AFRICA: Monthly Climate Outlook February to November

Issued: May 2021

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

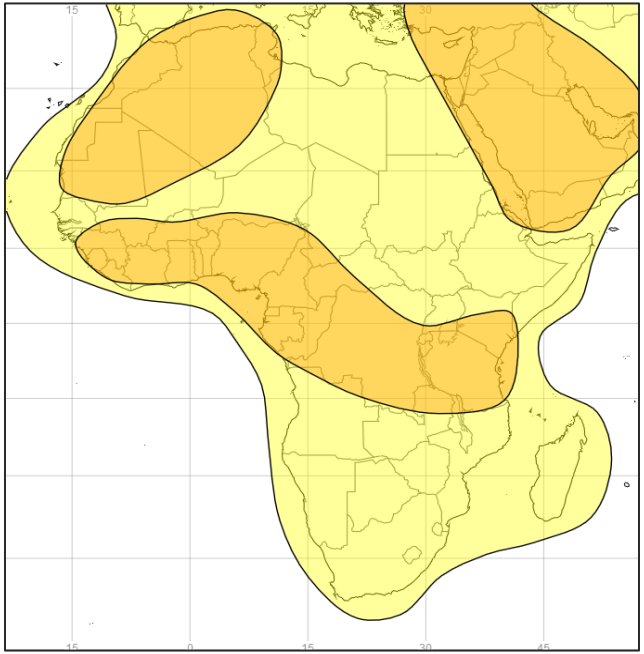
Current Status:

Large parts of Africa have been warmer than normal. The main exceptions to this are parts of southern Africa and parts of the Sahara where temperatures have been near-normal. Cold conditions continue to persist across Madagascar.

Outlook:

Conditions are more likely to be warmer than normal across the African continent.

3-Month Outlook June to August - Temperature



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

Africa Current Status and Outlook - Rainfall

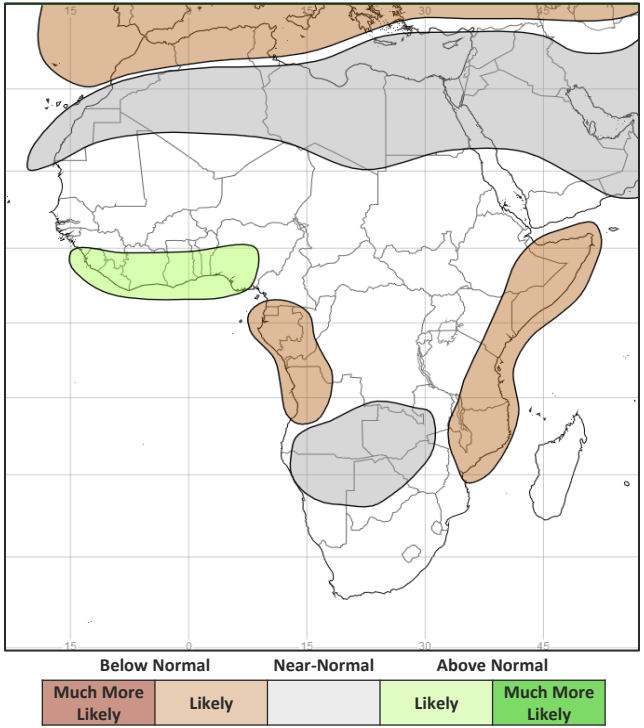
Current Status:

Many parts of central and southern Africa have experienced above normal rainfall through February but were generally drier through March and April. Conversely, parts of eastern Africa, and areas near the Gulf of Guinea coast were wetter than normal in March. However, during April these regions either had near-normal rainfall or were drier than normal.

Outlook:

It is likely to be drier than normal across large parts of the East Africa, especially coastal parts of Kenya and Tanzania, much of Somalia, eastern Ethiopia and northern Mozambique. Meanwhile, near-normal to wetter than normal conditions are likely across countries bordering the Gulf of Guinea from Sierra Leone across to southern Nigeria.

