AFRICA: Monthly Climate Outlook February to November

Issued: May 2020

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: Temperatures have been above normal to much above normal for much of the last three months, especially in western (Sierra Leone, Liberia, Mali, Ghana, Nigeria, Cameroon) Africa.

Outlook: Warmer than normal conditions are likely across the northern half of Africa. Further south near normal to colder than normal conditions are likely.

3-Month Outlook June to August 2020 - Temperature

Below Normal		Near-Normal	Above Normal	
Very Likely	Likely		Likely	Very Likely
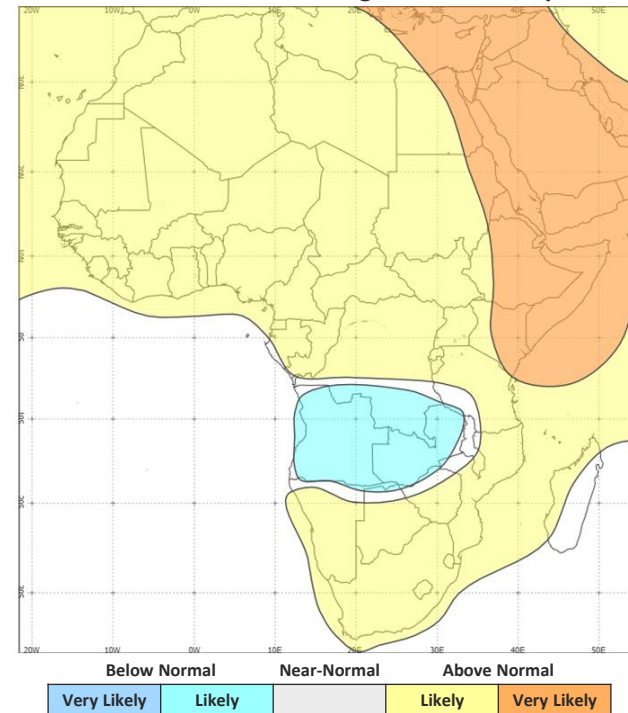
Africa Current Status and Outlook - Rainfall

Current Status: Rainfall has been near normal for many countries in southern Africa (South Africa, Zambia, Zimbabwe, Madagascar) for the last three months, though wetter than normal conditions have been experienced in Malawi and parts of Zambia, South Africa and Mozambique have been wetter than normal in the April. Eastern Africa has been wetter than normal.

Outlook: During the coming months, large-scale drivers of rainfall patterns are weak, with the pattern of SSTs in the Atlantic Ocean perhaps the most influential. A developing La Nina pattern and/or negative Indian Ocean Dipole (IOD) may start to become more dominant during the boreal autumn (3-6 month period) – see the Global outlook for more detail.

Drier than normal conditions are likely for countries that experience the West African Monsoon, including those along the Gulf of Guinea and western Sahel regions.

Further east the precipitation pattern is more complex. Drier than normal conditions are likely across coastal regions of East Africa; conversely, there is a slight 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 near normal rainfall is more likely in parts of Botswana, Zambia and Angola.

3-Month Outlook June to August 2020 - Rainfall

Below Normal		Near-Normal	Above Normal	
Very Likely	Likely		Likely	Very Likely
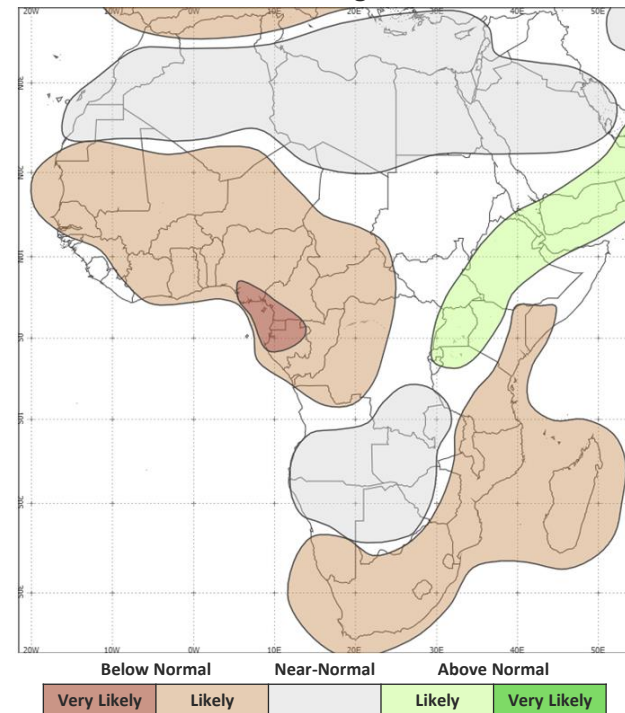
Global Outlook - Temperature

