

AFRICA: Monthly Climate Outlook November to August

Issued: February 2022

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Overview

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Africa Current Status and Outlook - Temperature

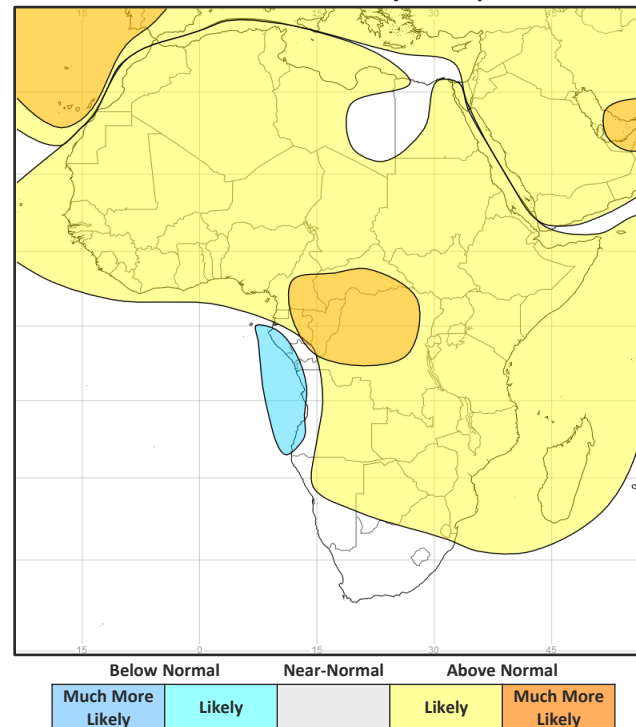
Current Status:

Tropical parts of the continent have seen mostly hot conditions over the last three months. Across northern Africa, following hot conditions in November, temperatures have been near- or below normal widely during December and January. Parts of southern Africa have also experienced near- or below normal temperatures over the last three months.

Outlook:

Most of the continent is likely to be warmer than normal. The main exception is in the Atlantic coastal regions from Gabon to Angola where it is likely to be colder than normal.

3-Month Outlook March to May - Temperature



Africa Current Status and Outlook - Rainfall

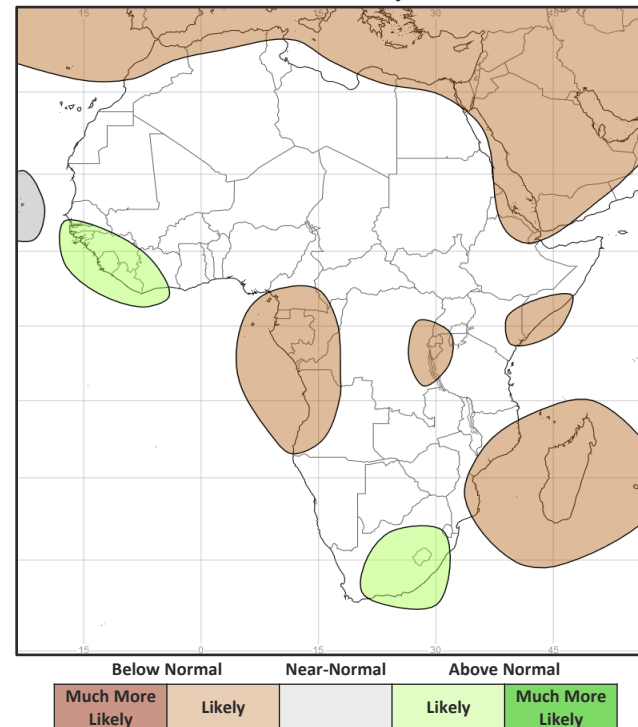
Current Status:

In November and December, as seasonal rains shifted south across the continent, parts of central, eastern and southern Africa were drier than normal. However, South Africa, DRC, parts of Uganda and Kenya were wetter than normal in November and December, along with Sudan and Tanzania in January.

Outlook:

For the next three months, Eritrea, northern Ethiopia and Madagascar as well as parts of Somalia, Kenya, and Mozambique are likely to be drier than normal. It is likely to be wetter than normal in parts of West Africa including Sierra Leone and Liberia as well as for South Africa and Lesotho.

