

AFRICA: Monthly Climate Outlook May 2021 to February 2022

Issued: August 2021

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Overview

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Africa Current Status and Outlook - Temperature

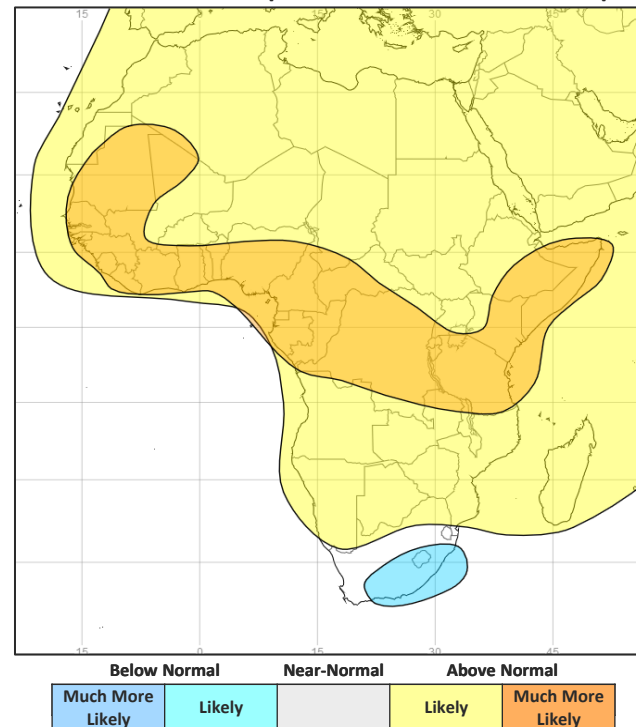
Current Status:

Most areas of Africa have been either warm or hot over the past three months. The main exception to this being Madagascar and some parts of southern Africa where cool or cold conditions have been observed.

Outlook:

For the next three months, warmer than normal conditions are likely across most of Africa, and very likely in tropical regions and the western Sahel. The exception is in the far south, where cooler than normal conditions are likely.

3-Month Outlook September to November - Temperature



Africa Current Status and Outlook - Rainfall

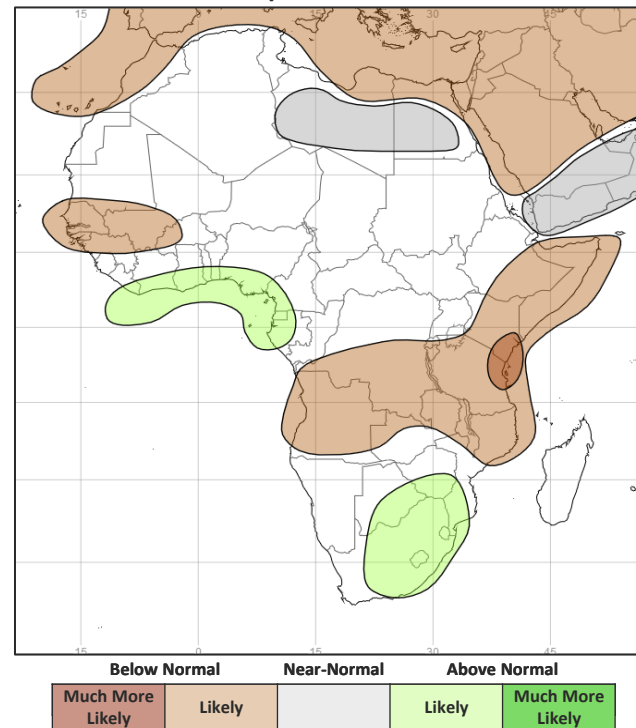
Current Status: Rainfall has varied across the continent over the past three months. Over the past month, the West African Monsoon has been active across the Sahel region, and it has been wetter than normal from Senegal in the west across to Ethiopia in the east. Tropical regions of Africa have generally been drier than normal.

Outlook: – A negative Indian Ocean Dipole (IOD) event has become established and is expected to persist through the next three months (See [Global Outlook – Rainfall](#) for more information). Typically, this affects rainfall in East Africa, leading to a drier than normal short rains season, and this is reflected in the outlook. For the next three months, drier than normal conditions are most likely across much of East Africa, especially in coastal locations, stretching from Somalia in the north to northern Mozambique in the south. Additionally, large regions of tropical Africa, especially DRC and Angola, as well as Senegal and Burkina Faso, are likely to be drier than normal. Longer-range forecasts show that these conditions may continue beyond the end of the year, however forecast uncertainty generally increases with longer range, and this should be updated with the 3-month outlook when available.

