

AFRICA: Monthly Climate Outlook

March to December

Issued: June 2020

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Overview

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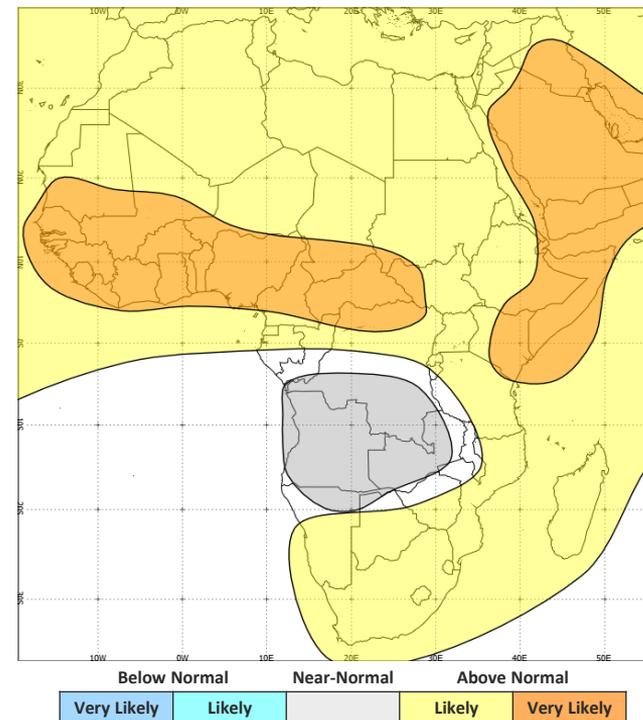
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Africa Current Status and Outlook - Temperature

Current Status: Conditions have been warmer than normal across most of the continent for the past 3 months. The exception to this has been across parts of Southern and Eastern Africa where, overall, temperatures have been closer to normal. In Madagascar conditions have often been colder than normal.

Outlook: Warmer than normal conditions are likely across the northern half of Africa. Further south normal temperatures are more probable.

3-Month Outlook July to September 2020 - Temperature



Africa Current Status and Outlook - Rainfall

Current Status: Most of East Africa has been wetter than normal. Rainfall has been normal over much of Southern Africa, except for Angola, Zambia, Malawi, northern Mozambique and southern Tanzania where it has been much wetter than normal. Conversely southern Mozambique has been drier than normal. Elsewhere, rainfall has been mostly near normal.

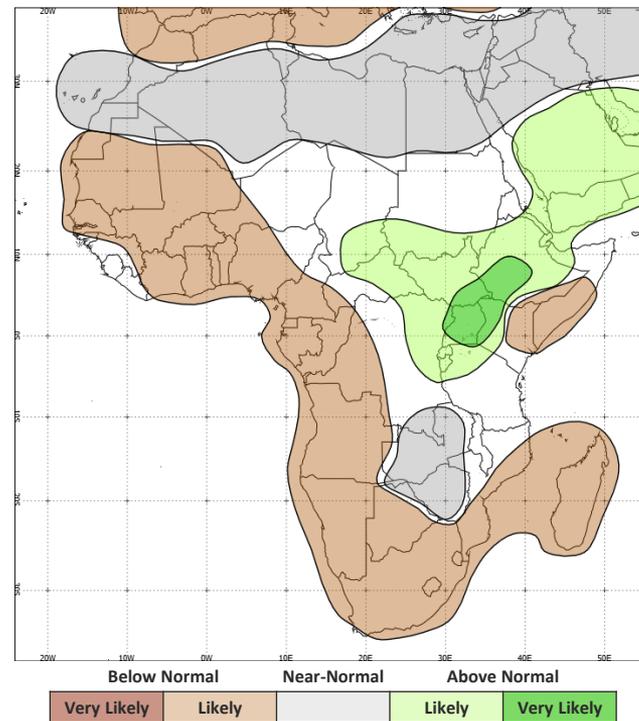
Outlook: The most influential global drivers in this region, El Niño Southern Oscillation (ENSO), and the Indian Ocean Dipole (IOD), are both currently neutral and predictability, therefore, is not particularly high. In the boreal (Northern Hemisphere) autumn a developing La Niña and/or negative IOD may start to become more influential and modulate rainfall patterns across the continent, though this is more likely later in the year. Broadly speaking this typically brings drier-than-normal conditions to East Africa and wetter-than-normal conditions across southern Africa.

Drier than normal conditions are most probable for countries that experience the West African Monsoon, including the countries that border the Gulf of Guinea coastline and western Sahel regions.