3-Month Outlook June to August - Rainfall



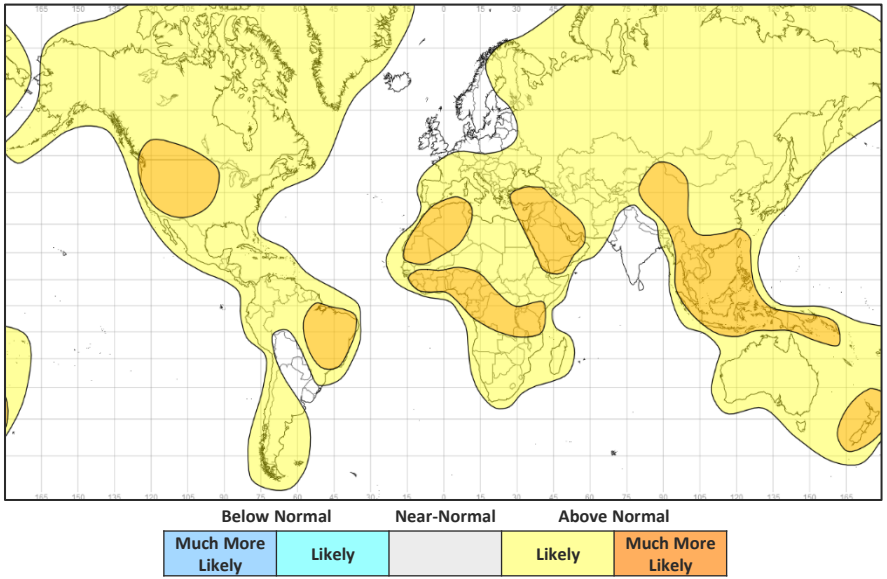
Global Outlook - Temperature

Outlook:

The El Niño–Southern Oscillation (ENSO) is now neutral as is expected to remain so for at least the next three months, and this decreases the predictability of seasonal forecasts. Later this year, there is small chance of La Niña redeveloping. However, ENSO predictions made at this time of year have lower skill than at other times of the year.

Despite a neutral ENSO state some consistent signals are apparent. Many parts of the globe are likely to see warmer than normal conditions through the next three months. Parts of the western USA, much of central and northern Africa, Middle East and Southeast Asia are much more likely to be warmer than normal.

3-Month Outlook June to August - Temperature



Global Outlook - Rainfall

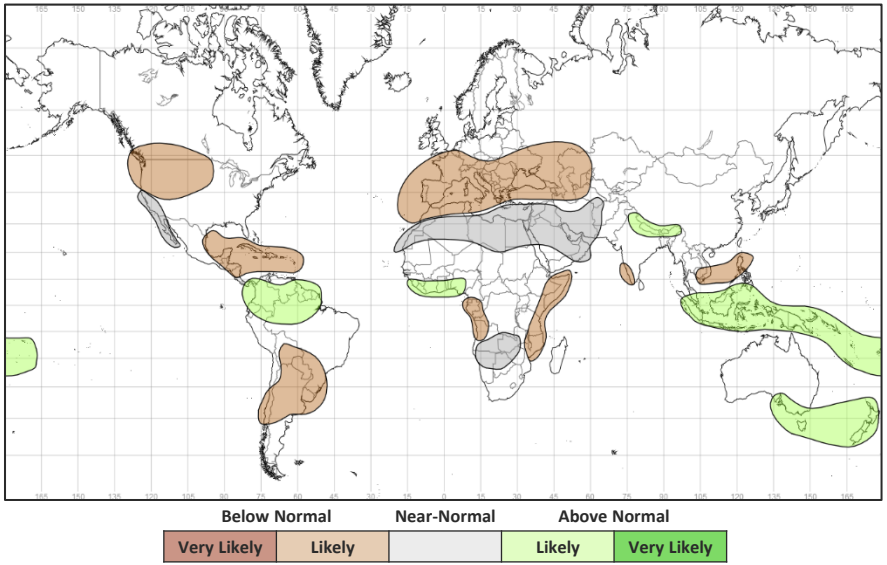
Outlook:
As described in the temperature section, the influences of the recent La Niña is reduced in the forecast and predictability is lower than if ENSO was in an active phase. The Indian Ocean Dipole (IOD) is likely to remain neutral, making seasonal rainfall less predictable in the coming months across East Africa and southern Asia.

Over the next three months, the seasonal northward shift of rains will see the onset of the South Asian Monsoon (SAM). Predictions for the SAM are finely balanced with mixed and conflicting signals from longer range forecast systems. Overall, however, there is a slight increase in the likelihood of drier than normal conditions in southwest India and wetter than normal conditions across northern India, Nepal, Bhutan and parts of Bangladesh.

Elsewhere, it is likely to be wetter than normal for parts of West Africa (just inland from the Gulf of Guinea), as well northern parts of South America. Here, a southward displaced and more active than normal Intertropical Convergence Zone (ITCZ) means conditions are likely to be wetter than normal across areas which have already seen impacts from flooding over the last few months.

