AFRICA: Monthly Climate Outlook
August to May

Issued: November 2020

Overview

Africa Current Status and Outlook – Temperature

Africa Current Status and Outlook – Rainfall

Global Outlook – Temperature

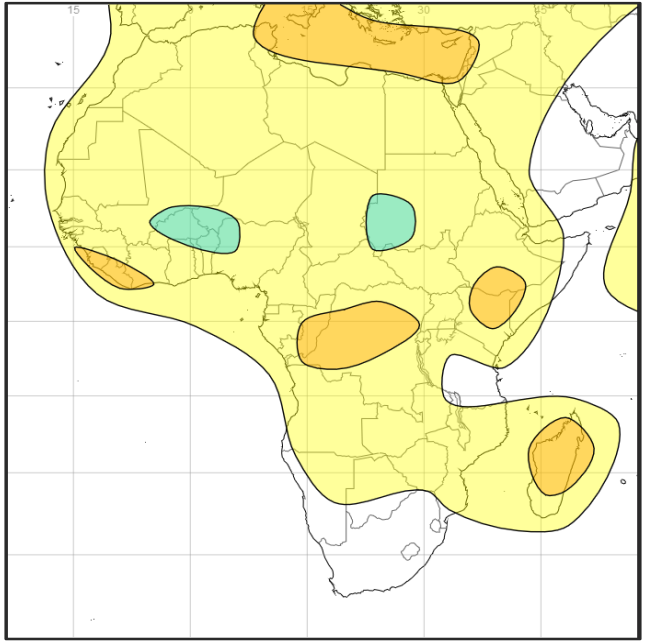
Global Outlook – Rainfall

Africa Current Status and Outlook - Temperature

Current Status: Over the last three months, conditions have been warmer than normal across much of the continent except for in the Sahara and some countries in the south-east where temperatures have been closer to normal. Madagascar has been colder than normal overall, especially in August and September, likewise parts of South Africa and the Horn of Africa.

Outlook: For the next three months, warmer than normal conditions are likely across much of continent, apart from parts of the Sahel and parts of southern Sudan, where cooler than normal temperatures are more likely. Normal temperatures are likely across South Africa, southern Namibia and Botswana, plus Lesotho and Eswatini. Warmer than normal conditions are very likely for countries close to the Gulf of Guinea coast, close to the Mediterranean coast, and Madagascar.

3-Month Outlook December to February - Temperature



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

Africa Current Status and Outlook - Rainfall

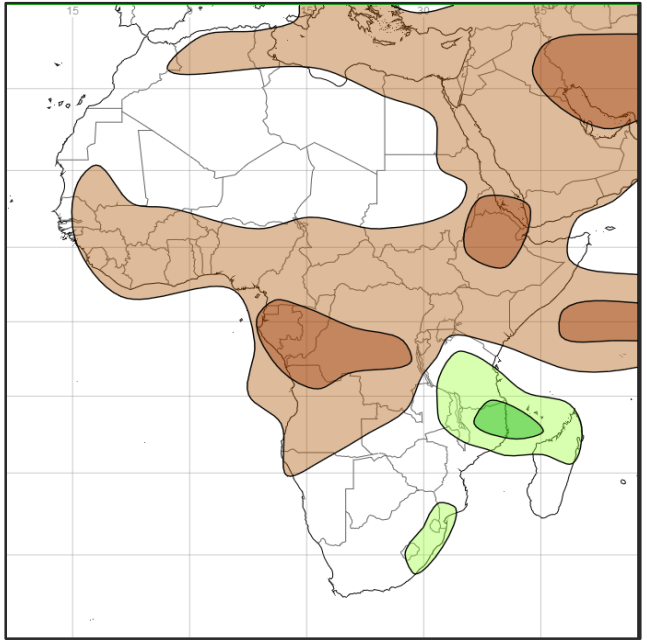
Current Status: In the last three months, many parts of West Africa and the Sahel have been much wetter than normal. However, many countries adjacent to the Gulf of Guinea experienced drier than normal conditions in August.

Outlook: The well established, moderate to strong La Niña will continue to be the main driver for conditions across Africa over the next three months. The Indian Ocean Dipole (IOD), is currently neutral and expected to remain so. La Niña, increases sea surface temperatures (SSTs) in the west/south-west Indian Ocean basin as well as the likelihood of above average cyclone activity in the region. Above normal rainfall is likely across the south-east of the continent, including northern Madagascar. Drier than normal conditions are likely for December to February across Northern Africa, Greater Horn of Africa and countries adjacent to the Gulf of Guinea.