Further east the precipitation pattern is more complex. Drier than normal conditions are most probable across coastal regions of East Africa; conversely, there is an increase in the likelihood of wetter than normal conditions in the East African highlands, including regions such as west Kenya, large parts of Ethiopia, South Sudan, Uganda and Rwanda.

For Southern Africa, drier than normal conditions are slightly more probable overall, although normal rainfall is more likely in parts of Zimbabwe and Zambia.

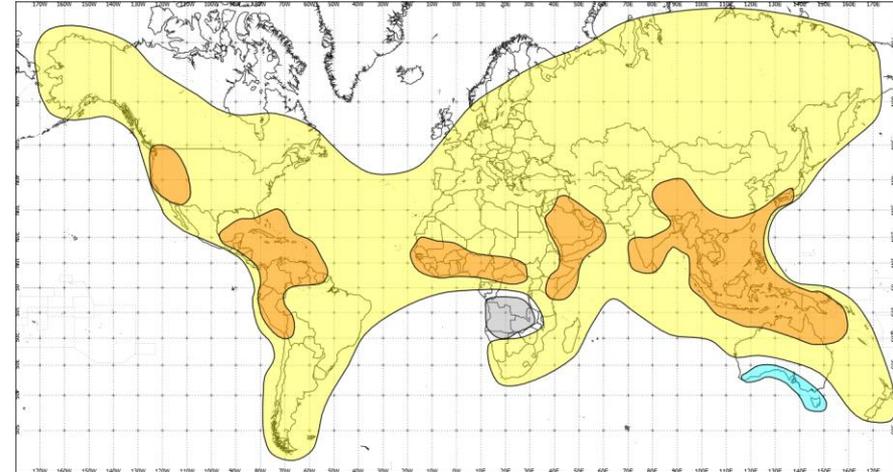
3-Month Outlook July to September 2020 - Rainfall



Global Outlook - Temperature

Outlook: There is an increase in the likelihood of warmer than normal conditions across large parts of the world, with the highest confidence in tropical regions. This is consistent with the warming observed in the past decade.

3-Month Outlook July to September 2020 - Temperature



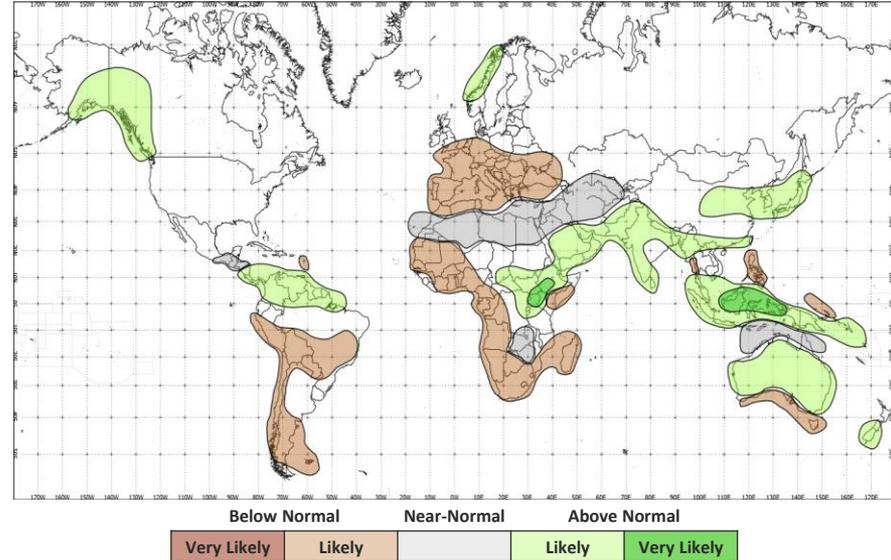
Global Outlook - Rainfall

Outlook:

El Niño-Southern Oscillation (ENSO) – Sea Surface Temperatures (SSTs) continue to decline in the central and eastern tropical Pacific, close to La Niña thresholds. There is, however, yet to be an atmospheric response with most other indicators still neutral. Long-range forecast models continue to predict La Niña developing later this year, most probably in the boreal autumn. Considering signals from the long-range models and the ongoing decline in SSTs, there is around a 45-50% chance of La Niña developing during the boreal (northern hemisphere) autumn.

Indian Ocean Dipole (IOD) – The IOD is currently neutral, but there is growing evidence of a negative pattern developing through this period, most likely late July or August. For much of this period, the IOD is not expected to significantly influence patterns of rainfall around the world. However, should a negative IOD develop, then wetter than normal conditions become more likely, later in this period, across Australia, along with Malaysia and Indonesia; drier than normal conditions in East Africa for the Short Rains season (October-November-December).

