	<b>Much more likely to be warmer than normal</b>	Much more likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Liberia	Temperature	<b>Much more likely to be warmer than normal</b>	<b>Much more likely to be warmer than normal</b>	Much more likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Likely to be drier than normal
Mali	Temperature	Climatological odds, but <b>Likely to be warmer than normal</b> in the north	Likely to be warmer than normal	Likely to be warmer than normal, and Much more likely to be warmer than normal in the north
	Rainfall	Likely to be near-normal	Climatological odds	Climatological odds, but Likely to be wetter than normal in the south

**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: February to July – Western Africa (2)

		Forecast summary		
		February	February to April	May to July
Ghana	Temperature	Likely to be warmer than normal, and <b>Much more likely to be warmer than normal</b> in the north	<b>Much more likely to be warmer than normal</b>	Likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Climatological odds	Climatological odds
Nigeria	Temperature	Likely to be warmer than normal, and <b>Much more likely to be warmer than normal</b> in the north	Likely to be warmer than normal, and <b>Much more likely to be warmer than normal</b> in the south	Likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Climatological odds	Climatological odds
Cameroon	Temperature	<b>Much more likely to be warmer than normal</b>	Likely to be warmer than normal, and <b>Much more likely to be warmer than normal</b> in the north	Much more likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Climatological odds	Climatological odds
Burkina Faso	Temperature	Climatological odds	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be near-normal	Climatological odds	Likely to be wetter than normal

**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: February to July – Central Africa

		Forecast summary		
		February	February to April	May to July
Niger	Temperature	Mainly Climatological odds, but <b>Likely to be near-normal</b> in the south	<b>Likely to be warmer than normal</b>	Likely to be warmer than normal, and Much more likely to be warmer than normal in the north
	Rainfall	<b>Likely to be near-normal</b>	Climatological odds	Likely to be wetter than normal
Chad	Temperature	Mainly Climatological odds, but <b>Likely to be near-normal</b> in the south	<b>Likely to be warmer than normal</b> in the north, but <b>Likely to be colder than normal</b> in the south	Likely to be warmer than normal, and Much more likely to be warmer than normal in the north
	Rainfall	<b>Likely to be near-normal</b>	Climatological odds	Likely to be wetter than normal
Democratic Republic of Congo	Temperature	<b>Much more likely to be warmer than normal</b>	<b>Much more likely to be warmer than normal</b>	Much more likely to be warmer than normal
	Rainfall	<b>Likely to be drier than normal</b>	<b>Likely to be drier than normal</b>	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: February to July – Eastern Africa (1)

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

**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: February to July – Eastern Africa (2)

		Forecast summary		
		February	February to April	May to July
Tanzania	Temperature	<b>Much more likely to be warmer than normal</b>	<b>Much more likely to be warmer than normal</b>	Likely to be warmer than normal
	Rainfall	Likely to be drier than normal in the west, Likely to be near-normal in the east	Climatological odds in south, but Likely to be drier than normal in the north	Climatological odds
Rwanda	Temperature	<b>Much more likely to be warmer than normal</b>	<b>Much more likely to be warmer than normal</b>	Much more likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Climatological odds
Eritrea	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 drier than normal	Likely to be wetter than normal

**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: February to July – Eastern Africa (3)

		Forecast summary		
		February	February to April	May to July
Ethiopia	Temperature	Climatological odds	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	Likely to be wetter than normal in the northwest but Likely to be drier than normal in the southeast
Kenya	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 drier than normal	Likely to be drier than normal	Climatological odds
Somalia	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 near-normal	Likely to be drier than normal	Likely to be drier than normal

**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: February to July – Southern Africa (1)

## Forecast summary

		February	February to April	May to July
South Africa	Temperature	Likely to be warmer than normal, and <b>Much more likely to be warmer than normal</b> in the southwest	Likely to be warmer than normal, and <b>Much more likely to be warmer than normal</b> in the south	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Zambia	Temperature	Likely to be warmer than normal	Likely to be warmer than normal in the west and <b>Much more likely to be warmer than normal</b> in the east	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Zimbabwe	Temperature	Climatological odds	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Mozambique	Temperature	Climatological odds in the south but <b>Likely to be warmer than normal</b> in the north	Likely to be warmer than normal and <b>Much more likely to be warmer than normal</b> in the north	Much more 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: February to July – Southern Africa (1)

		Forecast summary		
		February	February to April	May to July
Malawi	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
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	Likely to be wetter than normal	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.

# 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 (<https://public.wmo.int/en/our-mandate/climate/regional-climate-outlook-products>), including:

# 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>