Met Office

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AFRICA: Monthly Climate Outlook
April to January

Issued: July 2024

Overview

Africa Current Status and Outlook – Temperature

Africa Current Status and Outlook – Rainfall

Global Outlook – Temperature

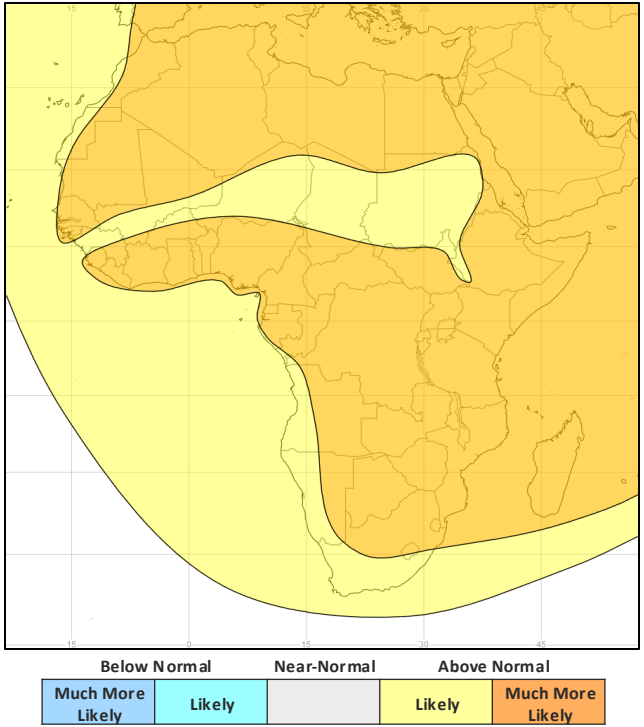
Global Outlook – Rainfall

Africa Current Status and Outlook - Temperature

Current Status: It has been predominately warm or hot over the past three months. The most notable exception to this has been in southern Angola where it has been consistently normal to cold. Parts of the Greater Horn of Africa have seen normal to cool conditions at times, for example Sudan, South Sudan and Ethiopia. The Sahel and Madagascar have been rather mixed too over the last three months.

Outlook: Over the next three months, it is much more likely to be warmer than normal across most of the continent.

3-Month Outlook August to October - Temperature



Africa Current Status and Outlook - Rainfall

Current Status: Slightly wetter than normal conditions across East Africa in April gave way to a normal May, coinciding with the end of the Long Rains season. It's been normal to very dry in June.

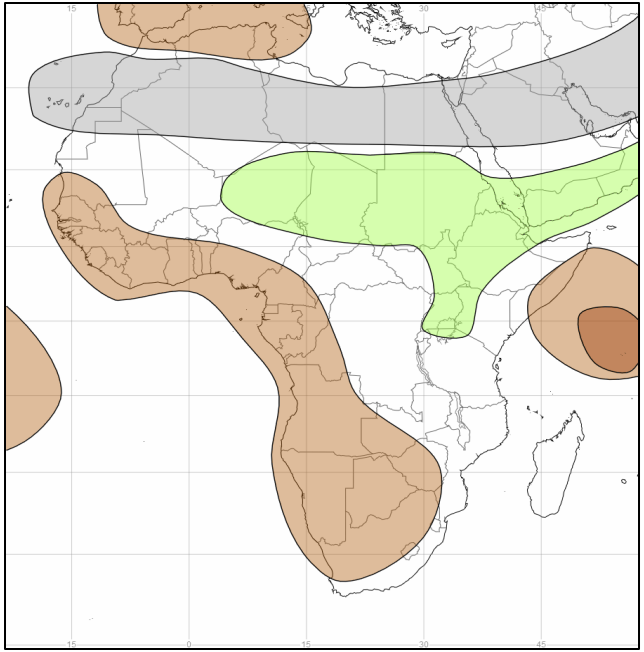
Central Africa was very dry in May but wet conditions prevailed in Chad during June. The same pattern has been observed further west in the Sahel, notably Mali and Niger.