3-Month Outlook July to September 2020 - Rainfall



Current Status

[Current Status maps](#)

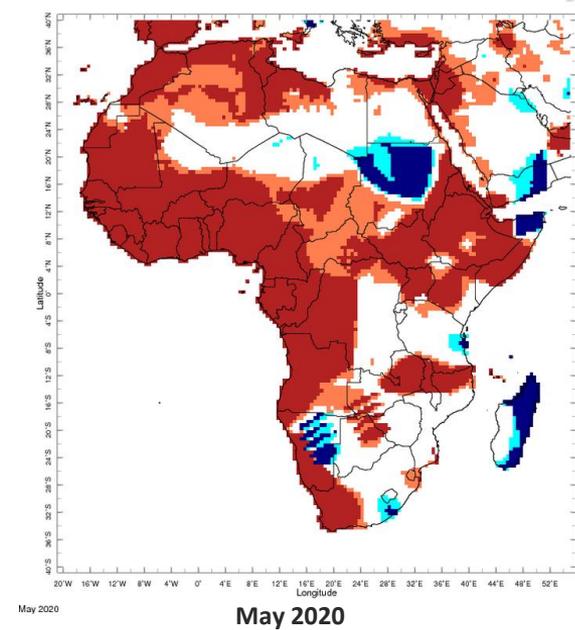
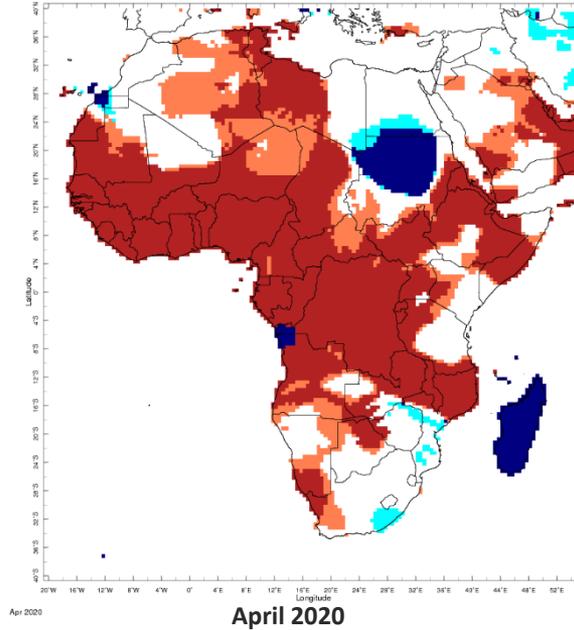
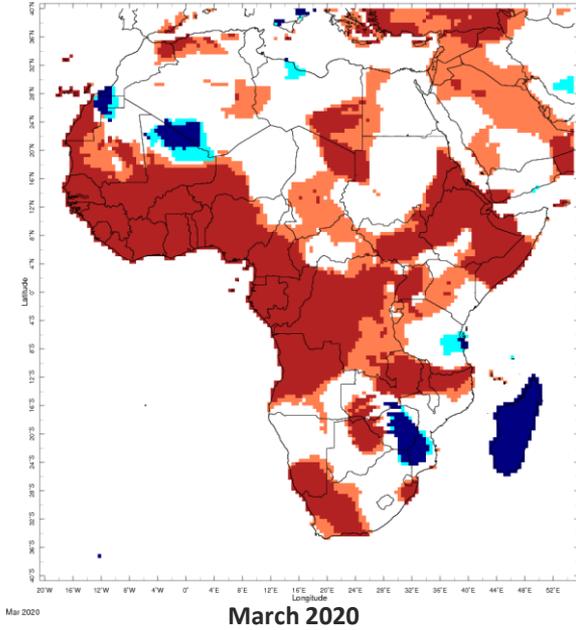
[Western Africa](#)

[Central Africa](#)

[Eastern Africa](#)