Much of the rest of South America, as well as the Caribbean, central and southern Europe and central parts of Asia are likely to be drier than normal. This is also true for southern Vietnam and parts of the Philippines. Meanwhile, wetter than normal conditions are more probable across much of Indonesia, Malaysia and Papua New Guinea.

3-Month Outlook June to August - Rainfall



Current Status

Current Status maps

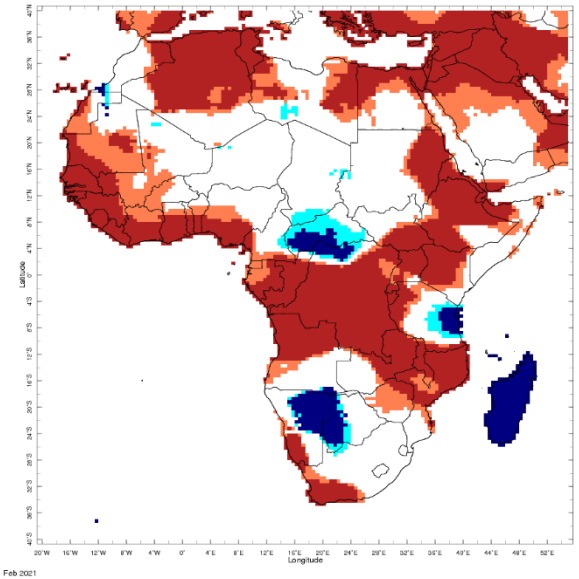
Western Africa

Central Africa

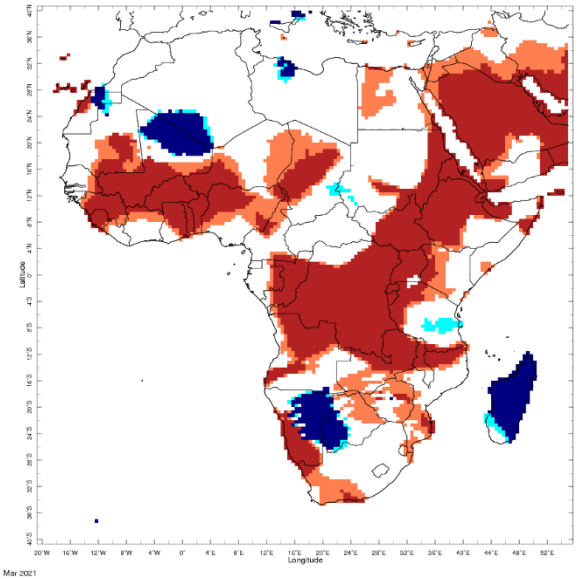
Eastern Africa

Southern Africa

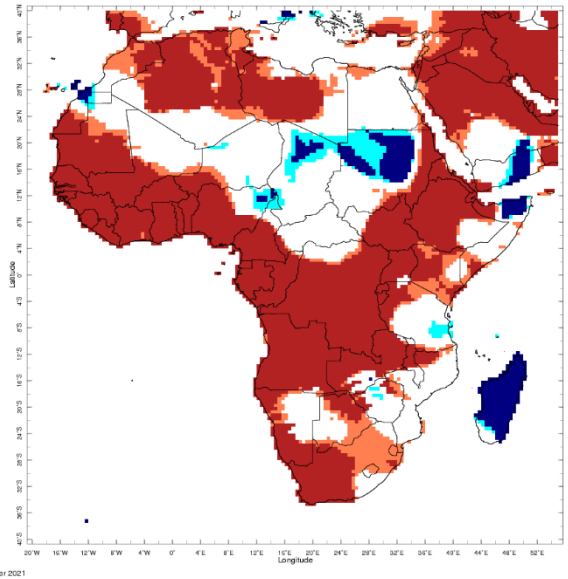
Current Status – Temperature percentiles