Above normal rainfall is likely in countries bordering the Gulf of Guinea, including Sierra Leone, Liberia, Ghana and parts of Nigeria.

Southern Mozambique, Zimbabwe, South Africa and Botswana are also likely to be wetter than normal.

3-Month Outlook September to November - Rainfall



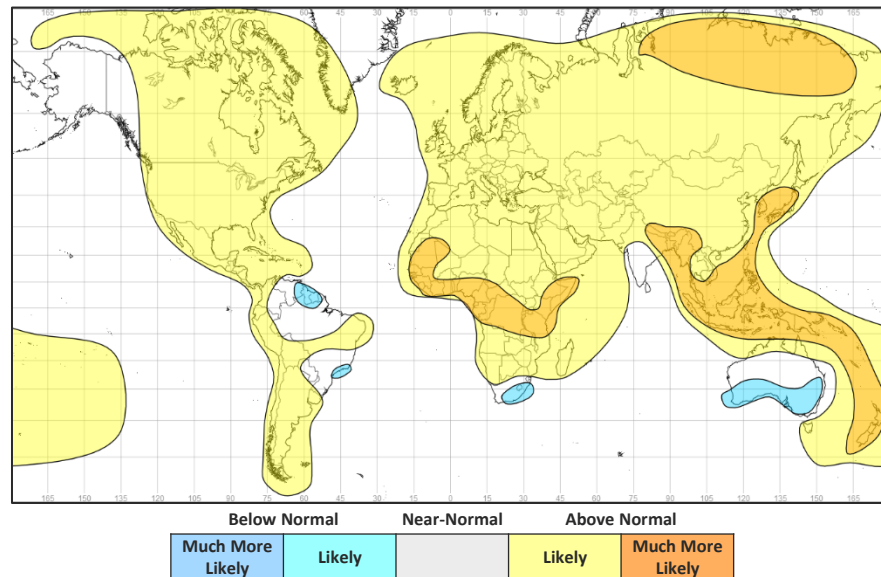
Global Outlook - Temperature

Outlook:

Over the next three months, many regions are likely to be warmer than normal, consistent with the warming observed over the past decade.

There are some notable exceptions to this with colder than normal conditions likely across tropical regions of South America, southern Australia and some parts of southern Africa.

3-Month Outlook September to November - Temperature



Global Outlook - Rainfall

Outlook:

Indian Ocean Dipole (IOD) – A negative IOD event is established and is expected to persist for the next three months, returning to neutral by December, as is typical of the usual IOD seasonal cycle. This means that the western Indian Ocean is currently cooler than usual, while the east is warmer. This affects meteorological patterns over wide areas of the globe: the negative IOD leads to wetter conditions in Indonesia and Australia and drier conditions in East Africa.

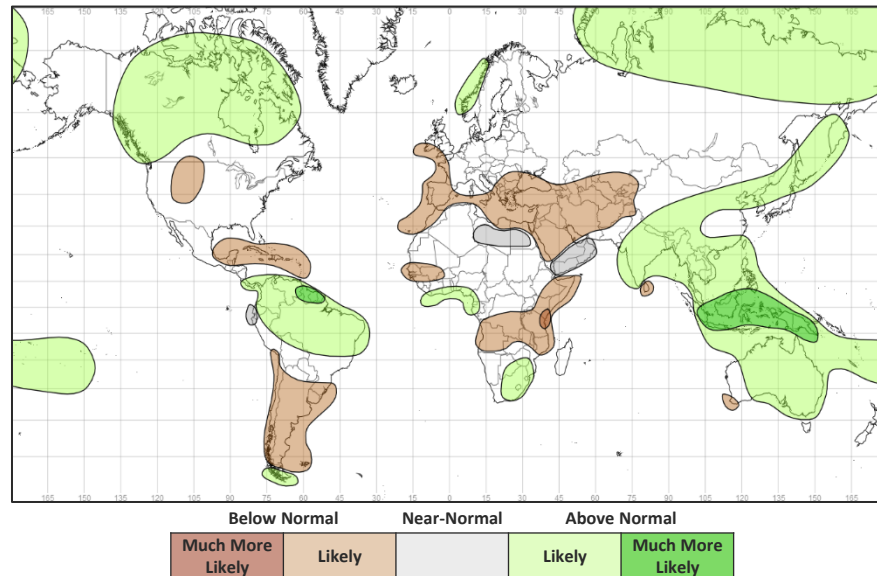
El Niño-Southern Oscillation (ENSO) – ENSO is currently neutral, however, a La Niña is expected to re-establish during the northern hemisphere winter. NOAA Climate Prediction Center / NCEP predictions give a small chance of La Niña emerging in September, rising to a 70% chance of emerging November to January – more than double the normal risk – and lasting through the 2021-22 Northern Hemisphere winter.

