AFRICA: Monthly Climate Outlook
January to October

Issued: April 2022

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

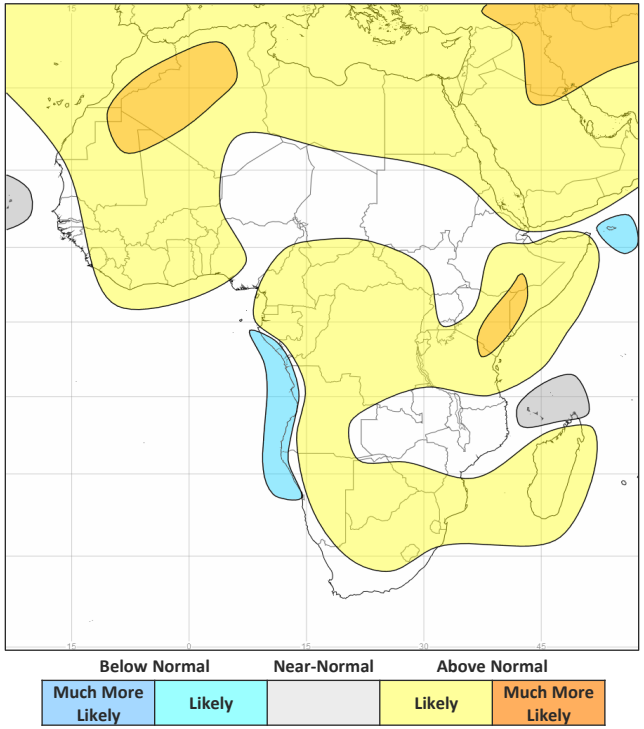
Current Status:

Over the last three months, tropical parts of the continent have had mostly hot conditions. Parts of southern Africa have experienced near- or below normal temperatures, particularly Madagascar. Across northern Africa, temperatures have been widely near- or below normal during January to March. However, for February, much of northwest Africa experienced warm conditions.

Outlook:

During the next three months, many parts of the continent are likely to be warmer than normal. Below normal temperatures are likely along the Atlantic coast from Gabon to Namibia.

3-Month Outlook May to July - Temperature



Africa Current Status and Outlook - Rainfall

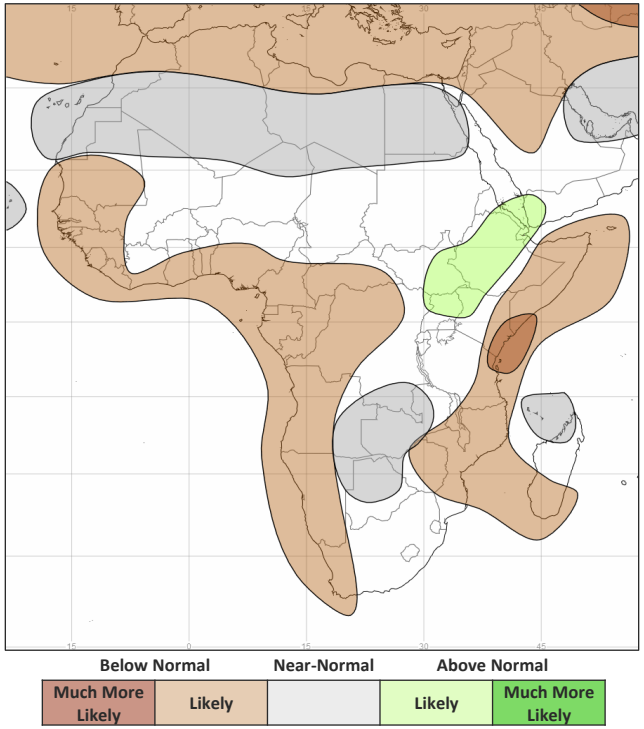
Current Status:

During January to March rainfall tends to be focused on central/southern/eastern parts of the continent. Parts of East Africa, particularly Tanzania, saw above normal rainfall in January and February with near-normal conditions in March. Parts of DRC were also wetter than normal over the last three months. Mixed conditions were observed over southern Africa.

