

# AFRICA: Monthly Climate Outlook

## April to January

**Issued: July 2021**

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# Overview

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# Africa Current Status and Outlook - Temperature

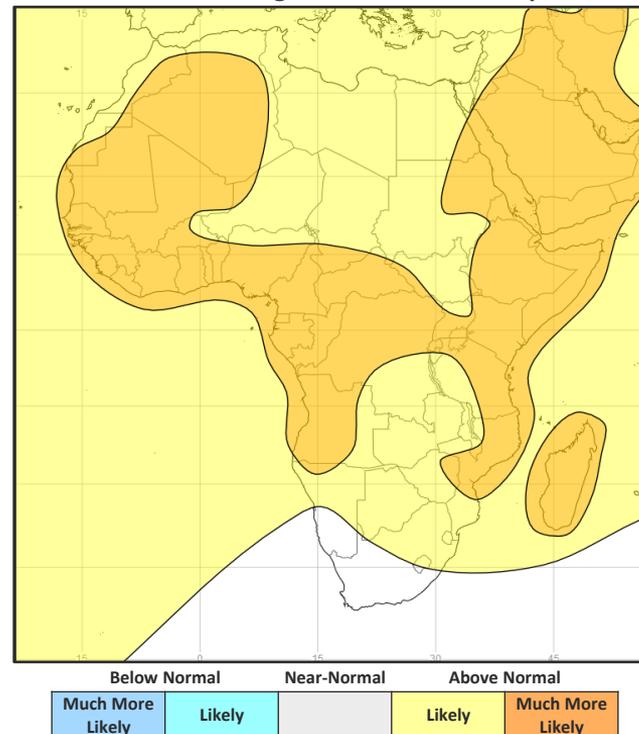
## Current Status:

Most areas of Africa have been either warm or hot over the past three months. The main exception to this being Madagascar, where it has been colder than normal.

## Outlook:

For the next three months, conditions are likely, or much more likely, to be above normal for the majority of the African and Madagascar.

## 3-Month Outlook August to October - Temperature



# Africa Current Status and Outlook - Rainfall

## Current Status:

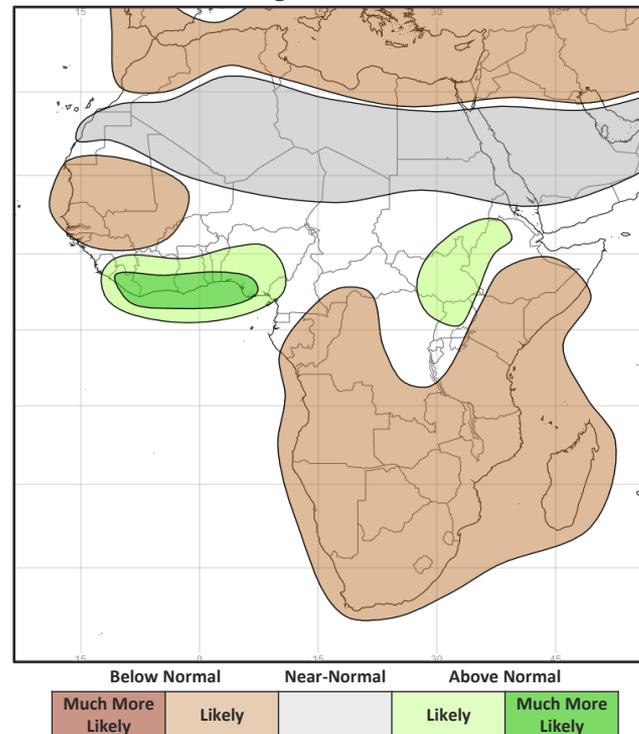
Rainfall has varied across the continent over the last three months. For much of the period it has been wetter than normal across Mali and Ghana, whilst countries around the Lake Victoria basin have generally been drier than normal.

## Outlook:

Rainfall in much of the southern half of the continent is likely to be below normal over the next three months, along with countries in West Africa such as Senegal, Gambia, Mauritania and parts of Mali.