Southern Africa, including coastal parts of Mozambique and southern Madagascar, were wet in April and June.

Outlook: Across most of East Africa, normal to dry conditions are expected between August and October, which coincides with the usual break between the Long and the Short Rains. For Uganda, Sudan, parts of Chad, Niger, Ethiopia, Kenya and South Sudan, it is more likely to be wetter than normal. These parts of the Greater Horn of Africa and Sahel usually experience a summer peak in rainfall, so the wet signal suggests greater impacts from the wet season.

Over West Africa, during the ongoing monsoon season, it is likely to be drier than normal in many parts. It is also likely to be drier than normal in much of Southern Africa, especially western parts. Impacts, however, are likely to be limited given this is the dry season for this region.

3-Month Outlook August to October - Rainfall

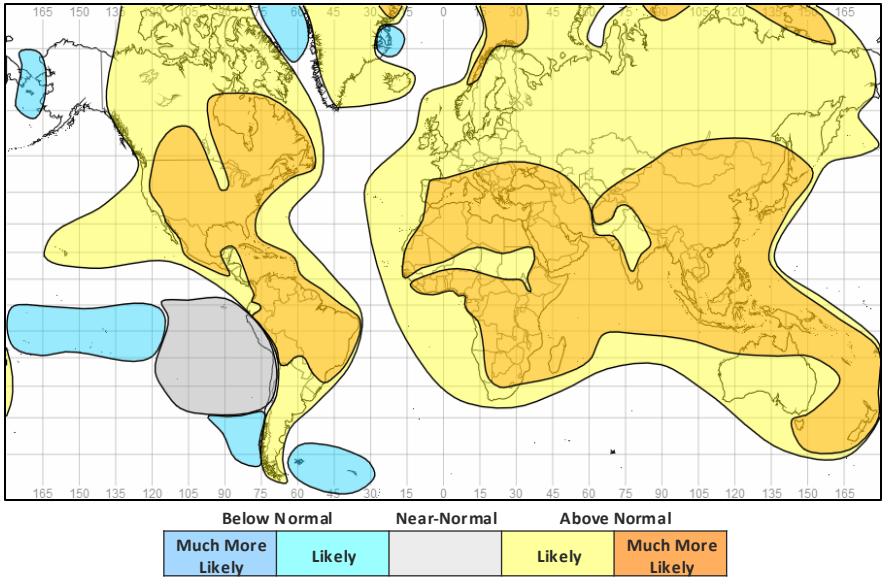


Below Normal		Near-Normal	Above Normal	
Much More Likely	Likely		Likely	Much More Likely

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 August to October - Temperature



Global Outlook - Rainfall

Outlook: Outlook:

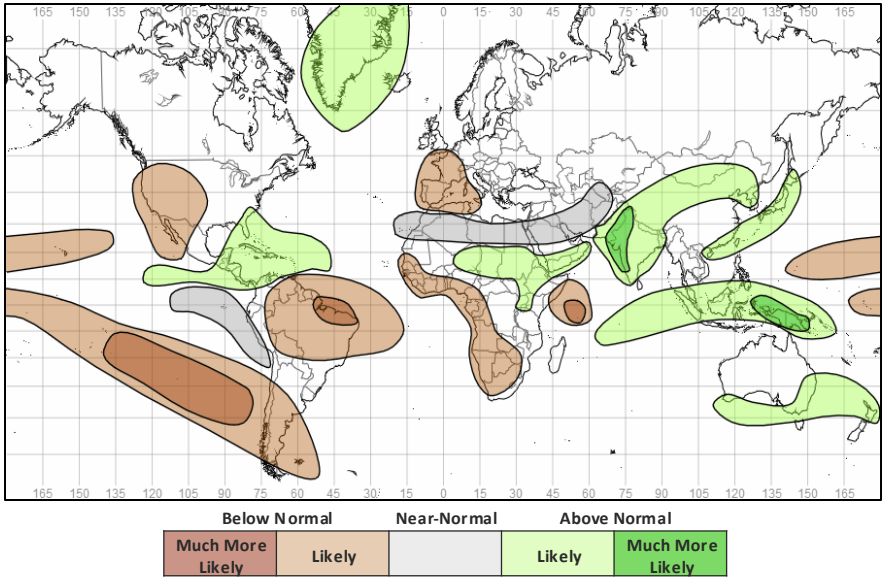
El Niño-Southern Oscillation (ENSO) – Both oceanic and atmospheric indicators are consistent with ENSO-neutral conditions. ENSO-neutral is expected to prevail over the next couple of months. There is an increasing chance of La Niña developing during August-October 2024