Tropical Cyclone outlook: Information can be found here.

Additional information on the March – May outlooks can be found here.

3-Month Outlook December to February - Rainfall



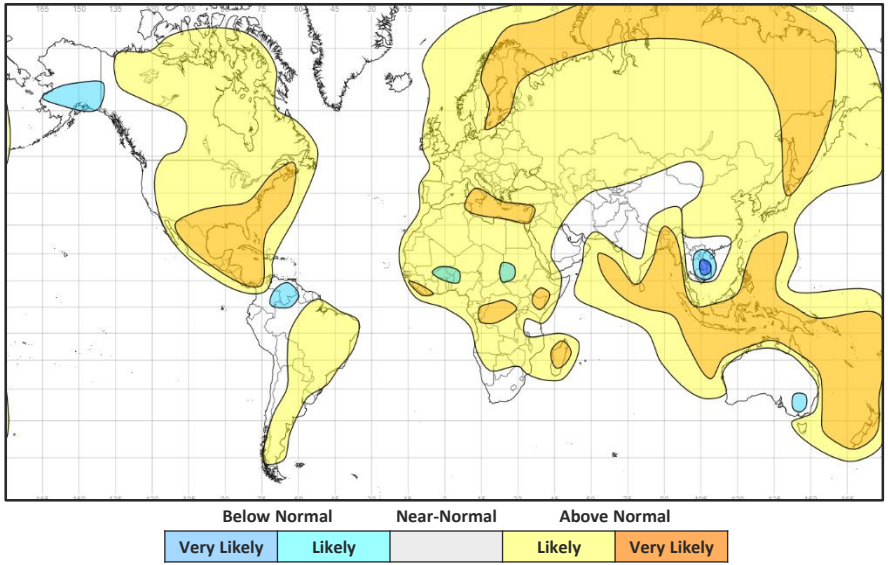
Global Outlook - Temperature

Outlook: For the next three months, consistent with the warming climate over the past decade (the anomalies forecast are with respect to the 1981-2010 climate) the majority of the globe is likely to experience warmer than normal conditions.

The most significant deviations from this are in areas where La Niña has a strong influence. This is evident across south-east Asia where colder than normal conditions are expected across parts of Indochina and the South China Sea. Conversely warmer than normal conditions are very likely across Indonesia, Malaysia, the Philippines, and across the Bay of Bengal and much of the Indian Ocean where Sea Surface Temperatures (SSTs) are above normal.

Also warmer-than-normal conditions are very likely across the parts of Central America, southern and eastern USA and much of the Caribbean. Over large parts of the Arctic, where sea ice and snow cover are currently below normal levels, warmer than normal conditions are very likely.

3-Month Outlook December to February - Temperature



Global Outlook - Rainfall

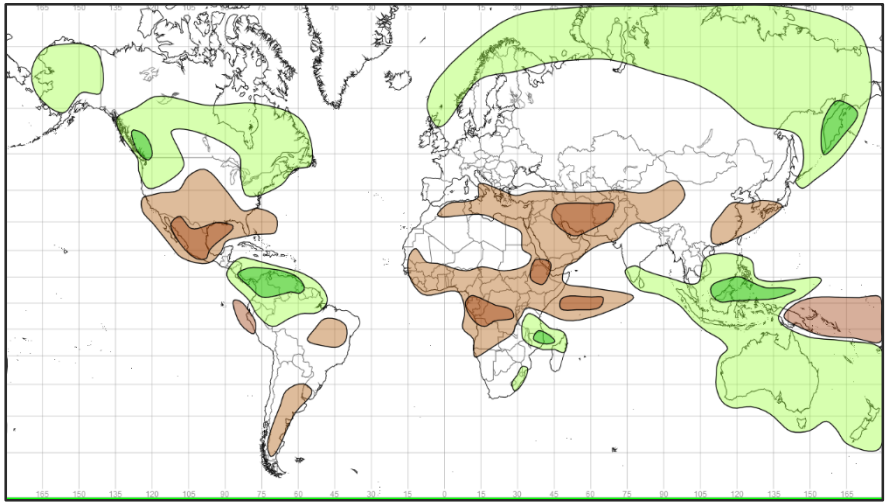
Outlook: Similar to predicted temperature variation, the rainfall patterns over the next 3-6 months are expected to be strongly influenced by the ongoing mature La Niña event across the tropical Pacific.