Typically, the suppression of rainfall over the tropical Pacific Ocean associated with the La Niña, leads to increases in rainfall across the tropical land areas.

Over the next three months, large parts of southern Asia, Australasia, northern parts of South America, along with southern parts of Africa are likely to be wetter than normal.

Meanwhile, parts of Central and East Africa and the Middle East are likely to be drier than normal.

3-Month Outlook September to November - Rainfall



Current Status

[Current Status maps](#)

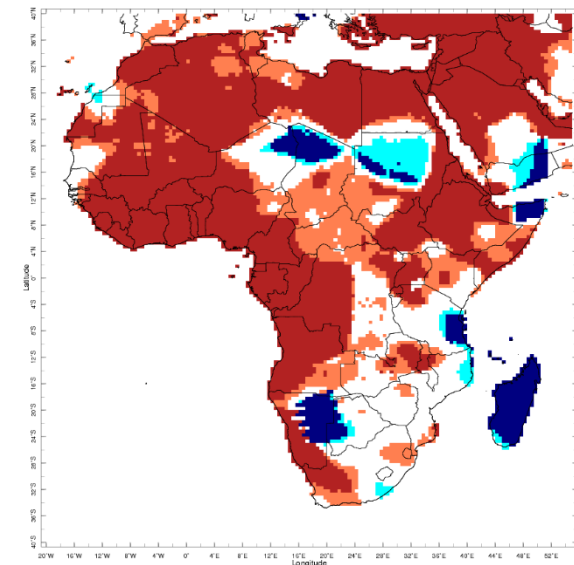
[Western Africa](#)

[Central Africa](#)

[Eastern Africa](#)

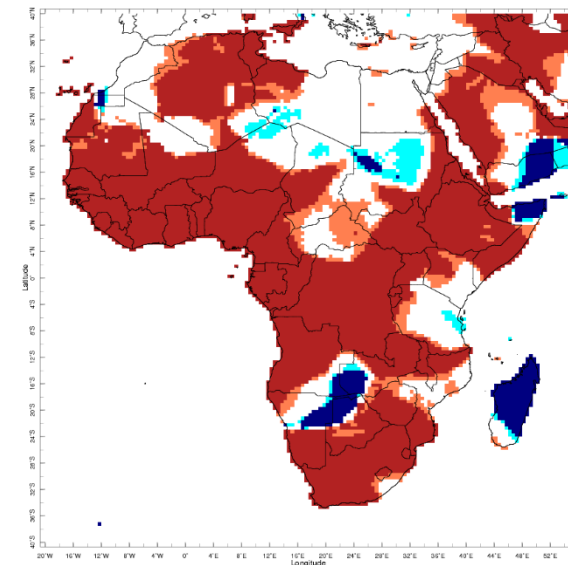
[Southern Africa](#)