Warmer than normal sea-surface temperatures mean there is likely to be above normal rainfall across countries bordering the Gulf of Guinea, including Sierra Leone, Liberia, Ghana and parts of Nigeria.

## 3-Month Outlook August to October - Rainfall



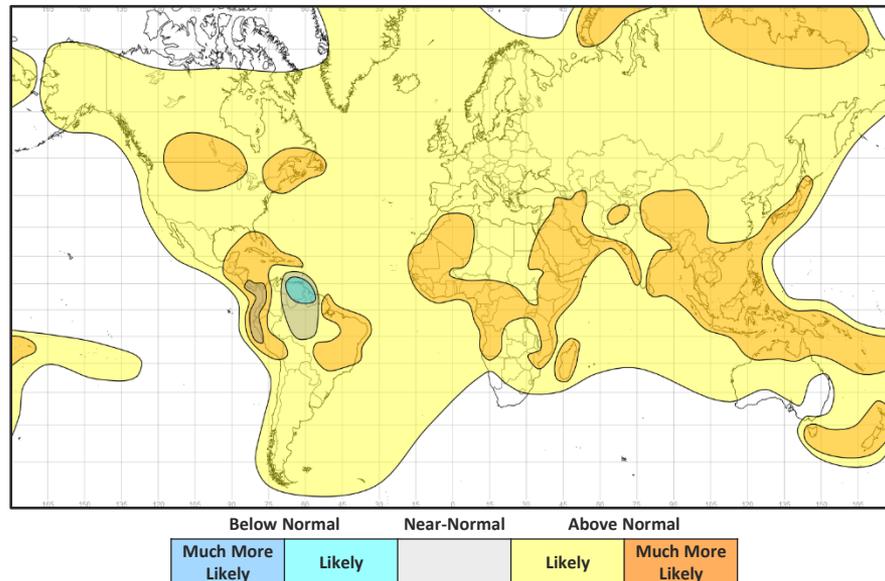
# Global Outlook - Temperature

## Outlook:

Whilst the El-Nino Southern Oscillation (ENSO) remains neutral and will have little impact on global weather patterns, the recent development and establishment of a negative Indian Ocean Dipole (IOD) improves forecast predictability for areas around the Indian Ocean Basin. NOAA CPC forecast a 66% chance of a return to La Niña in the period November to January. Should this develop, confidence in forecasts for the boreal (Northern Hemisphere) winter should increase.

For the next three months, above normal temperatures are likely across much of the world's land areas, which is consistent with our current warming climate. The strongest exception to warm conditions is in northern South America, where increased rainfall means it is likely to be cooler than normal.

## 3-Month Outlook August to October - Temperature



# Global Outlook - Rainfall

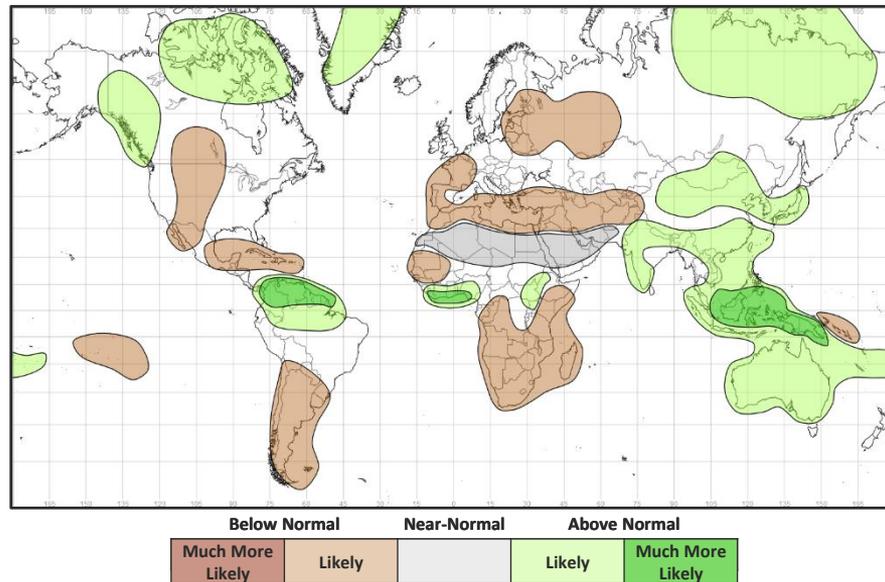
## Outlook:

Over the next three months, with ENSO neutral, the IOD will be the dominant global driver of rainfall patterns – though this influence is mainly limited to countries around the Indian Ocean Basin. Above normal rainfall is much more likely for northern Australasia in particular, and the Indian Summer Monsoon is likely to be more active than usual. Much of Southern Africa is likely to be drier than normal, with reduced rainfall as the seasonal rains return southwards.

Warmer than normal sea-surface temperatures (SST) adjacent to the Gulf of Guinea coastline result in above normal rainfall being likely, at the expense of some of the areas further north. These areas, which would usually see their peak rainfall over the next month or two due to the West African Monsoon, are likely to be drier than normal. The south-shifted Intertropical Convergence Zone (ITCZ) resulting from this SST pattern is expected to be the driver for above normal rainfall being much more likely across northern South America.

Rainfall across southern parts of south America, and large tracts of southern Europe, is likely to be below normal, along with the Caribbean and parts of Mexico and the USA. Above normal precipitation is likely for some high-latitude parts of the Northern Hemisphere.

## 3-Month Outlook August to October - Rainfall



# Current Status

[Current Status maps](#)

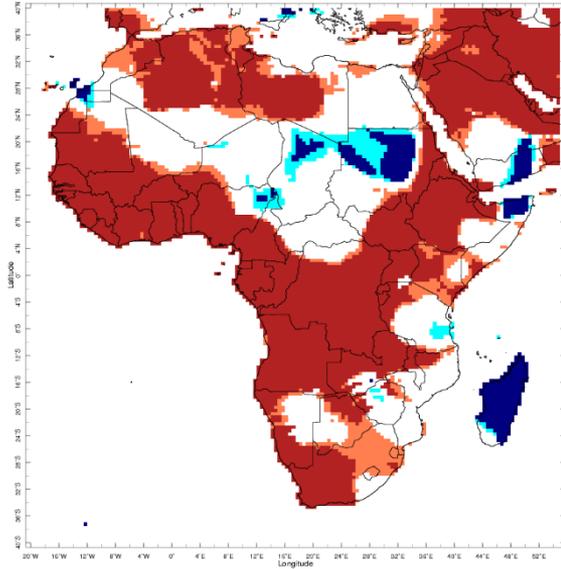
[Western Africa](#)

[Central Africa](#)

[Eastern Africa](#)

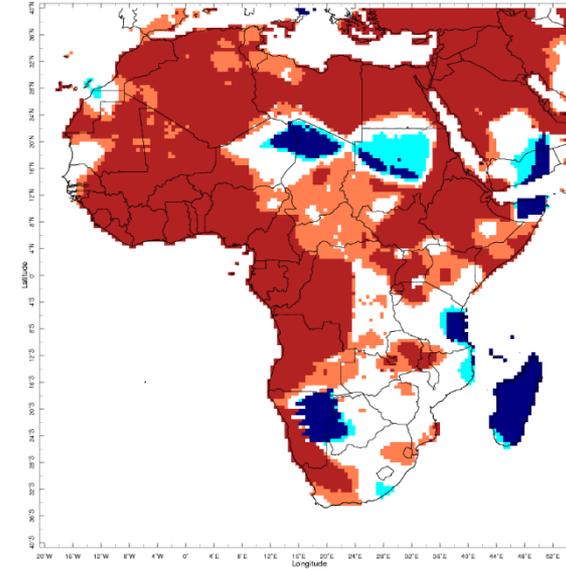
[Southern Africa](#)