The latest statement from the NOAA Climate Prediction Centre / NCEP states that *"La Niña is likely to continue through the Northern Hemisphere winter 2020-21 (~95% chance during January-March) and into spring 2021 (~65% chance during March-May)."* (Full statement 23/11/2019)

Confidence is highest in these rainfall shifts across the tropics, but the impacts of La Niña will be far reaching, and in general the expected rainfall anomalies align with typical La Niña events. Forecasts for the Indian Ocean Dipole (IOD) show that this will remain neutral in the coming months.

Over the next three months, rainfall is very likely to be above normal over the Philippines, northern Malaysia, across the South China Sea and north-west Pacific. Tropical cyclone activity is likely higher across the Philippine and South China Seas compared to areas further north. Above normal rainfall is also likely in parts of southern Africa, Mozambique Channel, the southern Caribbean Sea, the north of South America, large parts of northern North America, parts of Scandinavia, parts of Indonesia, and Australia. However, below normal rainfall is very likely over parts of Mexico and the southern States of the US, and parts of central Asia. Below normal rainfall is likely across much of central, eastern and parts of western and northern Africa, parts of southern South America, southern Europe, the Middle East and south-west Asia.

3-Month Outlook December to February - Rainfall



Current Status

Current Status maps

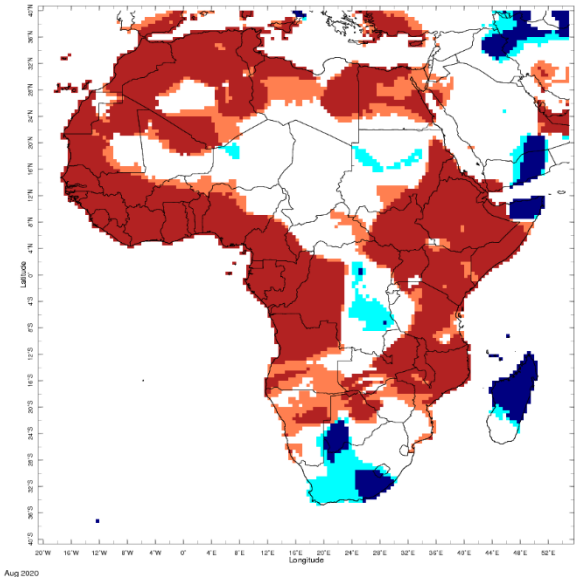
Western Africa

Central Africa

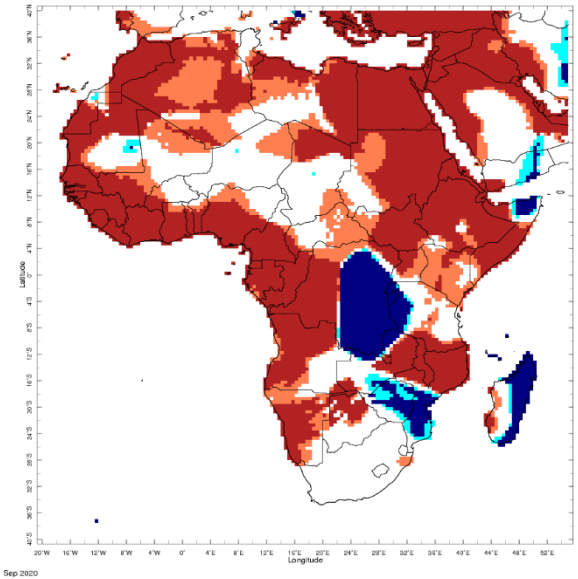
Eastern Africa

Southern Africa

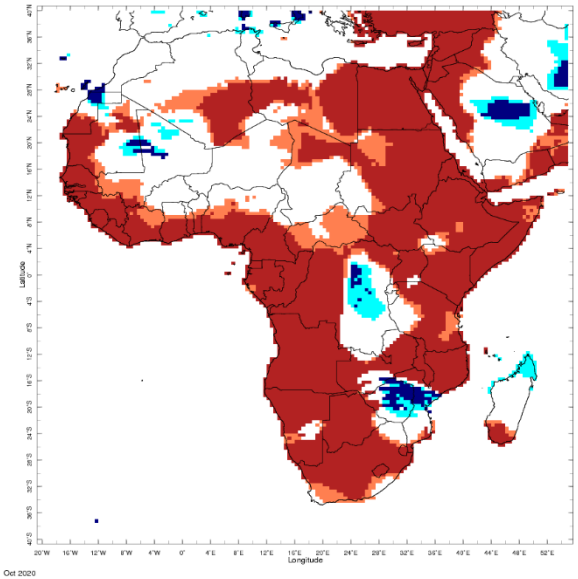
Current Status – Temperature percentiles