February



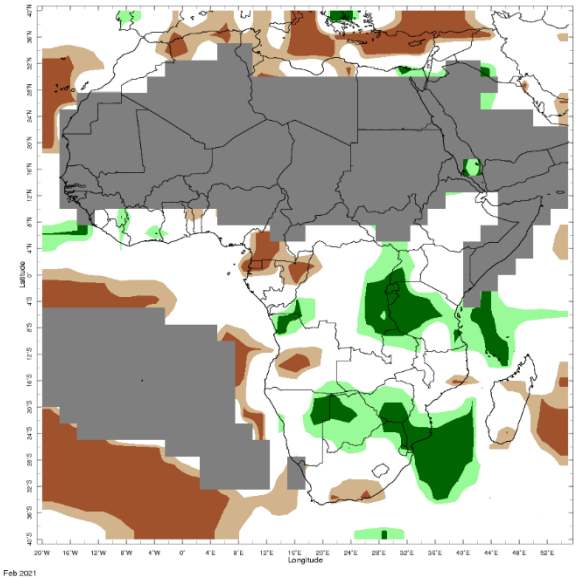
March



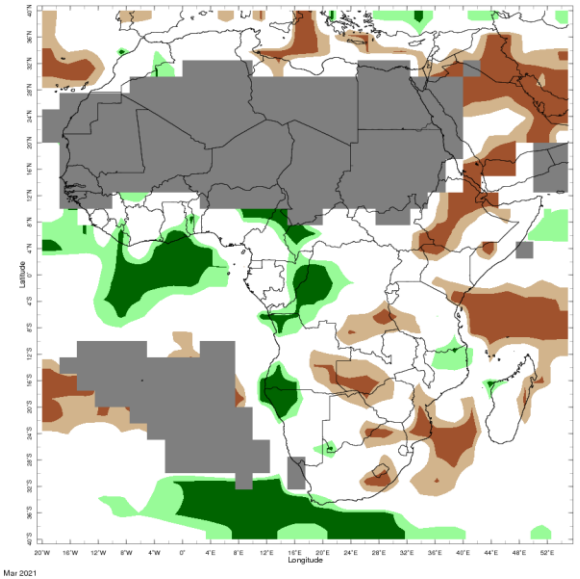
April

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.

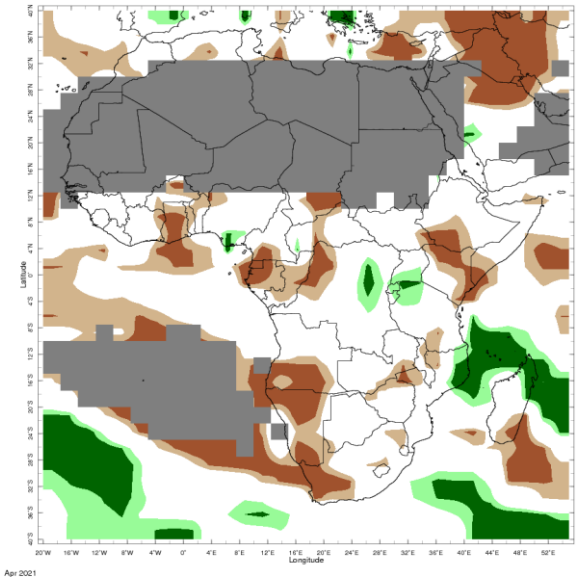
Current Status – Precipitation percentiles



February



March



April

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			Current Status: Rainfall		
	February	March	April	February	March	April
Sierra Leone	Hot	Hot	Hot	Normal	Wet	Normal
Liberia	Hot	Normal	Hot	Normal	Wet	Normal
Mali	Warm	Warm (1)	Hot	Normal*	Normal*	Normal*
Ghana	Hot	Hot	Hot	Normal	Mixed (2)	Very Dry
Nigeria	Normal	Warm	Hot	Normal*	Normal	Normal
Cameroon	Normal	Normal	Hot	Very Dry	Mixed (3)	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 across central and southern Mali; cold elsewhere.
(2) Note: Wet in the far south, normal elsewhere.
(3) Note: Wet in the northeast; normal elsewhere.

Current Status – Central Africa

	Current Status: Temperature			Current Status: Rainfall		
	February	March	April	February	March	April
Niger	Normal	Warm	Normal	Normal*	Normal*	Normal*
Chad	Normal	Warm	Cool	Normal*	Normal*	Normal*
DRC	Hot	Hot	Hot	Mixed (1)	Mixed (2)	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: Very wet in the far east, normal elsewhere
(2) Note: Wet in parts of the west; normal elsewhere
(3) Note: Very Dry in the northwest

Current Status – Eastern Africa (1)

	Current Status: Temperature			Current Status: Rainfall		
	February	March	April	February	March	April
Sudan	Mixed (1)	Normal	Cool	Normal*	Normal*	Normal*
South Sudan	Mixed (2)	Hot	Hot	Normal*	Normal*	Normal
Uganda	Hot	Hot	Hot	Wet	Normal	Normal
Rwanda	Hot	Hot	Hot	Very Wet	Normal	Wet

Notes:

The table gives an assessment of whether temperature and rainfall across each country have been above normal, normal or below normal over the past three months, using data from the NOAA Climate Prediction Center and the IRI Map Room: 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 east, normal elsewhere
(2) Note: Hot in the south, normal in the north.

