AFRICA: Monthly Climate Outlook November to August

Issued: February 2021

Overview

Africa Current Status and Outlook - Temperature

Current Status:

Large parts of the continent have been warmer than normal. However, parts of southern and eastern Africa were colder than normal during January.

Outlook:

Over the next three months, warmer than normal temperatures are likely for a large swathe of the continent, except for parts of Southern Africa where below normal temperatures are likely.

3-Month Outlook March to May - Temperature

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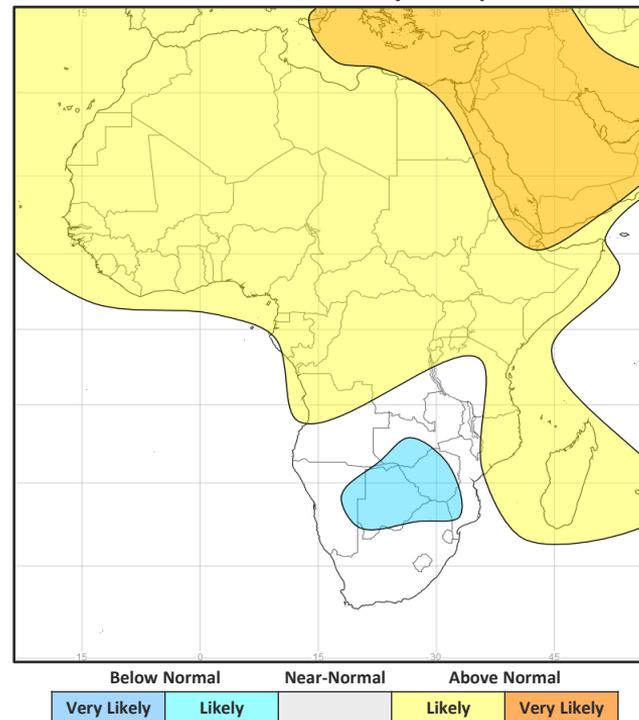
Africa Current Status and Outlook - Rainfall

Current Status:

Many parts of central, southern and eastern Africa have seen above normal rainfall over recent months, especially during January. Parts of the Gulf of Guinea coastline as well as Morocco have also experienced above normal rainfall.

Outlook:

For the next three months, parts of southeastern Africa continue to be likely to have above normal rainfall before the main rain belt starts to transfer northwards.

During the East African 'Long Rains' season (March to May) there is considerable regional variation. The Horn of Africa region is likely to be drier than normal, however parts of South Sudan and Tanzania likely to be wetter than normal.

Parts of West Africa along the Gulf of Guinea are likely to be wetter than normal. Below normal rainfall is likely for parts of the Congo basin as well as parts of the far north of the continent.

Near to slightly above normal tropical cyclone activity is expected in the southwest Indian Ocean basin. There remains an increased likelihood of more storms affecting Madagascar and Mozambique aided by higher than average sea surface temperatures here. The season typically comes to an end by or during May.

3-Month Outlook March to May - Rainfall

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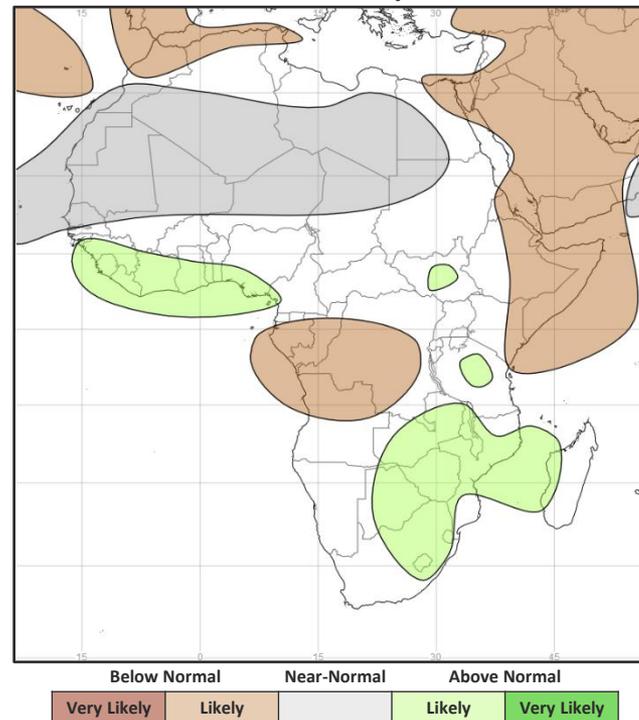
Global Outlook - Temperature

Outlook:

La Niña (see *'Global Outlook – Rainfall'* slide for more information) tends to have an overall cooling effect across the world, notably below normal temperatures likely for parts of southern Africa, a small part of Southeast Asia, parts of northern and western South America as well as northwest North America.