# Current Status – Temperature percentiles



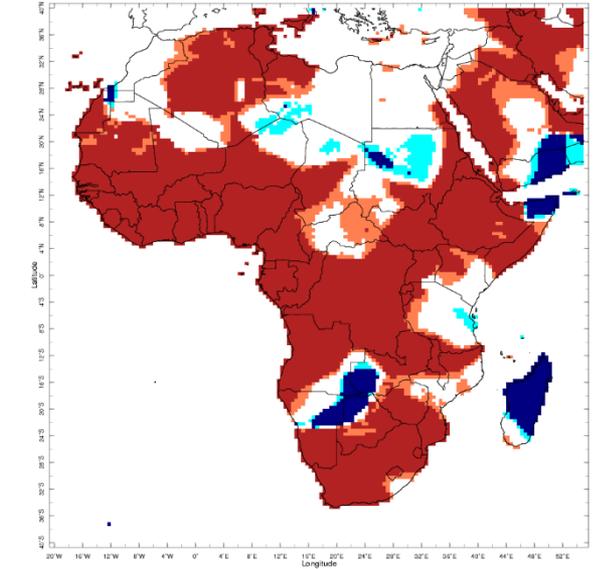
April 2021

April



May 2021

May



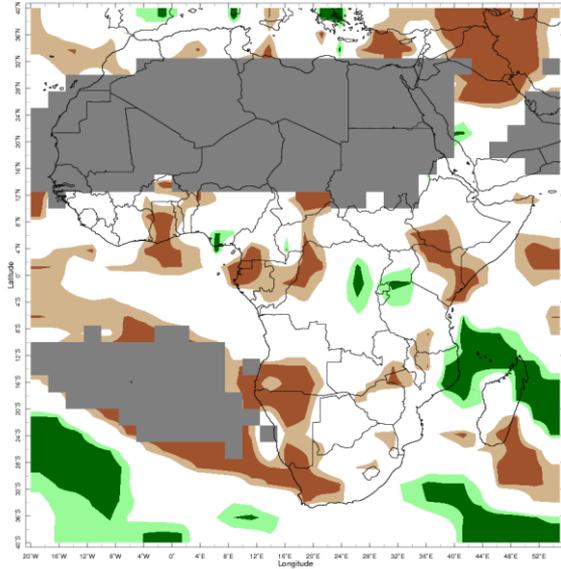
Jun 2021

June



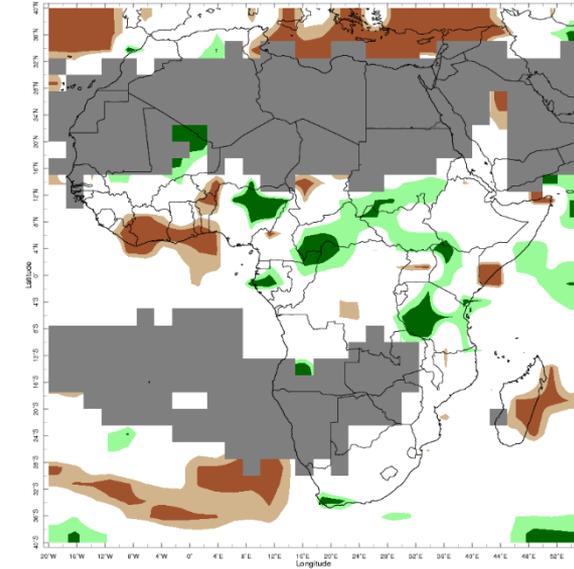
**Notes:** The percentiles shown in the map indicate a ranking of temperature, with the 0th percentile being the coolest and the 100th percentile being the warmest in the 1981–2010 climatology. Orange and red shading represent values above the 80th (Warm) and 90th (Hot) percentile, respectively; regions 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