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 June to August 2020 - Temperature

Below Normal		Near-Normal	Above Normal	
Very Likely	Likely		Likely	Very Likely
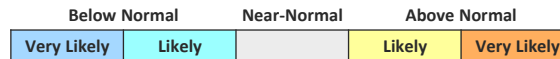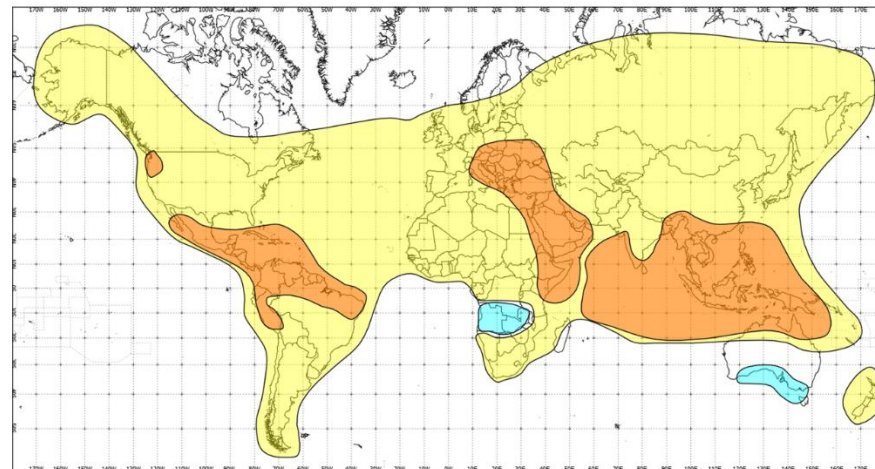
Global Outlook - Rainfall

Outlook: Large-scale drivers of climate variability, such as the El Nino-Southern Oscillation (ENSO) and the Indian Ocean Dipole (IOD) are currently neutral. The implications of this is that predictability, compared to last year when there was a strong positive IOD event, will be lower.
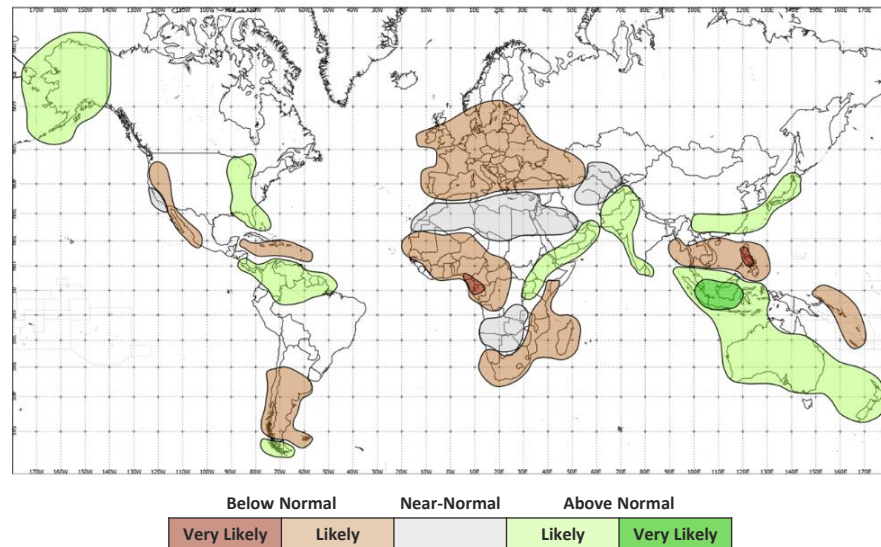
Sea-surface temperatures (SSTs) have been falling in the tropical central and eastern Pacific. Further cooling is possible in the coming months and there is a very small chance of La Nina developing later in boreal summer or autumn. Even if a La Nina-type pattern develops, this is unlikely to have any significant influence on weather patterns during the next three months. The likelihood of La Nina developing by early autumn is currently estimated to be around 45%.