August



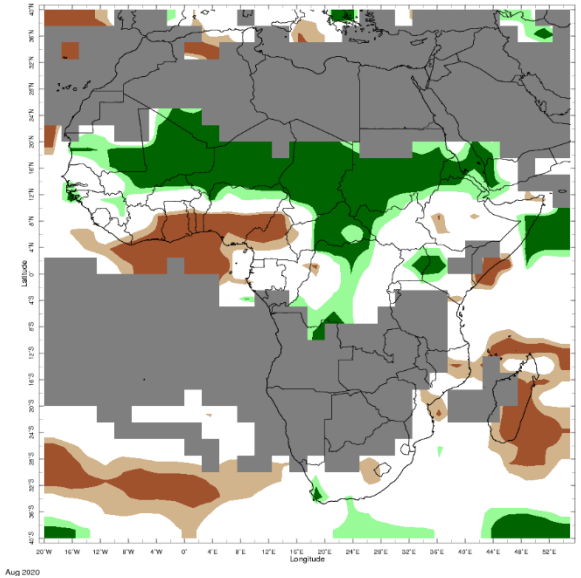
September



October

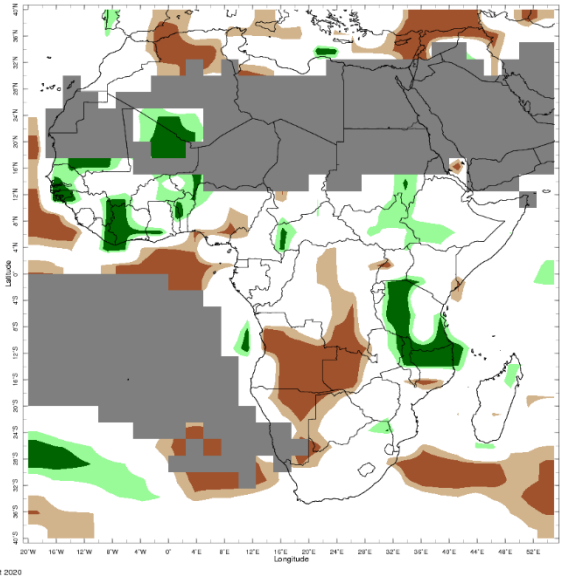
Notes: The percentiles shown in the map indicate a ranking of temperature, with the 0th percentile being the coolest and the 100th percentile being the warmest in the 1981-2010 climatology. Orange and red shading represent values above the 80th (Warm) and 90th (Hot) percentile, respectively; regions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



August

September



October

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		
	August	September	October
Sierra Leone	Hot	Hot	Hot
Liberia	Hot	Hot	Hot
Mali	Warm^	Warm	Normal^
Ghana	Hot	Hot	Hot^^
Nigeria	Hot^^	Hot^^	Hot^^
Cameroon	Hot^^	Hot^^	Hot^^

	Current Status: Rainfall		
	August	September	October
Sierra Leone	Normal	Dry	Normal
Liberia	Normal	Normal	Normal
Mali	Very Wet^	Very Wet	Normal^
Ghana	Very Dry	Normal	Wet
Nigeria	Mixed	Wet	Normal
Cameroon	Dry	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: Normal temperature central third of country in August. Warm in south of country in October. Very Wet conditions except in the extreme south of Mali in August, Wet in the North in October, Normal elsewhere.
^^Note: Normal in far north-east of Nigeria and Cameroon for August and September. Normal in October for the north of Ghana, Nigeria and Cameroon