Outlook:

In the next three months, for most countries in East Africa and the Greater Horn of Africa, drier than normal conditions are likely. The main exceptions are for parts of Uganda, South Sudan and Ethiopia where above normal rainfall is likely. Below normal rainfall is also likely across many parts of west Africa, western parts of southern Africa and parts of central Africa.

3-Month Outlook May to July - Rainfall



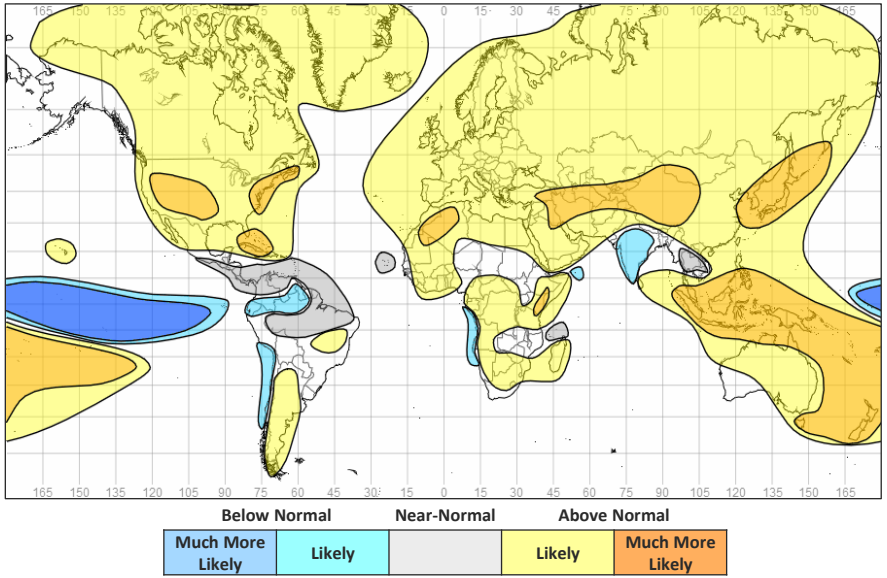
Global Outlook - Temperature

Outlook:

La Niña is ongoing across the tropical Pacific, persisting longer than anticipated over recent months. Predictions still indicate that ENSO will return to a neutral state during the late northern hemisphere spring or early summer. Even with La Niña expected to weaken, it will still be an important driver of temperature anomalies across the tropics over the next few months.

As is typical due to climate change, many parts of the globe are likely to see above normal temperatures. However, there are some notable exceptions. Consistent with La Niña, near- or below normal temperatures are likely for some northern and western parts of South America, India and parts of Southeast Asia.

3-Month Outlook May to July - Temperature



Global Outlook - Rainfall

Outlook:

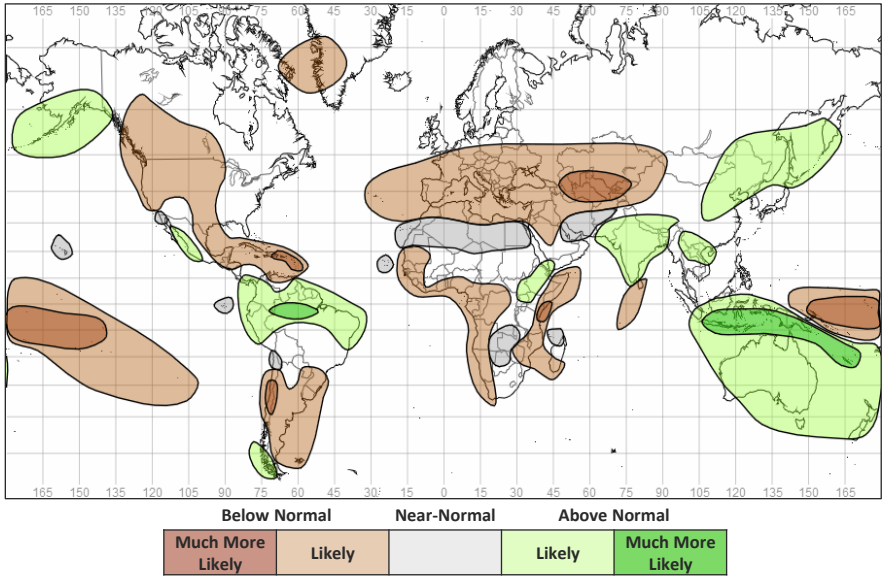
El Niño-Southern Oscillation (ENSO) – La Niña persists with sea surface temperatures and atmospheric conditions across the Pacific basin indicative of a weak ongoing event, though recent changes in sea surface temperatures suggest La Niña is weakening. Predictions still indicate that ENSO will return to a neutral state during the late northern hemisphere spring or early summer. La Niña is expected to remain an important driver of rainfall patterns in the tropics over the next three months though at this time of year its influence at higher latitudes in the northern hemisphere tends to wane.