Very broadly, La Nina tends to lead to wetter than normal conditions across land areas in the tropics.

Meanwhile, in the Indian Ocean, there is increasing evidence in model output that a negative IOD pattern could develop later in the boreal summer. Predictions of the behavior of the IOD tend to have lower skill than those of ENSO; therefore, the increased likelihood of negative IOD developing shown in long-range forecasting systems carries low confidence. The negative IOD phase tends to increase the likelihood of wetter than normal conditions across Indonesia, Papua New Guinea and Australia and has been linked to poor performance of the East African Short Rains season (October to December).

3-Month Outlook June to August 2020 - Rainfall

Below Normal		Near-Normal	Above Normal	
Very Likely	Likely		Likely	Very Likely

For months 1-3, despite the lack of clear drivers of climate variability, models are in fairly good agreement in predicting a slight increase in the likelihood of wetter than normal conditions across central Asia and drier than normal conditions across parts of southeast Asia; however there is an increased likelihood of wetter than normal conditions across parts of Malaysia and much of Indonesia. Meanwhile, large swathes of Africa are more likely to experience drier than normal conditions.

Current Status

Current Status – Temperature percentiles

February 2020

March 2020

April 2020

Temperature Percentiles (BLUE below 20th and RED above 80th)

| 0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 |
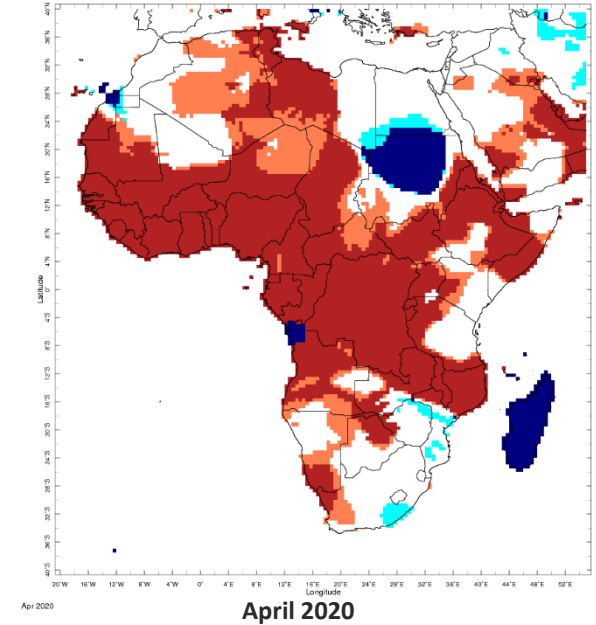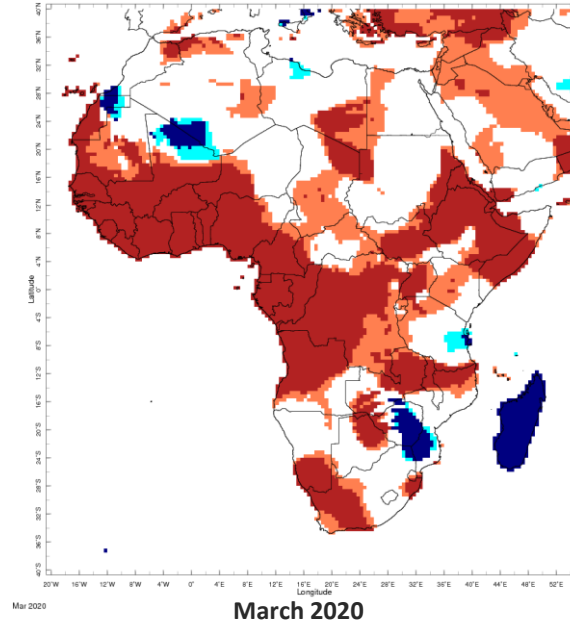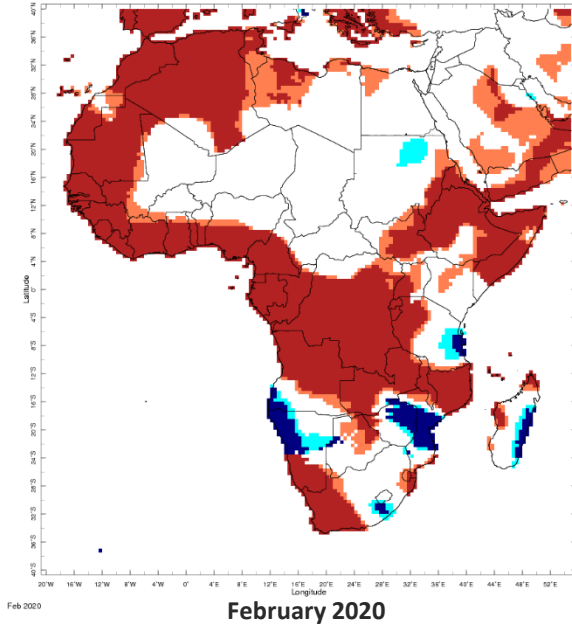
Notes: The percentiles shown in the map indicate a ranking of temperature, with the 0th percentile being the coolest and the 100th percentile being the warmest in the 1981-2010 climatology. Orange and red shading represent values above the 80th (Warm) and 90th (Hot) percentile, respectively; regions shaded in light and dark blue indicate values below the 20th (Cool) and 10th (Cold) percentile, with respect to the 1981-2010 climatology. The data used in this map are from the NOAA Climate Prediction Center.