Despite La Nina cooling, many regions are still likely to be warmer than normal over the next three months and this consistent with the warming observed over the past decade. However, the above normal temperature signal is less strong as it was at this time last year (when ENSO was in a neutral state).

3-Month Outlook March to May - Temperature

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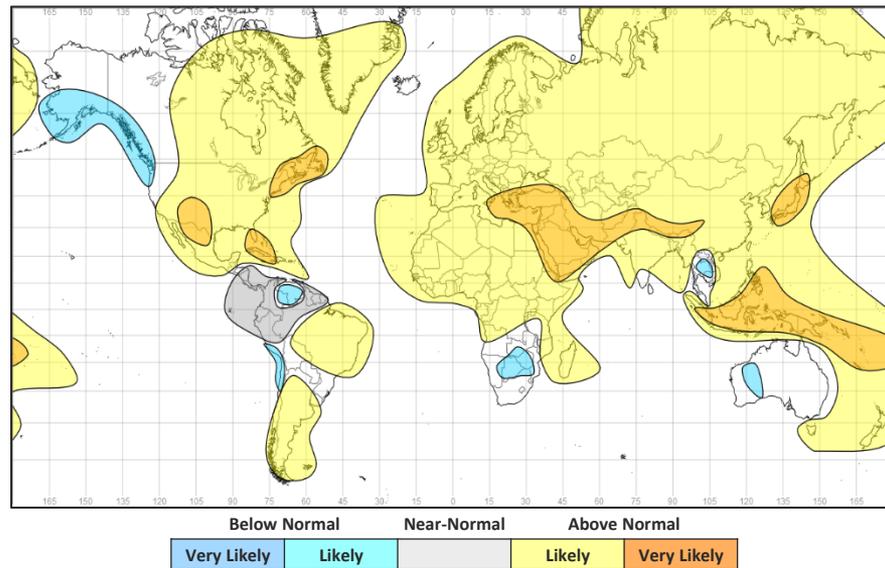
Global Outlook - Rainfall

Outlook:

El Niño-Southern Oscillation (ENSO) – La Niña conditions remain well established across the tropical Pacific, with sea-surface temperature anomalies, trade wind strength, atmospheric pressure pattern and cloudiness all consistent with this. The event has likely recently peaked and a gradual shift into neutral conditions is likely, with the latest NOAA Climate Prediction Centre / NCEP statement (PDF) stating that:
"There is a ~60% chance of a transition from La Niña to ENSO-Neutral during the Northern Hemisphere spring 2021 (April-June)."

Despite this trend La Niña will continue to be a dominant driver of rainfall patterns, especially in the tropics, for a large proportion of this forecast period.

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

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

Meanwhile, much of the Middle East, Central Asia, the Horn of Africa, parts of the Congo basin, southern North America and a central and southern swathe of South America are likely to be drier than normal.