According to NOAA's Climate Prediction Center (CPC), La Niña is likely (70% probability) to develop in the period August-October, persisting into the Northern Hemisphere winter 2024-25, this probability increases (79% probability) for November-January. However, other forecasts have differing probabilities suggesting there is uncertainty amongst the predictions. 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 Diploe (IOD) – The Indian Ocean Dipole (IOD) is currently neutral. Most long-range forecast models are predicting the IOD to remain neutral over the coming months.

It is worth noting that global sea surface temperatures (SSTs) have been the warmest on record for each month for over a year now. The global pattern of warmth is likely affecting the typical historical global pattern of sea surface temperatures associated with ENSO and IOD. As the current global ocean conditions have not been observed before, historical comparisons based on past ENSO or IOD events may not be reliable.

3-Month Outlook August to October - Rainfall



Current Status

Current Status maps

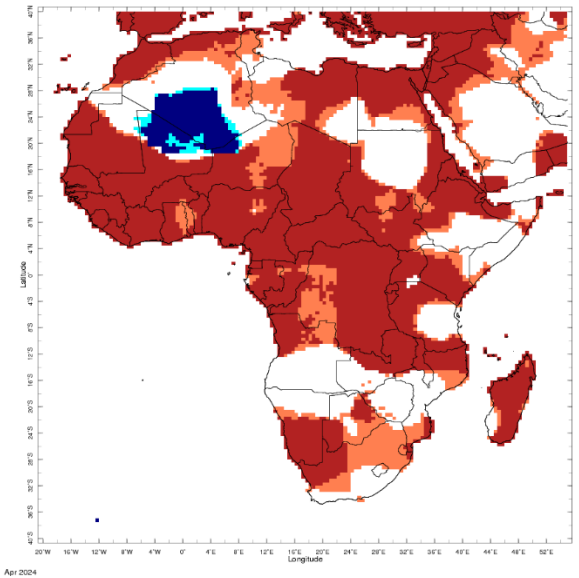
Western Africa

Central Africa

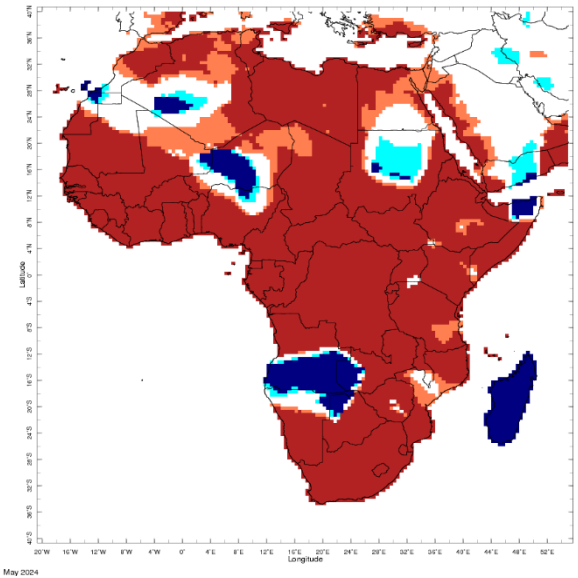
Eastern Africa

Southern Africa

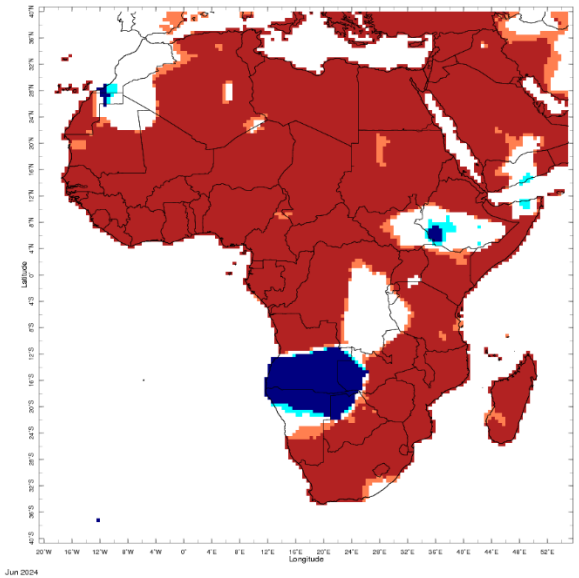
Current Status – Temperature percentiles



April



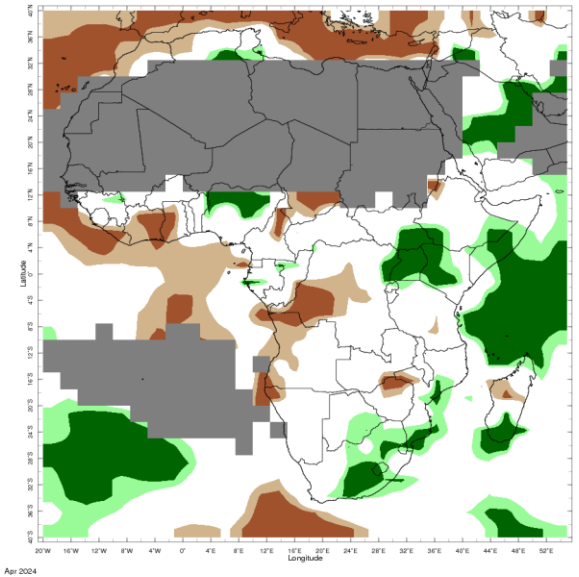
May



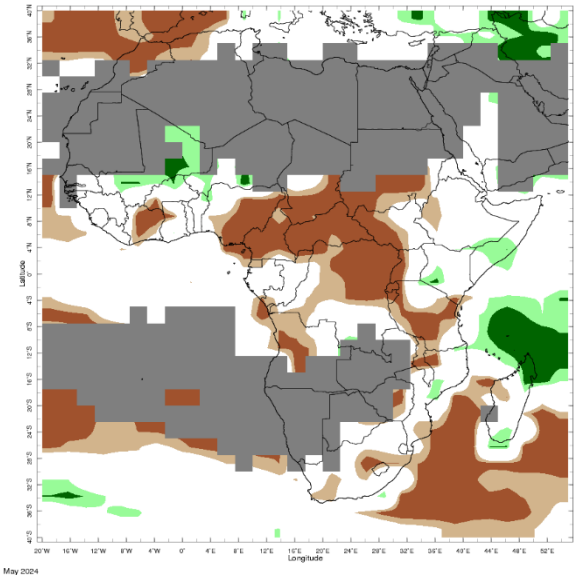
June

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.

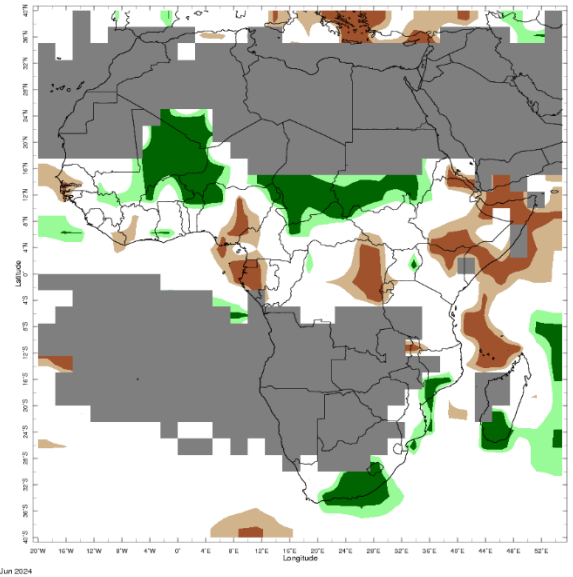
Current Status – Precipitation percentiles