Current Status – Central Africa

	Current Status: Temperature			Current Status: Rainfall		
	August	September	October	August	September	October
Niger	Normal	Normal	Normal	Wet^^	Wet^^	Normal*
Chad	Normal	Normal	Normal	Wet^^	Wet^^	Normal*
DRC	Warm^	Mixed^	Mixed^	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: Strong west/east differences in DRC, Hot in west, and Cool (August), Cold (September) and Normal – Cold (October) in east.
^^ Note: Very Wet in the southern half of Niger and Chad, Normal in the northern half.
^^^ Note: Very Wet in the far north of DRC in August, Very Dry in the south of DRC in October

Current Status – Eastern Africa (1)

	Current Status: Temperature			Current Status: Rainfall		
	August	September	October	August	September	October
Sudan	Normal	Hot	Hot	Very Wet	Wet	Normal*^
South Sudan	Hot	Hot	Hot	Normal	Normal	Normal
Uganda	Hot	Hot	Hot	Wet	Normal	Normal
Rwanda	Normal	Hot	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:

^Note: Northern Sudan usually experiences less than 10mm/month rainfall in October, however in the southeast of Sudan, conditions were wet.

Current Status – Eastern Africa (2)

	Current Status: Temperature		
	August	September	October
Tanzania	Hot	Normal	Hot^^
Ethiopia	Hot	Hot	Hot
Kenya	Hot	Warm	Hot
Somalia	Hot^	Hot^	Hot

	Current Status: Rainfall		
	August	September	October
Tanzania	Normal	Normal	Mixed^^^
Ethiopia	Normal	Very Wet	Normal
Kenya	Normal	Very Wet	Normal
Somalia	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: Hot overall, but Cold in far north-west
^^ Note: Normal in the west of Tanzania, Hot elsewhere
^^^ Note: Wet in the West and South of Tanzania, normal elsewhere

Current Status – Southern Africa

	Current Status: Temperature			Current Status: Rainfall		
	August	September	October	August	September	October
South Africa	Cool	Normal	Hot	Normal*	Normal	Normal
Zambia	Warm^	Warm^	Hot	Normal*	Normal*	Normal^^^^
Zimbabwe	Warm	Cold	Cold	Normal*	Normal*	Normal
Mozambique	Warm	Mixed^^	Mixed^^	Normal	Dry	Normal^^
Malawi	Hot	Hot	Hot	Normal*	Normal*	Normal^^
Madagascar	Cold	Cool	Normal^^^	Normal	Very 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: Hot in east. Normal in west.
^^Note: Hot in north but Cold in south in September; Hot in north, cold centrally and normal in south in October. In October, wet in the North of Mozambique / Malawi
^^^Note: Hot in the far south in October
^^^^Note: Dry in the West of Zambia in October

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: December to May – Western Africa (1)

		Forecast summary		
		December	December to February	March to May
Sierra Leone	*Temperature*	**Much more likely to be warmer than normal**	**Much more likely to be warmer than normal**	Climatological odds - see note
	Rainfall	**Much more likely to be drier than normal**	Likely to be drier than normal	Climatological odds - see note
Liberia	*Temperature*	**Much more likely to be warmer than normal**	**Much more likely to be warmer than normal**	Climatological odds - see note
	Rainfall	**Much more likely to be drier than normal**	Likely to be drier than normal	Climatological odds - see note
Mali	*Temperature*	Likely to be colder than normal in the south, Climatological odds - see note elsewhere	Likely to be warmer than normal	Climatological odds - see note
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds - see note
Ghana	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal, but **much more likely to be warmer than normal** in the far south.	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: December to May – Western Africa (2)

		Forecast summary		
		December	December to February	March to May
Nigeria	*Temperature*	**Much more likely to be warmer than normal** in the south, but **likely to be colder than normal** in the north	Climatological odds - see note in the north, **likely to be warmer than normal** elsewhere	Climatological odds - see note
	Rainfall	**Much more likely to be drier than normal**	**Likely to be drier than normal**	Climatological odds - see note
Cameroon	*Temperature*	**Likely to be warmer than normal**	**Likely to be warmer than normal**	Climatological odds - see note
	Rainfall	**Much more 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: December to May – Central Africa

		Forecast summary		
		December	December to February	March to May
Niger	*Temperature*	Climatological odds - see note	Likely to be warmer than normal	Climatological odds - see note
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds - see note
Chad	*Temperature*	Climatological odds - see note	Likely to be warmer than normal	Likely to be colder than normal in the far south, otherwise Climatological odds - see note
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds - see note
Democratic Republic of Congo	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds - see note
	Rainfall	Likely to be wetter than normal	Climatological odds - see note, but likely to be drier than normal in the east.	Climatological odds - see note