3-Month Outlook March to May - Rainfall

Below Normal		Near-Normal	Above Normal	
Very Likely	Likely		Likely	Very Likely
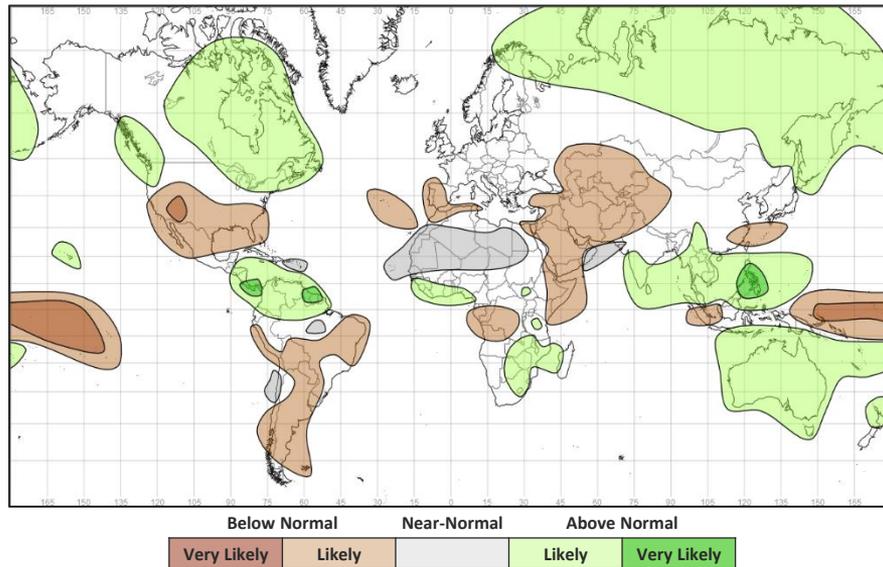
Current Status

Current Status – Temperature percentiles
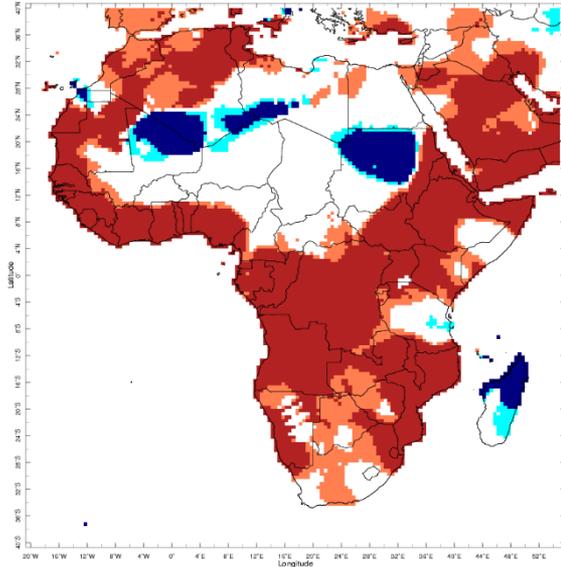
November
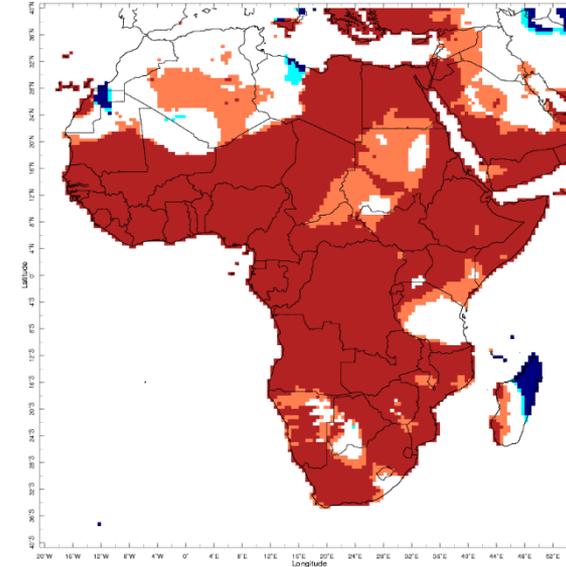
December

January

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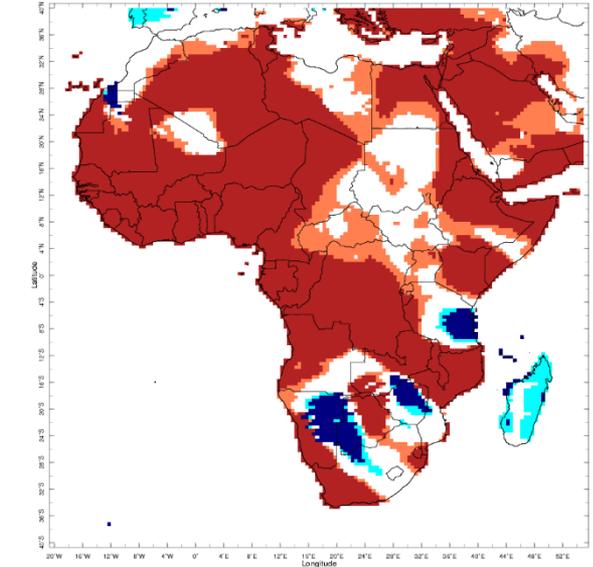
Notes: The percentiles shown in the map indicate a ranking of temperature, with the 0th percentile being the coolest and the 100th percentile being the warmest in the 1981-2010 climatology. Orange and red shading represent values above the 80th (Warm) and 90th (Hot) percentile, respectively; regions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