3-Month Outlook March to May - Rainfall



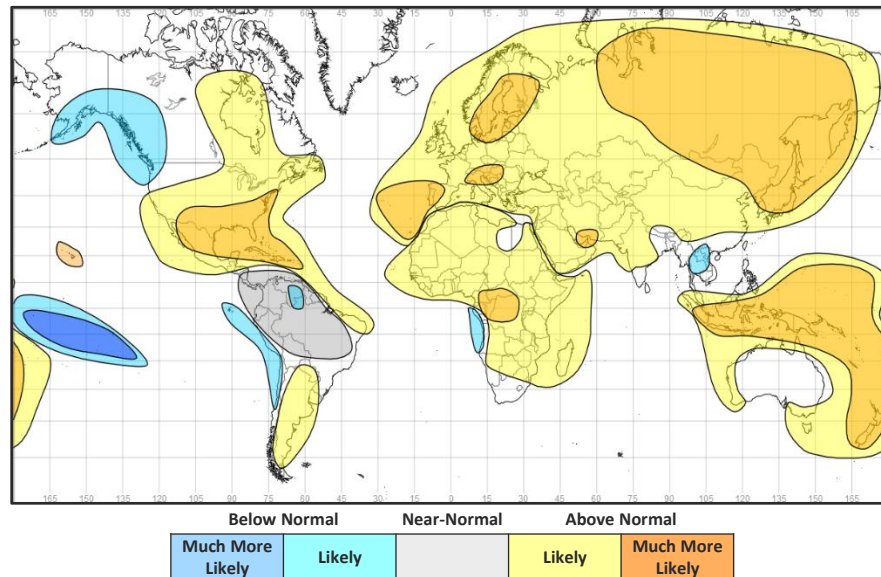
Global Outlook - Temperature

Outlook:

A weak La Niña is ongoing across the tropical Pacific. La Niña will be the main driver of temperature and rainfall anomalies across the tropics over the next three months. La Niña's influence will also extend further north and south, mainly early in the northern hemisphere spring.

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, below normal temperatures are most likely for some northern and western parts of South America, mainland Southeast Asia Australia and northwest North America.

3-Month Outlook March to May - Temperature



Global Outlook - Rainfall

Outlook:

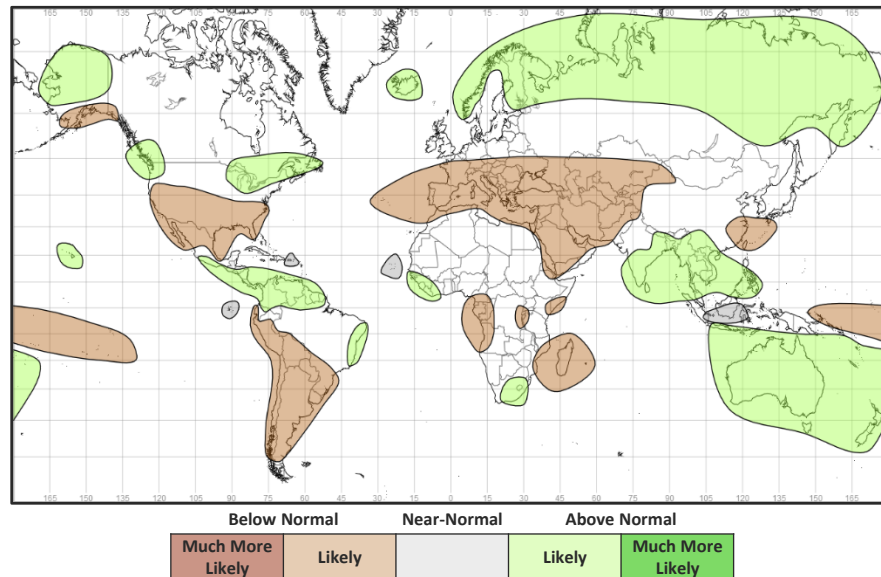
El Niño-Southern Oscillation (ENSO) – La Niña is ongoing with sea surface temperatures and atmospheric conditions across the Pacific basin indicative of a weak event. The event has likely peaked and, according to NOAA, whilst La Niña is likely to continue into the Northern Hemisphere early spring (77% chance during March-May 2022), a transition to ENSO-neutral is more probable later in the season (56% chance during May-July 2022). The effects of La Niña are likely to remain wide-reaching during the northern hemisphere spring.