With a couple of notable exceptions (including 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-nino-la-nina/enso-impacts

For the next three months, wetter than normal conditions are likely across much of south and southeast Asia and Australasia as well as equatorial South America. Drier than normal conditions are likely across large swathes of North America, southern South America, Europe and parts of Africa.

Indian Ocean Dipole (IOD) –The IOD is currently neutral. Seasonal forecast systems are consistent in suggesting a negative IOD is likely to form during the boreal summer. This would influence rainfall patterns around the Indian Ocean basin and more widely. However, it should be noted skilful prediction of the IOD is limited at this time of year so forecasts of a negative phase need to be treated with caution.

3-Month Outlook May to July - Rainfall



Current Status

Current Status maps

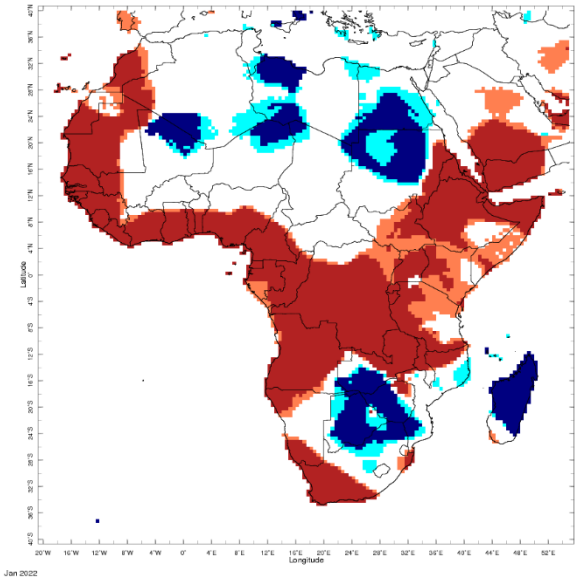
Western Africa

Central Africa

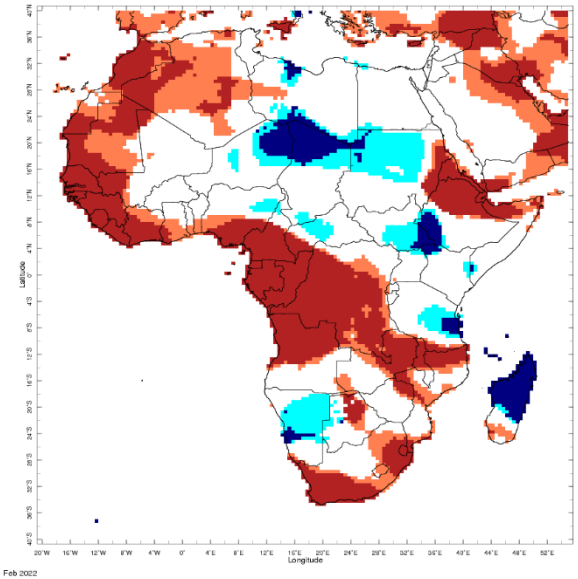
Eastern Africa

Southern Africa

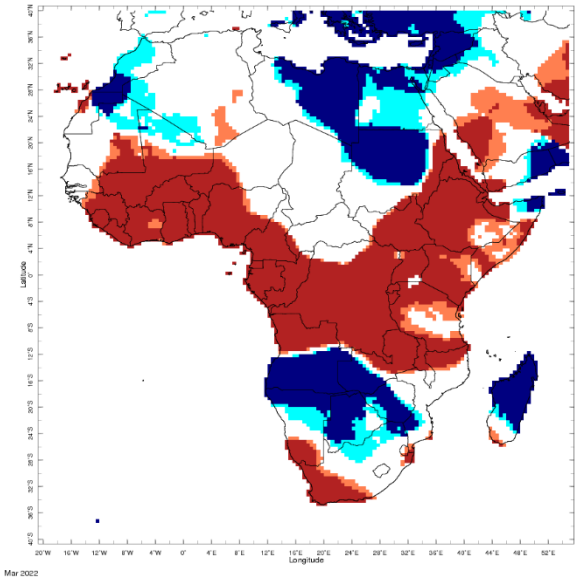
Current Status – Temperature percentiles



January



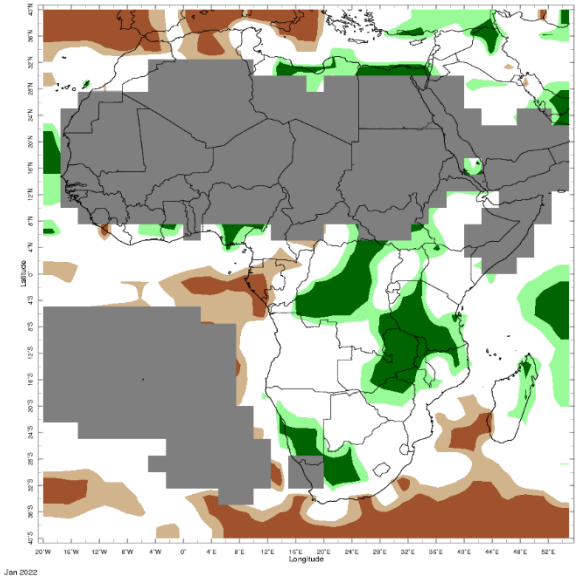
February



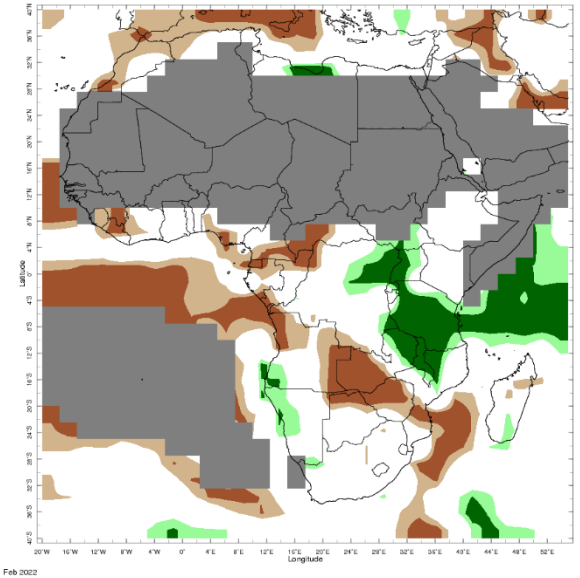
March

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.

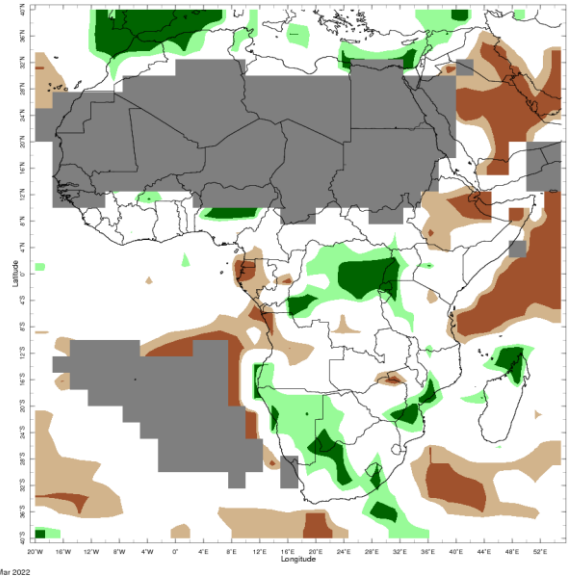
Current Status – Precipitation percentiles