Current Status – Precipitation percentiles

February 2020

March 2020

April 2020

Rainfall Percentiles (BROWN below 20th and GREEN above 80th)

0   0.1   0.2   0.3   0.4   0.5   0.6   0.7   0.8   0.9   1.0
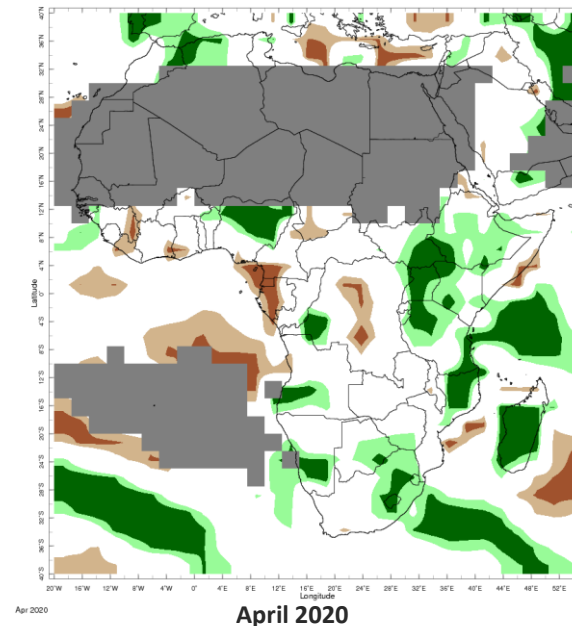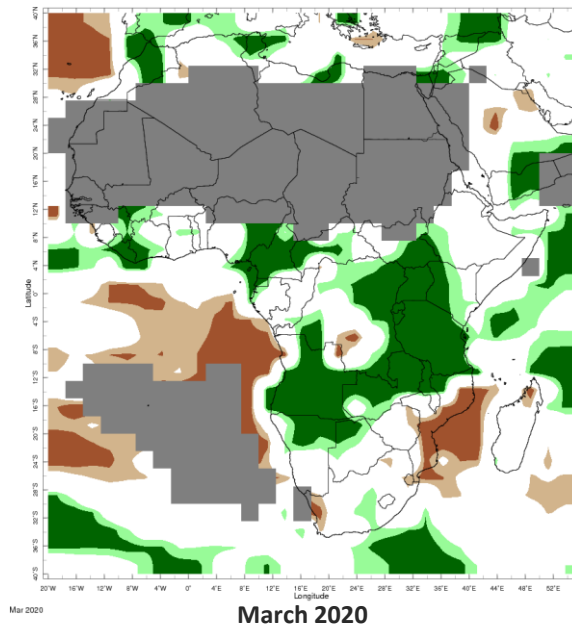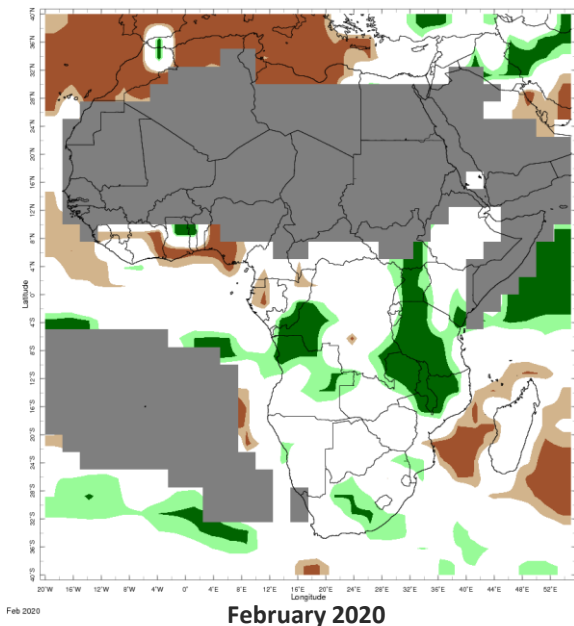
Notes: The percentiles shown in the map indicate a ranking of rainfall, with the 0th percentile being the driest and the 100th percentile being the wettest in the 1981-2010 climatology. Green and dark green shading represent values above the 80th (Wet) and 90th (Very Wet) percentile, respectively; regions 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			
	February	**March**	**April**
Sierra Leone	Hot	Hot	Hot
Liberia	Hot	Hot	Hot
Mali	Normal	Mixed	Mixed
Ghana	Hot	Hot	Hot
Nigeria	Hot	Hot	Hot
Cameroon	Hot	Hot	Hot

Current Status: Rainfall			
	February	**March**	**April**
Sierra Leone	Dry	Normal	Normal
Liberia	Normal	Very Wet	Dry
Mali	Normal*	Normal*	Normal*
Ghana	Mixed^	Normal	Normal
Nigeria	Dry	Mixed^^	Mixed^^^
Cameroon	Normal	Very Wet	Mixed^^^

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 February, northern Ghana was Very Wet and southern Ghana was Very Dry.
^^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			
	February	**March**	**April**