April



May



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 10mm/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			Current Status: Rainfall		
	April	May	June	April	May	June
Sierra Leone	Hot	Hot	Hot	Normal	Normal	Normal
Liberia	Hot	Hot	Hot	Dry	Normal	Normal
Mali	Mixed (1)	Hot	Hot	Normal*	Wet	Very Wet
Ghana	Warm	Hot	Hot	Dry	Normal	Normal
Nigeria	Warm	Mixed (1)	Hot	Normal (2)	Very Dry	Mixed
Cameroon	Hot	Hot	Hot	Normal	Very 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 southwest, cool in the northeast
(2) Note: Very wet in the north

Current Status – Central Africa

	Current Status: Temperature			Current Status: Rainfall		
	April	May	June	April	May	June
Niger	Mixed (2)	Mixed	Hot	Normal*	Normal*	Wet
Chad	Hot	Hot	Hot	Normal*	Very Dry	Very Wet
DRC	Mixed (1)	Hot	Mixed (3)	Mixed	Very Dry	Mixed (4)

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 in the west, hot in the east
(2) Note: Warm or hot in most regions but cold in the northwest
(3) Note: Hot in the north and west, normal elsewhere
(4) Note: Dry or very dry in the northeast, normal elsewhere

Current Status – Eastern Africa (1)

	Current Status: Temperature			Current Status: Rainfall		
	April	May	June	April	May	June
Sudan	Normal	Mixed (2)	Hot	Normal*	Very Dry	Very Wet
South Sudan	Warm	Hot	Normal	Normal (3)	Very Dry	Normal
Uganda	Warm	Hot	Hot	Very Wet	Normal (4)	Normal
Rwanda	Hot	Hot	Warm	Wet	Very Dry	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 south, cool in the north
(2) Note: Very wet in the southeast
(3) Note: Very dry in the west

Current Status – Eastern Africa (2)

	Current Status: Temperature			Current Status: Rainfall		
	April	May	June	April	May	June
Tanzania	Mixed (1)	Hot	Hot	Normal	Dry	Normal
Ethiopia	Mixed (2)	Mixed (2)	Mixed (2)	Normal (3)	Normal	Dry
Kenya	Hot	Hot	Hot	Very Wet	Normal	Dry
Somalia	Normal	Mixed	Mixed (4)	Normal (3)	Normal	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 west, normal in the east
(2) Note: Hot in the north, normal or cool elsewhere
(3) Note: Wet or very wet in the south
(4) Note: Mostly hot but normal or cool in the north

Current Status – Southern Africa

	Current Status: Temperature			Current Status: Rainfall		
	April	May	June	April	May	June
South Africa	Warm	Hot	Hot	Wet	Normal	Wet
Zambia	Hot	Hot	Mixed (3)	Normal	Normal*	Normal*
Zimbabwe	Normal	Hot	Hot	Normal	Normal*	Normal*
Mozambique	Normal	Hot	Hot	Normal (1)	Normal	Wet
Malawi	Hot	Hot	Hot	Normal	Dry	Normal*
Madagascar	Hot	Cold	Hot	Mixed	Normal (2)	Mixed (4)

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 the south
(2) Note: Very wet in the northeast
(3) Note: Cold in the west, hot in the east
(4) Note: Very wet in the south, normal elsewhere