January



February



March

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		
	January	February	March	January	February	March
Sierra Leone	Hot	Hot	Hot	Normal	Dry	Normal
Liberia	Hot	Hot	Hot	Normal	Normal	Normal
Mali	Normal	Mixed (1)	Mixed (4)	Normal*	Normal*	Normal*
Ghana	Hot	Mixed (2)	Hot	Wet	Normal	Normal
Nigeria	Hot	Mixed (2)	Hot	Wet	Normal (3)	Normal (5)
Cameroon	Hot	Hot	Hot	Normal	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: Cold in the north; normal elsewhere
(2) Note: Warm in the south; normal elsewhere
(3) Note: Dry in the southern coastal regions
(4) Note: Cool in the far north, hot elsewhere
(5) Note: Wet or very wet in some central areas

Current Status – Central Africa

	Current Status: Temperature			Current Status: Rainfall		
	January	February	March	January	February	March
Niger	Normal	Mixed (1)	Mixed (4)	Normal*	Normal*	Normal*
Chad	Normal	Mixed (1)	Normal	Normal*	Normal*	Normal*
DRC	Hot	Hot	Hot	Very Wet	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 cold in the north; normal elsewhere
(2) Note: Normal for most areas, though very wet in the far east
(3) Note: Wet or very wet in central and northern areas, normal elsewhere
(4) Note: Hot in the southwest, normal elsewhere

Current Status – Eastern Africa (1)

	Current Status: Temperature			Current Status: Rainfall		
	January	February	March	January	February	March
Sudan	Mixed (1)	Mixed (1)	Mixed (1)	Normal*	Normal*	Normal*
South Sudan	Warm	Cold	Hot	Mixed (2)	Mixed (2)	Normal
Uganda	Hot	Normal	Hot	Normal	Wet	Wet
Rwanda	Hot	Normal	Hot	Normal	Normal	Very 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: Normal in the south, cool or cold in the north
(2) Note: Wet in the south, normal* elsewhere

Current Status – Eastern Africa (2)

	Current Status: Temperature			Current Status: Rainfall		
	January	February	March	January	February	March
Tanzania	Mixed (2)	Normal (3)	Warm	Very Wet	Very Wet	Normal
Ethiopia	Mixed (1)	Mixed (4)	Hot	Normal	Normal	Dry
Kenya	Warm	Normal	Hot	Normal	Normal	Normal
Somalia	Warm	Normal (5)	Warm	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 northwest, hot in the southeast
(2) Note: Normal in parts of the east, elsewhere warm or hot
(3) Note: Locally cold in the east
(4) Note: Hot in the north, cold in the far southwest, normal elsewhere
(5) Note: Hot in the far north

Current Status – Southern Africa

	Current Status: Temperature			Current Status: Rainfall		
	January	February	March	January	February	March
South Africa	Mixed (1)	Warm	Mixed (1)	Mixed (4)	Normal	Mixed (5)
Zambia	Mixed (2)	Hot	Mixed (2)	Very Wet	Mixed (6)	Normal
Zimbabwe	Cold	Mixed (3)	Cold	Wet	Very Dry	Normal
Mozambique	Normal	Mixed (3)	Normal	Normal	Mixed (7)	Wet
Malawi	Hot	Hot	Hot	Wet	Very Wet	Normal
Madagascar	Cold	Cold	Cold	Wet	Normal	Normal (8)

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, cold in the northeast
(2) Note: Hot in the east, cold in the west
(3) Note: Hot in the northeast, normal elsewhere
(4) Note: Dry in the far south and far north, normal elsewhere
(5) Note: Wet or very wet in parts of the south and southwest, normal elsewhere
(6) Note: Very dry in the west, very wet in the east
(7) Note: Very wet in the far north, very dry in parts of the south, normal elsewhere
(8) Note: Very wet in the far north

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: May to October – Western Africa (1)

		Forecast summary		
		May	May to July	August to October
Sierra Leone	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Climatological odds
Liberia	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Likely to be drier than normal
Mali	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Likely to be near-normal	Likely to be drier than normal	Climatological odds
Ghana	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	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: May to October – Western Africa (2)