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, the outlook for North America and Eurasia is also broadly consistent with the influence of La Niña with northern parts of both continents favoured to see wetter than normal conditions. With progression into the Northern Hemisphere spring, the influence of La Niña on weather patterns at higher latitudes tends to decline.

Indian Ocean Dipole (IOD) – The IOD returned to a neutral state during early November and is expected to remain neutral throughout March to May. It will therefore have little effect on global climate during this period.

3-Month Outlook March to May - Rainfall



Current Status

[Current Status maps](#)

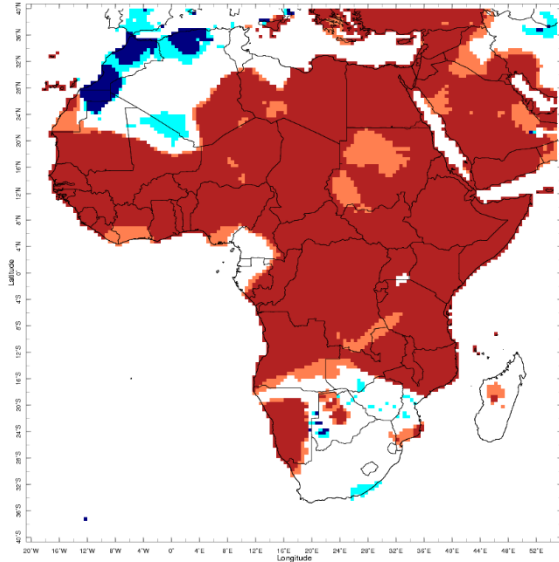
[Western Africa](#)

[Central Africa](#)

[Eastern Africa](#)

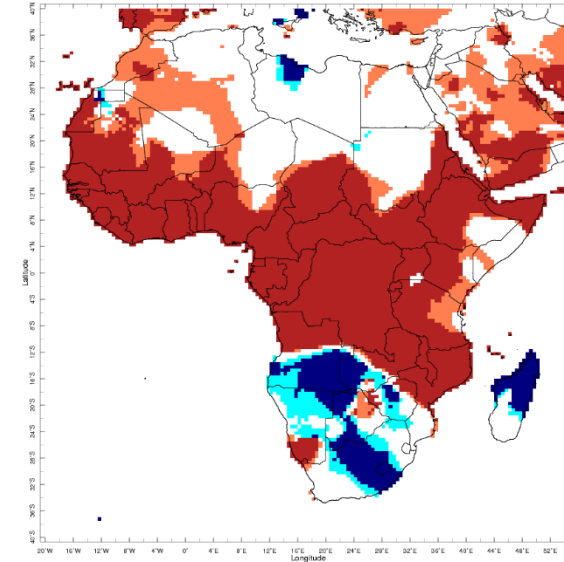
[Southern Africa](#)