Climate Outlook
Africa: November to August

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Current Status – Precipitation percentiles
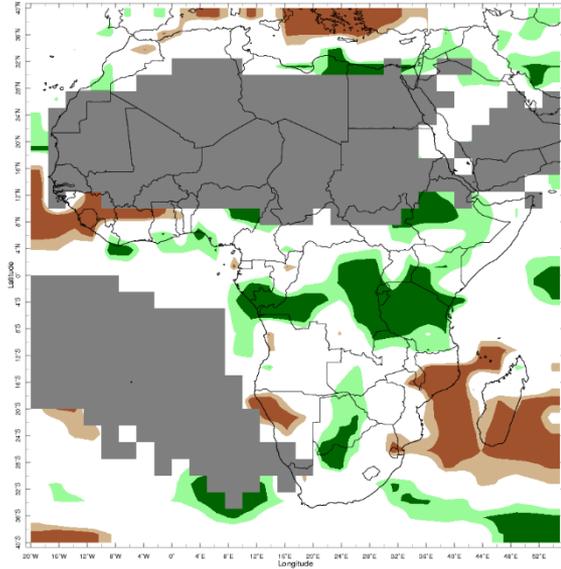
November
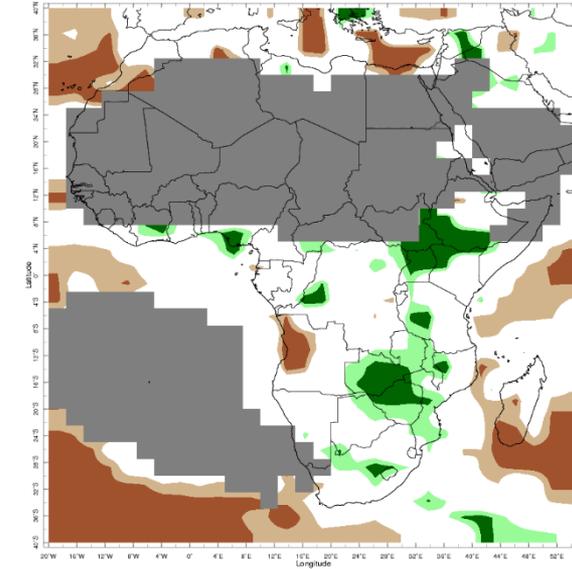
December

January

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 |
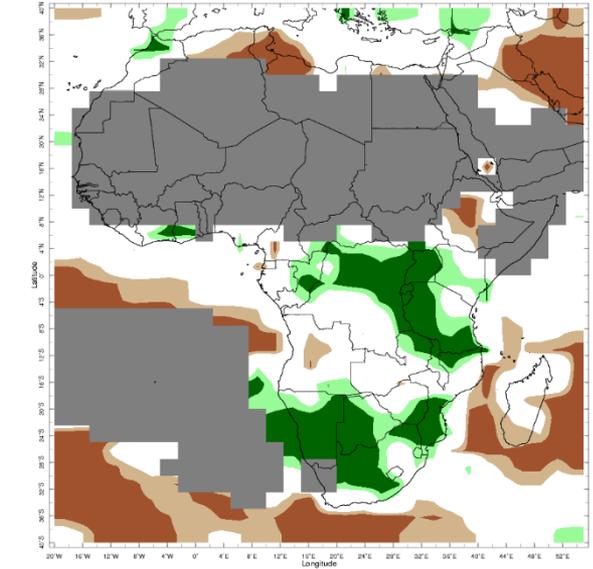
Notes: The percentiles shown in the map indicate a ranking of rainfall, with the 0th percentile being the driest and the 100th percentile being the wettest in the 1981-2010 climatology. Green and dark green shading represent values above the 80th (Wet) and 90th (Very Wet) percentile, respectively; regions 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.