Current Status – Eastern Africa (2)

	Current Status: Temperature			Current Status: Rainfall		
	February	March	April	February	March	April
Tanzania	Mixed (1)	Mixed (1)	Normal (3)	Wet	Normal	Normal (4)
Ethiopia	Hot	Hot	Hot	Normal	Dry	Normal (5)
Kenya	Hot	Mixed (2)	Warm	Normal	Dry	Dry
Somalia	Warm	Normal	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: Hot in the far west, cold in parts of the east, normal elsewhere
(2) Note: Hot in the far west. Normal elsewhere.
(3) Note: Hot in the west.
(4) Note: Wet near Lake Victoria
(5) Note: Very Dry in the south

Current Status – Southern Africa

	Current Status: Temperature			Current Status: Rainfall		
	February	March	April	February	March	April
South Africa	Mixed (1)	Mixed (1)	Warm	Normal	Normal	Normal (5)
Zambia	Mixed (2)	Hot	Hot	Normal	Dry	Normal
Zimbabwe	Warm	Warm	Normal	Wet	Normal	Normal
Mozambique	Mixed (3)	Mixed	Normal	Mixed (4)	Mixed	Normal
Malawi	Hot	Hot	Hot	Normal	Normal	Normal
Madagascar	Cold	Cold	Cold	Normal	Normal	Normal (6)

Notes:

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

* 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 east, normal in the west
(3) Note: Hot in the north, normal in the south
(4) Note: Very wet in the far south, normal elsewhere.
(5) Note: Very Dry in the west
(6) Note: Very Wet in the northeast

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: June to November – Western Africa (1)

		Forecast summary		
		June	June to August	September to November
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 wetter than normal	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	Climatological odds	Likely to be wetter than normal	Likely to be drier than normal
Mali	*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	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	Climatological odds	Likely to be wetter 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: June to November – Western Africa (2)

		Forecast summary		
		June	June to August	September to November
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 drier than normal**	**Likely to be wetter than normal** in the south; Climatological odds elsewhere	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	Climatological odds	Climatological odds	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: June to November – Central Africa

		Forecast summary		
		June	June to August	September to November
Niger	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be near-normal	Climatological odds	Climatological odds
Chad	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Climatological odds	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	Climatological odds	Likely to be drier than normal in the far southwest; 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: June to November – Eastern Africa (1)

		Forecast summary		
		June	June to August	September to November
Sudan	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Climatological odds	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 drier than normal	Climatological odds	Climatological odds
Uganda	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Climatological odds	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: June to November – Eastern Africa (2)

		Forecast summary		
		June	June to August	September to November
Tanzania	*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 in the east and Climatological odds in the west	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 drier than normal	Likely to be drier than normal in the southeast; Climatological odds elsewhere	Likely to be drier than normal in the southeast; Climatological odds elsewhere
Kenya	*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 along the Coastal Plain; Climatological odds elsewhere	Likely to be drier than normal along the Coastal Plain; Climatological odds elsewhere
Somalia	*Temperature*	Likely to be warmer than normal	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: June to November – Southern Africa (1)

		Forecast summary		
		June	June to August	September to November
South Africa	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
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 near-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	Climatological odds	Likely to be near-normal in the northwest; Climatological odds in the southeast	Likely to be drier than normal
Mozambique	*Temperature*	Likely to be warmer than normal	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 in the north; 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: June to November – Southern Africa (1)

		Forecast summary		
		June	June to August	September to November
Malawi	*Temperature*	Likely to be warmer than normal	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
Madagascar	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	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

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): English - https://urlz.fr/cuFo ; French - https://urlz.fr/cuFm
Southern African Regional Climate Outlook Forum (SARCOF): http://csc.sadc.int/en/news-and-events/310-announcement-sarcof-24
PRÉvisions climatiques Saisonnières en Afrique, pays du Golfe de Guinée (PRESAGG): http://acmad.net/rcc/atelier/bulletin_PRESAGG07_eng.pdf
South-West Indian Ocean Climate Outlook Forum (SWICOF) - https://www.commissionoceanindien.org/wp-content/uploads/2020/09/SWIOCOF-9_Statement.pdf

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