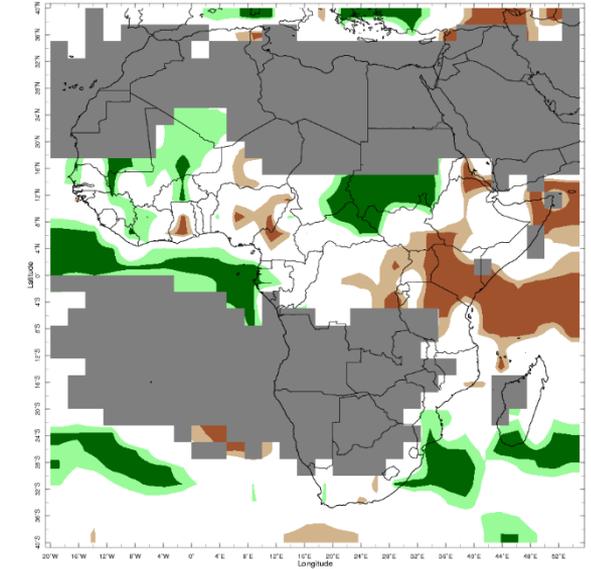
Apr 2021

April



May 2021

May



Jun 2021

June



**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

	April	May	June
Sierra Leone	Hot	Hot	Hot
Liberia	Hot	Hot	Hot
Mali	Hot	Hot	Hot
Ghana	Hot	Hot	Hot
Nigeria	Hot	Hot	Hot
Cameroon	Hot	Hot	Hot

Current Status: Rainfall

April	May	June
Normal	Normal	Normal
Normal	Dry	Normal
Normal*	Normal*	Wet
Very Dry	Normal (1)	Dry
Normal	Normal (2)	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:

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

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

### Additional Information:

- (1) **Note:** Very dry in far south  
 (2) **Note:** Wet or very wet in parts of the north

## Current Status – Central Africa

Current Status: Temperature

	April	May	June
Niger	Normal	Mixed (1)	Warm
Chad	Cool	Mixed (2)	Warm
DRC	Hot	Hot	Hot

Current Status: Rainfall

	April	May	June
Niger	Normal*	Normal*	Normal
Chad	Normal*	Normal*	Normal
DRC	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:** Hot in southwest, cold in northeast
- (2) **Note:** Warm in south, cold in north
- (3) **Note:** Very Dry in the northwest

## Current Status – Eastern Africa (1)

Current Status: Temperature

	April	May	June
Sudan	Cool	Cool	Normal
South Sudan	Hot	Hot	Hot
Uganda	Hot	Hot	Hot
Rwanda	Hot	Hot	Hot

Current Status: Rainfall

April	May	June
Normal*	Normal* (1)	Very Wet
Normal	Wet	Normal
Normal	Normal	Dry
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:** Wet in far south

## Current Status – Eastern Africa (2)

Current Status: Temperature

	April	May	June
Tanzania	Normal (1)	Normal (2)	Normal
Ethiopia	Hot	Hot	Hot
Kenya	Warm	Warm	Normal
Somalia	Normal	Warm (3)	Warm

Current Status: Rainfall

	April	May	June
Tanzania	Normal (4)	Normal (4)	Normal
Ethiopia	Normal (5)	Normal	Normal
Kenya	Dry	Normal	Very Dry
Somalia	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:

<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 west.
- (2) **Note:** Hot in far northwest, Cold in far southeast
- (3) **Note:** Cold in far northeast
- (4) **Note:** Wet near Lake Victoria
- (5) **Note:** Very Dry in the south

# Current Status – Southern Africa

Current Status: Temperature

	April	May	June
South Africa	Warm	Normal (1)	Hot
Zambia	Hot	Hot	Mixed (2)
Zimbabwe	Normal	Normal	Hot
Mozambique	Normal	Normal	Warm
Malawi	Hot	Hot	Hot
Madagascar	Cold	Cold	Cold

Current Status: Rainfall

	April	May	June
	Normal (3)	Normal (5)	Normal
	Normal	Normal	Normal*
	Normal	Normal*	Normal*
	Normal	Normal	Normal
	Normal	Normal	Normal*
	Normal (4)	Normal (6)	Normal (7)