Climate Outlook
Africa: November to August

Current Status – Western Africa

Current Status: Temperature			
	November	December	January
Sierra Leone	Hot	Hot	Hot
Liberia	Hot	Hot	Hot
Mali	Normal^	Hot	Hot
Ghana	Hot	Hot	Hot
Nigeria	Hot	Hot	Hot
Cameroon	Normal	Hot	Hot

Current Status: Rainfall			
	November	December	January
Sierra Leone	Very Dry	Normal	Normal
Liberia	Normal	Mixed	Normal
Mali	Normal*	Normal*	Normal*
Ghana	Normal	Normal	Very Wet^^^
Nigeria	Normal	Mixed^^	Normal
Cameroon	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: Warm in southern Mali during October and November
^^Note: Hot in the south of Nigeria in December, normal elsewhere
^^^Note: Very Wet in the south

Current Status – Central Africa

Current Status: Temperature				Current Status: Rainfall		
	November	**December**	**January**	**November**	**December**	**January**
Niger	Normal	Hot	Hot	Normal*	Normal*	Normal*
Chad	Normal	Hot	Hot	Normal*	Normal*	Normal*
DRC	Hot	Hot	Hot	Wet	Normal	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: Very wet in the north, normal in the south

Current Status – Eastern Africa (1)

Current Status: Temperature		
November	**December**	**January**

	November	December	January
Sudan	Cold^	Hot	Normal^^^
South Sudan	Hot	Hot	Normal
Uganda	Hot	Hot	Warm
Rwanda	Hot	Hot	Warm

Current Status: Rainfall		
November	**December**	**January**

	November	December	January
Sudan	Normal*	Normal*	Normal*
South Sudan	Normal*	Wet	Mixed^^
Uganda	Normal	Very Wet	Very Wet
Rwanda	Very Wet	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: Temperatures in southern parts of Sudan were near normal in November
^^Note: Very Wet in the far south. Largely dry elsewhere
^^^Note: Hot in parts of the east

Current Status – Eastern Africa (2)

	Current Status: Temperature				Current Status: Rainfall		
	November	**December**	**January**		**November**	**December**	**January**
Tanzania	Normal	Normal	Mixed^^		Very Wet	Mixed	Very Wet
Ethiopia	Hot	Hot	Hot		Wet	Mixed	Dry
Kenya	Hot	Hot	Hot		Wet	Normal	Wet
Somalia	Normal^	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: Hot in the north of Somalia in November
^^Note: Hot in the far west, cold in parts of the east, normal elsewhere

Current Status – Southern Africa

Current Status: Temperature				Current Status: Rainfall		
	November	December	January	November	December	January
South Africa	Warm	Hot	Mixed^^^^^	Normal	Normal	Very Wet
Zambia	Hot	Hot	Hot	Normal	Wet	Normal^^^
Zimbabwe	Warm	Hot	Mixed	Normal	Very Wet	Very Wet
Mozambique	Hot	Hot	Hot	Normal	Mixed^^	Mixed^^^^
Malawi	Hot	Hot	Hot	Normal	Wet	Wet
Madagascar	Cold	Mixed^	Cool	Dry	Dry	Normal

Notes:

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

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

Additional Information:

^Note: Cold in the north and Hot in the west
^^Note: Some areas Wet, mainly Normal.
^^^Note: Very wet in the far northeast.
^^^^Note: Very wet in the south and far north, normal elsewhere
^^^^^Note: Hot in the southwest

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: March to August – Western Africa (1)

Forecast summary			
	March	**March to May**	**June to August**
Sierra Leone Temperature	Likely to be near-normal	Likely to be near-normal	Likely to be warmer than normal
Rainfall	Likely to be wetter than normal	Likely to be wetter than normal	Climatological odds – see note
Liberia Temperature	Likely to be near-normal	Likely to be near-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
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 – see note	Climatological odds – see note
Ghana Temperature	Likely to be warmer than normal in the north, likely to be near-normal in the south	Likely to be warmer than normal	Likely to be warmer than normal
Rainfall	Likely to be wetter than normal in the south, Climatological odds – see note in the north	Likely to be wetter than normal in the south, Climatological odds – see note in the north	Likely to be drier than normal in the south, in the north 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: 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	Climatological odds – see note but likely to be wetter than normal far south	Climatological odds – see note but likely to be wetter than normal far south	Likely to be wetter than normal in the north, Climatological odds – see note in the south
Cameroon	*Temperature*	Likely to be warmer than normal	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