		Forecast summary		
		May	May to July	August to October
Nigeria	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Climatological odds
Cameroon	*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: May to October – Central Africa

		Forecast summary		
		May	May to July	August to October
Niger	*Temperature*	Likely to be warmer than normal	Climatological odds	Climatological odds
	Rainfall	Likely to be near-normal	Climatological odds	Climatological odds
Chad	*Temperature*	Likely to be warmer than normal	Climatological odds	Climatological odds
	Rainfall	Likely to be near-normal	Climatological odds	Likely to be wetter than normal
Democratic Republic of Congo	*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

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: May to October – Eastern Africa (1)

		Forecast summary		
		May	May to July	August to October
Sudan	*Temperature*	Likely to be warmer than normal	Climatological odds	Climatological odds
	Rainfall	Likely to be near-normal	Climatological odds	Likely to be wetter than normal
South Sudan	*Temperature*	Likely to be warmer than normal	Climatological odds	Likely to be warmer than normal
	Rainfall	Climatological odds	Likely to be wetter than normal in the east; Climatological odds in the west	Likely to be wetter than normal
Uganda	*Temperature*	Likely to be warmer than normal	Climatological odds	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	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: May to October – Eastern Africa (2)

		Forecast summary		
		May	May to July	August to October
Tanzania	*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 in the west; Likely to be drier than normal in the east	Likely to be drier than normal
Ethiopia	*Temperature*	Much more 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 wetter than normal in the west; Likely to be drier than normal in the east	Likely to be wetter than normal in the west; Likely to be drier than normal in the east
Kenya	*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 wetter than normal in the west; Likely to be drier than normal in the east	Likely to be drier than normal
Somalia	*Temperature*	Much more 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: May to October – Southern Africa (1)

		Forecast summary		
		May	May to July	August to October
South Africa	*Temperature*	Likely to be warmer than normal in the north; Climatological odds in the south	Likely to be warmer than normal	Climatological odds
	Rainfall	Climatological odds	Likely to be drier than normal in the southeast; elsewhere Climatological odds	Climatological odds
Zambia	*Temperature*	Likely to be colder than normal	Climatological odds	Climatological odds
	Rainfall	Likely to be near-normal	Likely to be near-normal in the west; Likely to be drier than normal in the east	Likely to be drier than normal
Zimbabwe	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Likely to be near-normal	Likely to be drier than normal	Climatological odds
Mozambique	*Temperature*	Climatological odds in the north; Likely to be warmer than normal in the south	Climatological odds in the north; Likely to be warmer than normal in the south	Climatological odds
	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: May to October – Southern Africa (1)

		Forecast summary		
		May	May to July	August to October
Malawi	*Temperature*	Climatological odds	Climatological odds	Climatological odds
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Climatological odds
Madagascar	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Likely to be drier than normal	Likely to be near-normal in the north; Climatological odds in the south	Climatological odds

Outlooks for months 4 to 6: As forecast uncertainty generally increases with longer range **the 4-6-month outlook is less reliable than the 1-3 month outlook**. Outlook information will only be provided when the model data signals likely outcomes. Additionally, the longer range outlook utilises fewer models because not all seasonal models are available for the extended range. Information provided in this presentation should be used to raise early awareness of potential hazards only and should be updated with the 3-month outlook when available.

Annex 1 – Supplemental Information

For further information

WMO Lead Centre for Long-Range Forecast Multi-Model Ensemble (LC-LRFMME)
https://www.wmolc.org/seasonPmmeUI/plot_PMME

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): GHACOF 60 Statement (February 2022)
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/326-climate-outlook-forum-2021-sarcof-25 (August 2021)
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) - http://www.acmad.net/new/NEWSITEACMAD/wp-content/uploads/2021/10/SWIOCOF-10_Statement-EN.pdf (October 2021)

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

NOTE – PUT INTO PRESENTATION MODE FOR THESE TO WORK!

Insert Pictures

Click to insert pictures – note that you will be prompted for a location folder

Update Months

Click to update months on slide footers and tables – note that you may need to run this twice as it sometimes misses some…