Current Status – Temperature percentiles



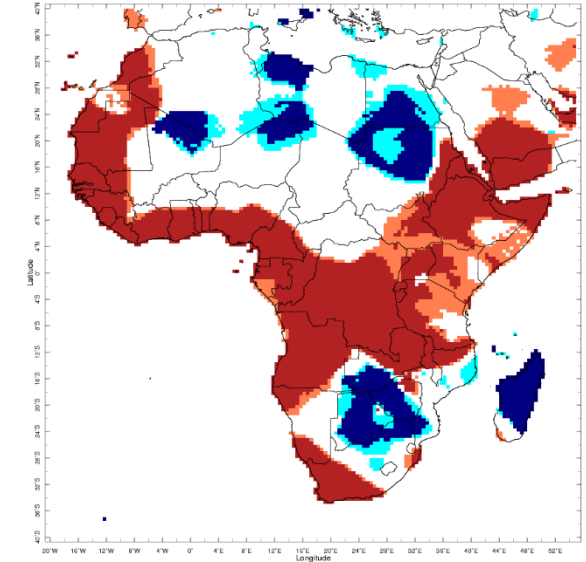
Nov 2021

November



Dec 2021

December



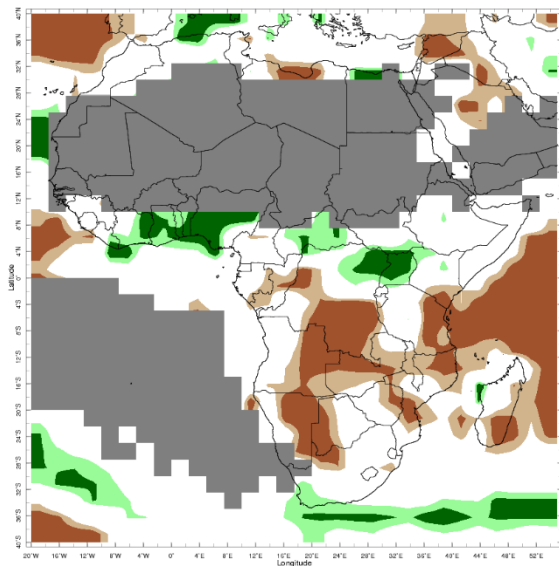
Jan 2022

January



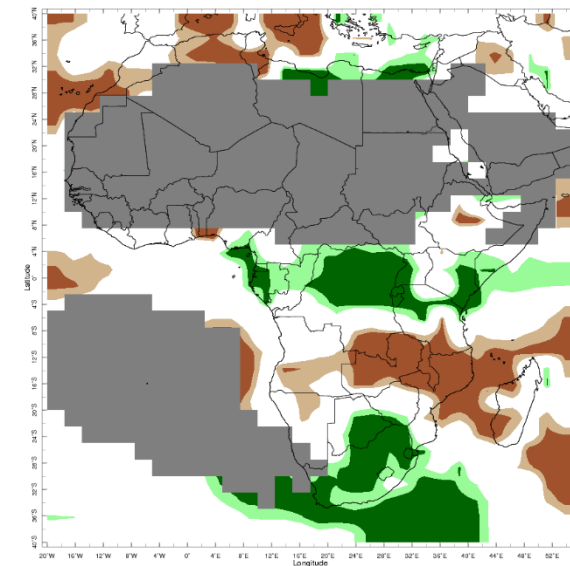
Notes: The percentiles shown in the map indicate a ranking of temperature, with the 0th percentile being the coolest and the 100th percentile being the warmest in the 1981–2010 climatology. Orange and red shading represent values above the 80th (Warm) and 90th (Hot) percentile, respectively; regions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



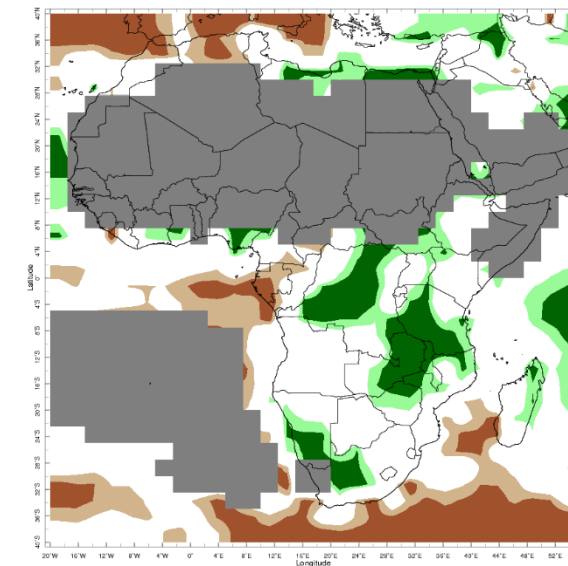
Nov 2021

November



Dec 2021

December



Jan 2022

January



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

	November	December	January
Sierra Leone	Hot	Hot	Hot
Liberia	Hot	Hot	Hot
Mali	Mixed (1)	Hot	Normal
Ghana	Hot	Hot	Hot
Nigeria	Hot	Hot	Hot
Cameroon	Mixed (2)	Hot	Hot

Current Status: Rainfall

	November	December	January
	Normal	Normal*	Normal
	Normal	Normal	Normal
	Normal*	Normal*	Normal*
	Wet	Normal	Wet
	Very Wet	Normal	Wet
	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 south, cold in the north
- (2) **Note:** Normal in the southwest, hot in the northeast

Current Status – Central Africa

	Current Status: Temperature		
	November	December	January
Niger	Hot	Hot	Normal
Chad	Hot	Hot	Normal
DRC	Hot	Hot	Hot

	Current Status: Rainfall		
	November	December	January
Niger	Normal*	Normal*	Normal*
Chad	Normal*	Normal*	Normal*
DRC	Mixed (1)	Mixed (2)	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:** Large variations; very dry in the south, very wet in the northeast
(2) Note: Very Wet in the north, Dry in the south and normal elsewhere