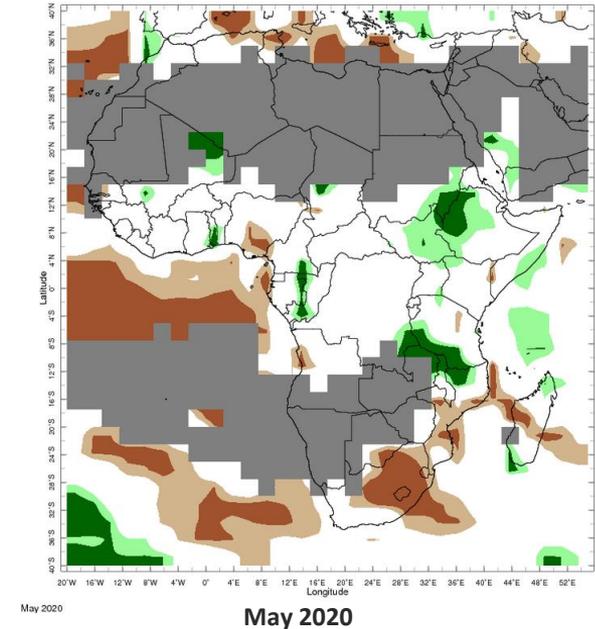
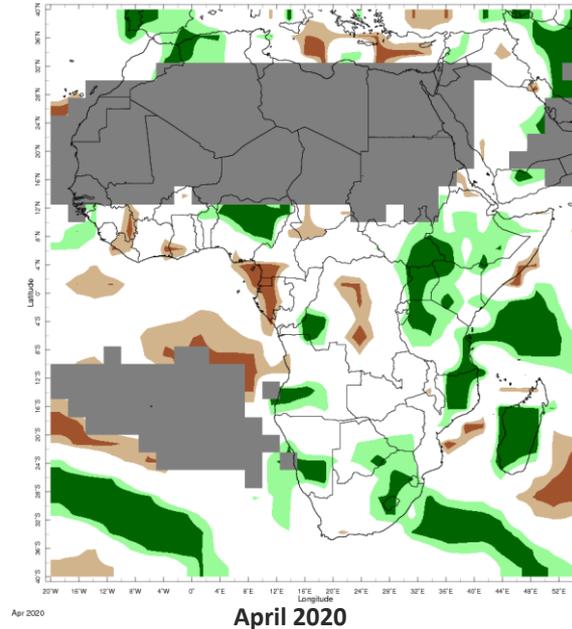
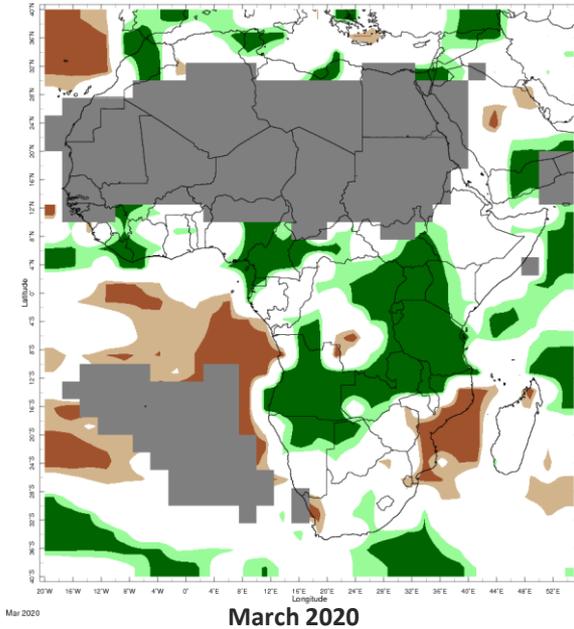
[Southern Africa](#)

Current Status – Temperature percentiles



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



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

	March	April	May
Sierra Leone	Hot	Hot	Hot
Liberia	Hot	Hot	Hot
Mali	Mixed	Mixed	Hot
Ghana	Hot	Hot	Hot
Nigeria	Hot	Hot	Not
Cameroon	Hot	Hot	Hot

Current Status: Rainfall

March	April	May
Normal	Normal	Normal
Very Wet	Dry	Normal
Normal*	Normal*	Normal
Normal	Normal	Normal
Mixed^	Mixed^^	Normal
Very Wet	Mixed^^	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:

^Note: In March western Nigeria had normal rainfall but it was Very Wet in the east, whilst the dry season continued in the north.

^^Note: In April, northern Nigeria was Very Wet and western Cameroon Very Dry.

Current Status – Central Africa

Current Status: Temperature

	March	April	May
Niger	Normal	Hot	Hot
Chad	Normal	Hot	Warm
DRC	Hot	Hot	Normal [^]

Current Status: Rainfall

March	April	May
Normal*	Normal*	Normal*
Normal*	Normal*	Normal
Wet	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:

[^]Note: In May western DRC had hot temperatures, and it was normal in eastern DRC.