Niger	Normal	Normal	**Hot**
Chad	Normal	Normal	**Hot**
DRC	**Hot**	**Hot**	**Hot**

Current Status: Rainfall			
	February	**March**	**April**
Niger	Normal*	Normal*	Normal*
Chad	Normal*	Normal*	Normal*
DRC	Normal^	**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 February, western DRC was Very Wet.

Current Status – Eastern Africa (1)

	Current Status: Temperature				Current Status: Rainfall		
	February	March	April		February	March	April
Sudan	Normal	Normal	Cold		Normal*	Normal*	Normal*
South Sudan	Hot	Hot	Hot		Very Wet	Very Wet	Wet
Uganda	Hot	Hot	Hot		Very Wet	Very Wet	Very Wet
Rwanda	Hot	Warm	Hot		Normal	Very Wet	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:

Current Status – Eastern Africa (2)

	Current Status: Temperature				Current Status: Rainfall		
	February	**March**	**April**		**February**	**March**	**April**
Tanzania	Normal	Normal^	Normal		Very Wet	Very Wet	Wet
Ethiopia	Hot	Hot	Hot		Normal	Normal	Wet
Kenya	Normal	Warm	Warm		Normal^^	Wet^^^	Wet
Somalia	Hot	Hot	Hot		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: In February Tanzania was Hot in the west and Cold in the east
^^Note: In February Kenya was Very Wet in the far southeast.
^^^Note: The Kenyan Highlands were Very Wet and in March, whilst the coastal plains had near normal rainfall.