## 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
- (2) **Note:** Hot in the northeast, but Cold in the southwest
- (3) **Note:** Very Dry in the west
- (4) **Note:** Very Wet in the northeast
- (5) **Note:** Wet in far southwest
- (6) **Note:** Dry in the east
- (7) **Note:** Very Wet in the far 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: August to January – Western Africa (1)

		Forecast summary		
		August	August to October	November to January
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	Likely to be wetter than normal	Climatological odds	Likely to be drier than normal
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	Likely to be wetter than normal	Much more likely to be wetter than normal	Likely to be drier than normal
Mali	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
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	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: August to January – Western Africa (2)

		Forecast summary		
		August	August to October	November to January
Nigeria	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	Likely to be wetter than normal	Likely to be drier than normal
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	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: August to January – Central Africa

		Forecast summary		
		August	August to October	November to January
Niger	Temperature	<b>Much more likely to be warmer than normal</b> in the north. <b>Likely to be warmer than normal</b> in the south.	<b>Likely to be warmer than normal</b>	Likely to be warmer than normal
	Rainfall	Climatological odds	<b>Likely to be near-normal</b> in the north. Climatological odds in the south.	Climatological odds
Chad	Temperature	<b>Much more likely to be warmer than normal</b> in the north. <b>Likely to be warmer than normal</b> in the south.	<b>Likely to be warmer than normal</b>	Likely to be warmer than normal
	Rainfall	Climatological odds	<b>Likely to be near-normal</b> in the north. Climatological odds in the south.	Climatological odds
Democratic Republic of Congo	Temperature	<b>Likely to be warmer than normal</b>	<b>Much more likely to be warmer than normal</b>	Likely to be warmer than normal
	Rainfall	<b>Likely to be drier than normal</b>	<b>Likely to be drier than normal</b> in the west. Climatological odds in the east.	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: August to January – Eastern Africa (1)

		Forecast summary		
		August	August to October	November to January
Sudan	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 near-normal in the north. Climatological odds in the south.	Climatological odds
South Sudan	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	Climatological odds
Uganda	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 wetter than normal	Climatological odds
Rwanda	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

**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: August to January – Eastern Africa (2)

		Forecast summary		
		August	August to October	November to January
Tanzania	Temperature	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	Likely to be drier than normal
Ethiopia	Temperature	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	Likely to be wetter than normal in the far west. Otherwise Likely to be drier than normal	Climatological odds
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 in the east, otherwise Climatological odds.	Likely to be drier than normal	Likely to be drier than normal
Somalia	Temperature	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 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: August to January – Southern Africa (1)

		Forecast summary		
		August	August to October	November to January
South Africa	Temperature	Climatological odds	Climatological odds	Likely to be warmer than normal
	Rainfall	Climatological odds	Likely to be drier than normal	Climatological odds
Zambia	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 drier than normal
Zimbabwe	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	Climatological odds
Mozambique	Temperature	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	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: August to January – Southern Africa (1)

		Forecast summary		
		August	August to October	November to January
Malawi	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	Likely to be drier than normal
Madagascar	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	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.

# 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.ncdc.noaa.gov/teleconnections/enso/indicators/sst.php>

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:

Greater Horn of Africa Climate Outlook Forum (GHACOF): <https://www.icpac.net/ghacof-58/> (May 2021)

PRÉvisions climatiques Saisonnières en Afrique Soudano-Sahélienne (PRESASS): <http://acmad.net/rcc/presassS.php> (April 2021)

Southern African Regional Climate Outlook Forum (SARCOF): <http://csc.sadc.int/en/news-and-events/310-announcement-sarcof-24> (August 2020)

PRÉvisions climatiques Saisonnières en Afrique, pays du Golfe de Guinée (PRESAGG): <http://acmad.net/rcc/presagg.php> (February 2021)

South-West Indian Ocean Climate Outlook Forum (SWIOCOF) - [https://www.commissionoceanindien.org/wp-content/uploads/2020/09/SWIOCOF-9\\_Statement.pdf](https://www.commissionoceanindien.org/wp-content/uploads/2020/09/SWIOCOF-9_Statement.pdf) (Sept 2020)

# 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 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>