Current Status – Temperature percentiles



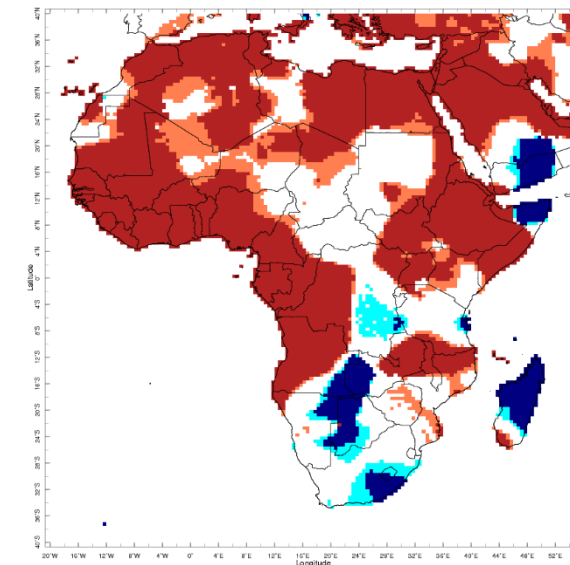
May 2021

May



Jun 2021

June



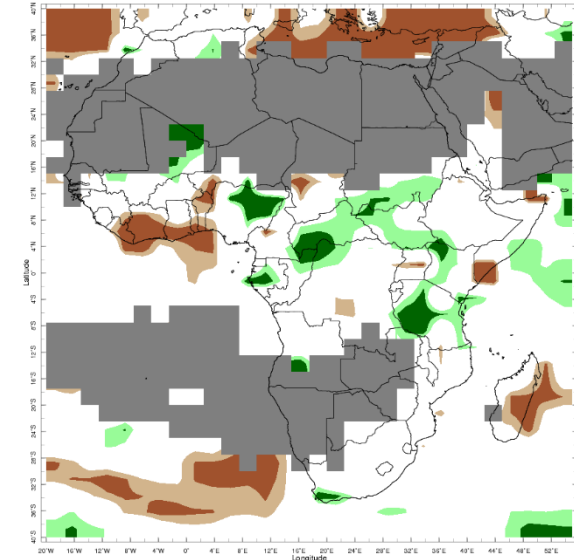
Jul 2021

July



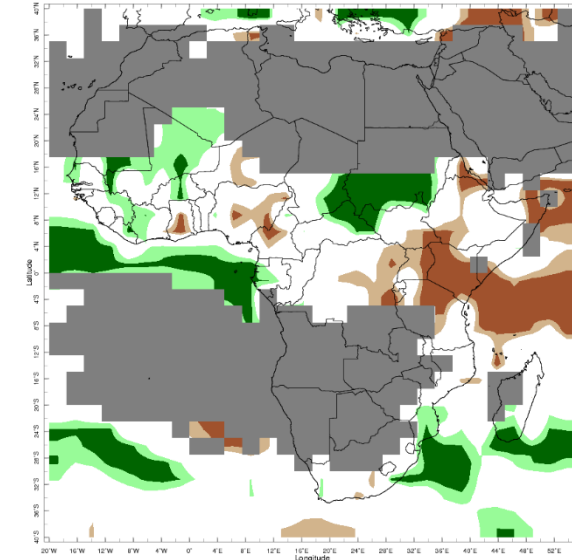
Notes: The percentiles shown in the map indicate a ranking of temperature, with the 0th percentile being the coolest and the 100th percentile being the warmest in the 1981–2010 climatology. Orange and red shading represent values above the 80th (Warm) and 90th (Hot) percentile, respectively; regions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



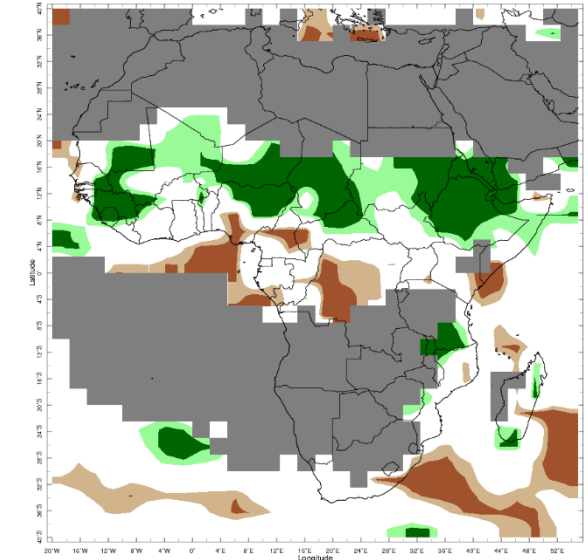
May 2021

May



Jun 2021

June



Jul 2021

July



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

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

Current Status: Rainfall

May	June	July
Normal	Normal	Very Wet
Dry	Normal	Normal
Normal*	Wet	Wet
Normal (1)	Dry	Normal
Normal (2)	Normal	Mixed (3)
Normal	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: Very dry in far south
- (2) Note: Wet or very wet in parts of the north
- (3) Note: Very Wet in the north; Dry in the south