Current Status – Eastern Africa (1)

Current Status: Temperature

	March	April	May
Sudan	Normal	Cold	Cold
South Sudan	Hot	Hot	Hot
Uganda	Hot	Hot	Hot
Rwanda	Warm	Hot	Normal

Current Status: Rainfall

	March	April	May
	Normal*	Normal*	Normal*
	Very Wet	Wet	Wet
	Very Wet	Very Wet	Normal
	Very Wet	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:

Current Status – Eastern Africa (2)

Current Status: Temperature

	March	April	May
Tanzania	Normal [^]	Normal	Normal
Ethiopia	Hot	Hot	Hot
Kenya	Warm	Warm	Hot
Somalia	Hot	Hot	Hot

Current Status: Rainfall

	March	April	May
Tanzania	Very Wet	Wet	Normal ^{^^}
Ethiopia	Normal	Wet	Wet
Kenya	Wet [^]	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:

[^]Note: The Kenyan Highlands were Very Wet in March, whilst the coastal plains had normal rainfall.

^{^^}Note: Southwestern Tanzania was Very Wet in May

Current Status – Southern Africa

Current Status: Temperature

	March	April	May
South Africa	Mixed [^]	Mixed [^]	Mixed [^]
Zambia	Hot	Hot	Warm
Zimbabwe	Cold	Normal	Normal
Mozambique	Mixed [^]	Mixed [^]	Mixed [^]
Malawi	Hot	Hot	Hot
Madagascar	Cold	Cold	Cold

Current Status: Rainfall

	March	April	May
	Normal	Wet ^{^^}	Very Dry
	Very Wet	Normal	Normal*
	Normal	Normal	Normal*
	Very Dry	Very Wet ^{^^}	Normal
	Very Wet	Normal	Normal
	Normal	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:

[^]Note: In March, April and May, western South Africa and northern Mozambique were Hot; southern Mozambique was Cold.

^{^^}Note: Note: Rainfall was normal in southern Mozambique and western South Africa.

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: July to December – Western Africa (1)

		Forecast summary		
		July	July to September	October to December
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 - see note	Climatological odds - see note	Climatological odds - see note
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 - see note	Climatological odds - see note	Climatological odds - see note
Mali	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 drier than normal	Climatological odds - see note
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	Much more 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: July to December – Western Africa (2)

		Forecast summary		
		July	July to September	October to December
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	Likely to be drier than normal	Likely to be drier than normal
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

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Outlook: July to December – Central Africa

		Forecast summary		
		July	July to September	October to December
Niger	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds - see note
	Rainfall	Climatological odds - see note	Climatological odds - see note	Climatological odds - see note
Chad	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds - see note
	Rainfall	Climatological odds - see note	Climatological odds - see note	Climatological odds - see note
Democratic Republic of Congo	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds - see note	Likely to be wetter than normal in the east and Likely to be drier than normal in the west. Climatological odds elsewhere - see note	Climatological odds - see note

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: July to December – Eastern Africa (1)

		Forecast summary		
		July	July to September	October to December
Sudan	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds - see note
	Rainfall	Climatological odds - see note	Climatological odds - see note	Climatological odds - see note
South Sudan	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds - see note
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal	Climatological odds - see note
Uganda	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds - see note
	Rainfall	Likely to be wetter than normal	Much more likely to be wetter than normal	Climatological odds - see note
Rwanda	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds - see note
	Rainfall	Likely to be wetter than normal	Much more likely to be wetter than normal	Climatological odds - see note

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: July to December – Eastern Africa (2)

		Forecast summary		
		July	July to September	October to December
Tanzania	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds - see note
	Rainfall	Climatological odds - see note	Climatological odds - see note	Climatological odds - see note
Ethiopia	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	Likely to be wetter than normal	Likely to be drier than normal
Kenya	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Climatological odds - see note
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal in the Highlands and Likely to be drier than normal in the Coastal Plain	Likely to be drier than normal
Somalia	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 - see note	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: July to December – Southern Africa (1)

		Forecast summary		
		July	July to September	October to December
South Africa	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 - see note
Zambia	Temperature	Likely to be colder than normal	Climatological odds - see note	Climatological odds - see note
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds - see note
Zimbabwe	Temperature	Likely to be colder than normal	Climatological odds - see note	Climatological odds - see note
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds - see note
Mozambique	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds - see note	Likely to be drier than normal	Climatological odds - see note

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: July to December – Southern Africa (1)

		Forecast summary		
		July	July to September	October to December
Malawi	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds - see note	Likely to be drier than normal	Climatological odds - see note
Madagascar	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds - see note	Likely to be drier than normal	Climatological odds - see note

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)

PRÉvisions climatiques Saisonnières en Afrique Soudano-Sahélienne (PRESASS)

Southern African Regional Climate Outlook Forum (SARCOF)

PRÉvisions climatiques Saisonnières en Afrique, pays du Golfe de Guinée (PRESAGG)

PRÉvisions climatiques Saisonnières en Afrique centrale (PRESAC)

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 near-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>