Current Status – Southern Africa

	Current Status: Temperature				Current Status: Rainfall		
	February	**March**	**April**		**February**	**March**	**April**
South Africa	Mixed^	Mixed^	Mixed^		Normal^^	Normal	Wet^^^
Zambia	Hot	Hot	Hot		Normal^^	Very Wet	Normal
Zimbabwe	Cold	Cold	Normal		Normal	Normal	Normal
Mozambique	Mixed^	Mixed^	Mixed^		Normal^^	Very Dry	Very Wet^^^
Malawi	Hot	Hot	Hot		Very Wet	Very Wet	Normal
Madagascar	Normal	Cold	Cold		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:

^Note: In February, March and April, western South Africa and northern Mozambique were Hot; southern Mozambique was Cold.
^^Note: In February central South Africa, northeast Zambia and northern Mozambique were Very Wet.
^^^Note: In April rainfall was near-normal in southern Mozambique and western South Africa.

Outlooks

Outlooks: Notes for use

Outlooks for months 4 to 6:

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

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

Climatological odds:

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

Outlook: June to November – Western Africa (1)

		Forecast summary		
		June	June to August	September to November
Sierra Leone	*Temperature*	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be drier than normal	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	Likely to be drier than normal	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	Much more 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

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Outlook: June to November – Western Africa (2)

		Forecast summary		
		June	June to August	September to November
Nigeria	*Temperature*	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Likely to be drier than normal
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 drier than normal	Much more likely to be drier than normal	Likely to be drier than normal

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Outlook: June to November – Central Africa

		Forecast summary		
		June	June to August	September to November
Niger	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds - see note
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Climatological odds - see note
Chad	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds - see note
	Rainfall	Likely to be drier than normal	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	Likely to be drier than normal	Likely to be drier than normal	Climatological odds - see note

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Outlook: June to November – Eastern Africa (1)

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

		Forecast summary		
		June	June to August	September to November
Tanzania	*Temperature*	Likely to be near-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
Ethiopia	*Temperature*	Much more likely to be warmer than normal	Likely to be warmer than normal	Climatological odds - see note
	Rainfall	Likely to be drier than normal in the north and likely to be wetter than normal elsewhere	Likely to be wetter than normal	Climatological odds - see note
Kenya	*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 in the Western Highlands and likely to be drier than normal elsewhere.	Likely to be wetter than normal in the Western Highlands and likely to be drier than normal elsewhere.	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	Likely to be drier than normal	Likely to be drier than normal	Likely to be drier than normal

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Outlook: June to November – Southern Africa (1)

		Forecast summary		
		June	June to August	September to November
South Africa	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be near-normal	Likely to be drier than normal	Climatological odds - see note
Zambia	*Temperature*	Likely to be colder than normal	Likely to be colder than normal	Climatological odds - see note
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds - see note
Zimbabwe	*Temperature*	Likely to be near-normal	Likely to be near-normal	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 near-normal	Climatological odds - see note
	Rainfall	Likely to be drier than normal	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: June to November – Southern Africa (1)

		Forecast summary		
		June	June to August	September to November
Malawi	*Temperature*	Likely to be near-normal	Likely to be near-normal	Climatological odds - see note
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Climatological odds - see note
Madagascar	*Temperature*	Likely to be near-normal	Climatological odds - see note	Climatological odds - see note
	Rainfall	Likely to be drier than normal	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

Regional Climate Outlook Forums (RCOF)

Climate Outlook Fora (https://public.wmo.int/en/our-mandate/climate/regional-climate-outlook-products):

Greater Horn of Africa Climate Outlook Forum (GHACOF)
Latest Output - https://www.icpac.net/wp-content/uploads/GHACOF55_Statement.pdf

PRÉvisions climatiques Saisonnières en Afrique Soudano-Sahélienne (PRESASS)
Latest Output – English - https://urlz.fr/cuFo ; French - https://urlz.fr/cuFm

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