Current Status – Central Africa

Current Status: Temperature

	May	June	July
Niger	Mixed (1)	Warm	Warm
Chad	Mixed (2)	Warm	Mixed (3)
DRC	Hot	Hot	Mixed (4)

Current Status: Rainfall

	May	June	July
Niger	Normal*	Normal	Very Wet
Chad	Normal*	Normal	Vert Wet
DRC	Normal	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 southwest, cold in northeast
- (2) **Note:** Warm in south, cold in north
- (3) **Note:** Hot in the north and normal in the south
- (4) **Note:** Hot in the west and the far northeast; normal elsewhere

Current Status – Eastern Africa (1)

	Current Status: Temperature		
	May	June	July
Sudan	Cool	Normal	Normal
South Sudan	Hot	Hot	Hot
Uganda	Hot	Hot	Hot
Rwanda	Hot	Hot	Hot

	Current Status: Rainfall		
	May	June	July
	Normal* (1)	Very Wet	Wet
	Wet	Normal	Normal
	Normal	Dry	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: Wet in far south

Current Status – Eastern Africa (2)

Current Status: Temperature

	May	June	July
Tanzania	Normal (1)	Normal	Normal
Ethiopia	Hot	Hot	Hot
Kenya	Warm	Normal	Normal (4)
Somalia	Warm (2)	Warm	Hot (2)

Current Status: Rainfall

	May	June	July
Tanzania	Normal (3)	Normal	Wet*
Ethiopia	Normal	Normal	Very Wet
Kenya	Normal	Very Dry	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: Hot in far northwest, Cold in far southeast
- (2) Note: Cold in far northeast
- (3) Note: Wet near Lake Victoria
- (4) Note: Hot in the north

Current Status – Southern Africa

Current Status: Temperature

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

Current Status: Rainfall

	May	June	July
	Normal (3)	Normal	Normal
	Normal	Normal*	Normal*
	Normal*	Normal*	Normal*
	Normal	Normal	Normal
	Normal	Normal*	Normal*
	Normal (4)	Normal (5)	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
- (2) **Note:** Hot in the northeast, but Cold in the southwest
- (3) **Note:** Wet in far southwest
- (4) **Note:** Dry in the east
- (5) **Note:** Very Wet in the far south.

Outlooks

[Notes for use](#)

[Western Africa](#)

[Central Africa](#)

[Eastern Africa](#)

[Southern Africa](#)

Outlooks: Notes for use

Outlooks for months 4 to 6:

As forecast uncertainty generally increases with longer range **the 4-6-month outlook is less reliable than the 1-3-month outlook**. Outlook information will only be provided when the model data signals likely outcomes. Additionally, the longer-range outlook utilises fewer models because not all seasonal models are available for the extended range.

Information provided in this presentation should be used to raise early awareness of potential hazards only and should be updated with the 3-month outlook when available.

Climatological odds:

A forecast is only provided in the outlooks where there is information in the model data about likely outcomes. Therefore, where the likelihoods for above, near and below normal conditions are evenly balanced the phrase 'climatological odds' will be used. This means the outcome could fall anywhere within the possible climatological range. Near-normal conditions should not necessarily be assumed, and users should update with shorter-term forecasts when available.

Outlook: June to November – Western Africa (1)

		Forecast summary		
		September	September to November	December to February
Sierra Leone	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal	Likely to be wetter than normal
Liberia	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal	Likely to be wetter than normal
Mali	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Likely to be drier than normal in the south; Climatological odds elsewhere	Climatological odds
Ghana	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal 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: June to November – Western Africa (2)

		Forecast summary		
		September	September to November	December to February
Nigeria	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal 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	Likely to be wetter than normal	Likely to be wetter than normal in the 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: June to November – Central Africa

		Forecast summary		
		September	September to November	December to February
Niger	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
Chad	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
Democratic Republic of Congo	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 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: June to November – Eastern Africa (1)