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Outlooks

Outlook: March to August – Central Africa

		Forecast summary		
		March	March to May	June to August
Niger	*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 near-normal	Climatological odds – see note
Chad	*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 near-normal	Likely to be wetter than normal
Democratic Republic of Congo	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be drier than normal in the southwest, Climatological odds – see note elsewhere	Likely to be wetter than normal	Likely to be drier than normal in the west, Climatological odds – see note in the east

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Outlook: March to August – Eastern Africa (1)

		Forecast summary		
		March	March to May	June to August
Sudan	*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 – see note	Climatological odds – see note
South Sudan	*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 in central areas, Climatological odds – see note elsewhere	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	Climatological odds – see note	Climatological odds – see note	Likely to be drier than normal
Rwanda	*Temperature*	Climatological odds – see note	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds – see note	Climatological odds – see note	Likely to be drier than normal

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Outlooks

Climate Outlook
Africa: November to August

Outlook: March to August – Eastern Africa (2)

		Forecast summary		
		March	March to May	June to August
Tanzania	*Temperature*	Climatological odds – see note in the west, **likely to be warmer than normal** in the east	**Likely to be warmer than normal**	Likely to be warmer than normal
	Rainfall	Climatological odds – see note	**Likely to be wetter than normal** in central areas, Climatological odds – see note elsewhere	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 in the** west, **likely to be near-normal** in the east	Climatological odds in the west, **likely to be drier than normal** in the east	Likely to be wetter than normal in the west, Likely to be drier than normal in the east
Kenya	*Temperature*	**Likely to be warmer than normal**	**Likely to be warmer than normal**	Climatological odds – see note
	Rainfall	Climatological odds – see note in the west, **likely to be near-normal** east	**Likely to be drier than normal** along the coast, elsewhere Climatological odds – see note	Likely to be drier than normal
Somalia	*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**	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.

Outlooks

Outlook: March to August – Southern Africa (1)

		Forecast summary		
		March	March to May	June to August
South Africa	*Temperature*	Climatological odds – see note	Climatological odds – see note	Climatological odds – see note
	Rainfall	Climatological odds – see note	Climatological odds – see note in the southwest, otherwise **likely to be wetter than normal**	Climatological odds – see note
Zambia	*Temperature*	Climatological odds – see note	Climatological odds – see note	Likely to be colder than normal
	Rainfall	**Likely to be wetter than normal**	**Likely to be wetter than normal**	Likely to be near-normal
Zimbabwe	*Temperature*	**Likely to be colder than normal**	**Likely to be colder than normal**	Likely to be colder than normal
	Rainfall	**Likely to be wetter than normal**	**Likely to be wetter than normal**	Climatological odds – see note
Mozambique	*Temperature*	Climatological odds – see note	Climatological odds – see note	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: March to August – Southern Africa (1)

		Forecast summary		
		March	March to May	June to August
Malawi	*Temperature*	Climatological odds – see note	Climatological odds – see note	Likely to be colder than normal
	Rainfall	**Likely to be wetter than normal**	**Likely to be wetter 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	Climatological odds – see note	Climatological odds – see note

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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-57/
PRÉvisions climatiques Saisonnières en Afrique Soudano-Sahélienne (PRESASS): English - https://urlz.fr/cuFo ; French - https://urlz.fr/cuFm
Southern African Regional Climate Outlook Forum (SARCOF): http://csc.sadc.int/en/news-and-events/310-announcement-sarcof-24
PRÉvisions climatiques Saisonnières en Afrique, pays du Golfe de Guinée (PRESAGG): http://acmad.net/rcc/atelier/bulletin_PRESAGG07_eng.pdf
South-West Indian Ocean Climate Outlook Forum (SWICOF) - https://www.commissionoceanindien.org/wp-content/uploads/2020/09/SWIOCOF-9_Statement.pdf

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)

Supplemental Information

Enquiries

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