Outlooks

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**	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	Likely to be drier than normal	Likely to be drier than normal	Climatological odds
Mali	*Temperature*	**Much more likely to be warmer than normal** in the far northeast; Likely to be warmer than normal elsewhere	**Much more likely to be warmer than normal**	Much more likely to be warmer than normal in the far west; Likely to be warmer than normal elsewhere
	Rainfall	Likely to be wetter than normal	Likely to be drier than normal in the far west; Climatological odds elsewhere	Likely to be near-normal
Ghana	*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	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 – 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**	Much more likely to be warmer than normal in the south; Likely to be warmer than normal elsewhere
	Rainfall	**Likely to be drier than normal** in the south; Climatological odds elsewhere	**Likely to be drier than normal** in the south; Climatological odds elsewhere	Likely to be near-normal in the north; Likely to be drier than normal in the south.
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 drier than normal**	**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: August to January – Central Africa

		Forecast summary		
		August	August to October	November to January
Niger	*Temperature*	**Much more likely to be warmer than normal** in the far north and the far south; Climatological odds elsewhere	**Much more likely to be warmer than normal** in the far north and the far south; Climatological odds elsewhere	Likely to be warmer than normal
	Rainfall	**Likely to be wetter than normal**	**Likely to be wetter than normal**	Likely to be near-normal
Chad	*Temperature*	**Much more likely to be warmer than normal** in the far north; Climatological odds elsewhere	**Much more likely to be warmer than normal** in the far north and the far south; Climatological odds elsewhere	Likely to be warmer than normal
	Rainfall	**Likely to be wetter than normal**	**Likely to be wetter than normal**	Likely to be near-normal
Democratic Republic of Congo	*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** in the west; Climatological odds elsewhere	**Likely to be drier than normal** in the far west; Climatological odds elsewhere	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*	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 near-normal
South Sudan	*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 east; Climatological odds elsewhere	Likely to be wetter than normal in the east; Climatological odds elsewhere	Likely to be drier than normal
Uganda	*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
Rwanda	*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: August to January – Eastern Africa (2)

		Forecast summary		
		August	August to October	November to January
Tanzania	*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
Ethiopia	*Temperature*	**Much more likely to be warmer than normal** in central parts; **Likely to be warmer than normal** elsewhere	**Much more likely to be warmer than normal**	Much more likely to be warmer than normal in the southeast; Likely to be warmer than normal elsewhere
	Rainfall	**Likely to be wetter than normal**	Climatological odds in the south; **Likely to be wetter than normal** in the north.	Likely to be drier than normal
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 wetter than normal**	**Likely to be wetter than normal** in the west; Climatological odds elsewhere	Likely to be drier than normal
Somalia	*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	**Likely to be drier than normal** in the south; Climatological odds elsewhere	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*	Likely to be warmer than normal	**Much more likely to be warmer than normal** in the north and east; Likely to be warmer than normal elsewhere	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds in the south and east; Likely to be drier than normal elsewhere	Climatological odds
Zambia	*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 drier than normal in the far west; Climatological odds elsewhere	Climatological odds
Zimbabwe	*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 drier than normal	Climatological odds
Mozambique	*Temperature*	**Much more likely to be warmer than normal** in the north; Likely to be warmer than normal elsewhere	**Much more likely to be warmer than normal**	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds

Outlook: August to January – Southern Africa (1)

		Forecast summary		
		August	August to October	November to January
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	Likely to be near-normal	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 near-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

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 forums:

- Greater Horn of Africa Climate Outlook Forum (GHACOF) (May 2024)
- PRÉvisions climatiques Saisonnières en Afrique Soudano-Sahélienne (PRESASS) (April 2024)
- Southern African Regional Climate Outlook Forum (SARCOF) (September 2023)
- PRÉvisions climatiques Saisonnières en Afrique, pays du Golfe de Guinée (PRESAGG) (March 2024)
- South-West Indian Ocean Climate Outlook Forum (SWIOCOF) (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 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 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)

Enquiries

Email: internationaldevelopment@metoffice.gov.uk

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