		Forecast summary		
		September	September to November	December to February
Sudan	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
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 wetter 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 wetter 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	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: June to November – Eastern Africa (2)

		Forecast summary		
		September	September to November	December to February
Tanzania	Temperature	Likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be drier than normal in coastal regions; Climatological odds elsewhere	Much more likely to be drier than normal in coastal regions; otherwise likely to be drier than normal	Climatological odds
Ethiopia	Temperature	Likely to be warmer than normal	Likely to be warmer than normal in the northwest and much more likely to be warmer than normal in the southeast	Likely to be warmer than normal
	Rainfall	Likely to be drier than normal in the southeast; likely to be wetter than normal in the northwest	Likely to be drier than normal in the southeast; Climatological odds in the northwest	Climatological odds
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 in coastal regions; Climatological odds elsewhere	Much more likely to be drier than normal in coastal regions; otherwise likely to be drier than normal	Climatological odds
Somalia	Temperature	Likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Climatological odds

Outlook: June to November – Southern Africa (1)

		Forecast summary		
		September	September to November	December to February
South Africa	Temperature	Climatological odds	Likely to be colder than normal in the south; Climatological odds elsewhere	Climatological odds
	Rainfall	Climatological odds	Likely to be wetter than normal	Climatological odds
Zambia	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be near-normal	Likely to be drier than normal in the north and climatological odds in the south	Climatological odds
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 wetter than normal	Climatological odds
Mozambique	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Climatological odds	Likely to be drier than normal in the north; Likely to be wetter than normal 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.

Outlook: June to November – Southern Africa (1)

		Forecast summary		
		September	September to November	December to February
Malawi	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Climatological odds	Likely to be drier than normal	Climatological odds
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	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): <https://www.icpac.net/ghacof-58/> (May 2021)

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

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

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

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

Technical notes

The [WMO lead centre for long-range forecast multi-model ensemble \(LC-LRFMME\)](#) produce a probabilistic multi-model mean forecast product in which the multi-model mean is based on uncalibrated model output with a model weighting system that accounts for errors in both the forecast probability and ensemble mean. The method used by LC-LRFMME separately computes a probabilistic forecast and calculates tercile probabilities with respect to climatology for each individual model, before creating the weighted multi-model mean. In seasonal prediction, shifts in the tercile probabilities are always closely associated with the shifts in the probability of extremes, and we can use the probability of terciles to provide information on the likelihood of above- or below- normal conditions. The thresholds used in the forecast summaries are defined below.

Seasonal forecasts rely on the aspects of the global weather and climate system that are more predictable, such as tropical sea-surface temperatures or the El Niño–Southern Oscillation (ENSO). However, whilst such forecasts may be able to show what is more or less likely to occur, they acknowledge that other outcomes are possible.

In addition, forecast uncertainty generally increases with longer range so the 6-month outlook is less reliable. It is also based on less information, because not all models are available to this range. Therefore the information presented here should be used to raise early awareness of potential hazards, and should be updated with the 3-month outlook when available.

In the report and tables precipitation is referred to as rainfall but in fact encompasses any form of water, liquid or solid, falling from the sky. Temperatures are the (2 metre) near-surface temperature.

Description	Definition
Much more likely to be below normal	When probability of lower tercile > 70%
More likely to be below normal	When probability of lower tercile is 40-70%
Likely to be normal	When probability of middle tercile is 40-70%
Much more likely to be near-normal	When probability of middle tercile > 70%
Likely to be above normal	When probability of upper tercile is 40-70%
Much more likely to be above normal	When probability of upper tercile > 70%
Climatological odds	When probabilities for all categories are roughly 33%

Global Producing Centres (GPC) forecasts used by WMO LC-LRFMME:

- GPC CPTC (INPE),
- GPC ECMWF,
- GPC Exeter (Met Office),
- GPC Melbourne (BOM),
- GPC Montreal (CMC),
- GPC Moscow (Hydromet Centre of Russia),
- GPC Offenbach (DWD),
- GPC Pretoria (SAWS),
- GPC Seoul (KMA),
- GPC Tokyo (JMA),
- GPC Toulouse (Meteo France),
- GPC Washington (NCEP)

Enquiries

Email: internationaldevelopment@metoffice.gov.uk

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