Current Status – Eastern Africa (1)

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

	Current Status: Rainfall		
	November	December	January
Sudan	Normal*	Normal*	Normal*
South Sudan	Normal	Normal*	Mixed (3)
Uganda	Very Wet	Mixed (1)	Normal
Rwanda	Dry	Very Wet	Normal

Notes:

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

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

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

Additional Information:

- (1) Note:** Very Wet in the west; normal elsewhere
- (2) Note:** Normal in the south, cold or very cold in the north
- (3) Note:** Wet in the south, normal* elsewhere

Current Status – Eastern Africa (2)

	Current Status: Temperature		
	November	December	January
Tanzania	Hot	Hot	Mixed (4)
Ethiopia	Hot	Mixed (2)	Mixed (2)
Kenya	Hot	Hot	Warm
Somalia	Hot	Normal	Warm

	Current Status: Rainfall		
	November	December	January
Tanzania	Mixed (1)	Mixed (3)	Very Wet
Ethiopia	Normal	Normal	Normal
Kenya	Normal	Wet	Normal
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:** Normal in the west, very dry in the east
- (2) **Note:** Hot in the northwest, hot in the southeast
- (3) **Note:** Wet in the north; very dry in the south.
- (4) **Note:** Normal in parts of the east, elsewhere warm or hot

Current Status – Southern Africa

Current Status: Temperature

	November	December	January
South Africa	Normal	Cold	Mixed (5)
Zambia	Mixed (3)	Mixed (4)	Mixed (4)
Zimbabwe	Normal	Cool	Cold
Mozambique	Mixed (1)	Hot	Normal
Malawi	Hot	Hot	Hot
Madagascar	Normal	Cold	Cold

Current Status: Rainfall

	November	December	January
	Normal	Very Wet	Mixed (6)
	Dry	Very Dry	Very Wet
	Normal	Normal	Wet
	Dry	Very Dry	Normal
	Dry	Very Dry	Wet
	Dry	Mixed (2)	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 north, normal in the south
- (2) Note:** Dry in the far south and far north; normal elsewhere
- (3) Note:** Normal in the south, elsewhere hot
- (4) Note:** Hot in the east, cold in the west
- (5) Note:** Hot in the southwest, cold in the northeast
- (6) Note:** Very wet in parts of the southwest, elsewhere normal

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: March to August – Western Africa (1)

		Forecast summary		
		March	March to May	June to August
Sierra Leone	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
Liberia	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
Mali	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
Ghana	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: March to August – Western Africa (2)

		Forecast summary		
		March	March to May	June to August
Nigeria	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
Cameroon	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	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: March to August – Central Africa

		Forecast summary		
		March	March to May	June to August
Niger	Temperature	Likely to be colder 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 colder than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be near-normal	Climatological odds	Climatological odds
Democratic Republic of Congo	Temperature	Likely to be warmer than normal	Much more likely to be warmer than normal in the northwest; Likely to be warmer than normal elsewhere	Likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Mainly Climatological odds; Likely to be drier than normal in parts of the far east and far west	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: March to August – Eastern Africa (1)

		Forecast summary		
		March	March to May	June to August
Sudan	Temperature	Likely to be colder than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be near-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	Likely to be wetter than normal
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	Likely to be wetter than normal
Rwanda	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	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: March to August – Eastern Africa (2)

		Forecast summary		
		March	March to May	June to August
Tanzania	Temperature	Climatological odds	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Likely to be drier than normal
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	Climatological odds	Likely to be wetter than normal
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	Mainly Climatological odds; Likely to be drier than normal in the east	Climatological odds
Somalia	Temperature	Likely to be near-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 in the south; 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: March to August – Southern Africa (1)

		Forecast summary		
		March	March to May	June to August
South Africa	Temperature	Climatological odds	Climatological odds	Climatological odds
	Rainfall	Climatological odds	Climatological odds in the southwest; Likely to be wetter than normal in the northeast	Climatological odds
Zambia	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
Zimbabwe	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
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	Likely to be wetter than normal

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

Outlook: March to August – Southern Africa (1)

		Forecast summary		
		March	March to May	June to August
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	Climatological odds	Likely to be wetter than normal
Madagascar	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	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 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

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