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Outlook: December to May – Eastern Africa (1)

		Forecast summary		
		December	December to February	March to May
Sudan	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds - see note
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds - see note
South Sudan	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be colder than normal
	Rainfall	Likely to be drier than normal south of Juba, likely to be near-normal elsewhere	Likely to be near-normal in northern half, likely to be drier than normal in southern half of country.	Likely to be wetter than normal
Uganda	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be colder than normal
	Rainfall	Climatological odds - see note	Likely to be drier 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	Climatological odds - see note	Likely to be drier than normal	Climatological odds - see note

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Outlook: December to May – Eastern Africa (2)

		Forecast summary		
		December	December to February	March to May
Tanzania	*Temperature*	Likely to be warmer than normal	Climatological odds - see note, but likely to be warmer than normal in the north and east	Climatological odds - see note
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal	Likely to be wetter than normal in the north, otherwise Climatological odds - see note
Ethiopia	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds - see note
	Rainfall	**Much more likely to be drier than normal**	Likely to be drier than normal	Climatological odds - see note
Kenya	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds - see note
	Rainfall	Climatological odds - see note	Likely to be drier than normal	Likely to be wetter than normal in the western half, Climatological odds - see note elsewhere
Somalia	*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

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: December to May – Southern Africa (1)

		Forecast summary		
		December	December to February	March to May
South Africa	*Temperature*	Climatological odds - see note	Climatological odds - see note	Climatological odds - see note
	Rainfall	Climatological odds - see note	**Likely to be wetter than normal**	Climatological odds - see note
Zambia	*Temperature*	Climatological odds - see note	**Likely to be warmer than normal**	Climatological odds - see note
	Rainfall	**Likely to be wetter than normal**	Climatological odds - see note	Climatological odds - see note
Zimbabwe	*Temperature*	**Likely to be warmer than normal**	**Likely to be warmer than normal**	Climatological odds - see note
	Rainfall	**Likely to be wetter than normal**	Climatological odds - see note	Climatological odds - see note
Mozambique	*Temperature*	**Likely to be warmer than normal**	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 in parts	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: December to May – Southern Africa (1)

		Forecast summary		
		December	December to February	March to May
Malawi	*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
Madagascar	*Temperature*	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

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Annex 1 – Supplemental Information

Outlooks for March-May - Additional information:

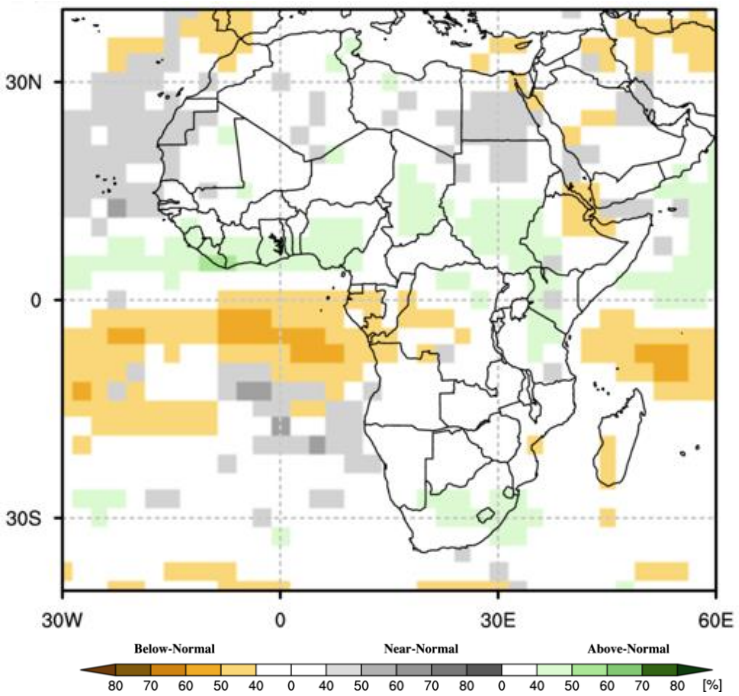
Forecast uncertainty generally increases with longer range meaning that the 4-6-month outlook is less reliable than the 1-3 month outlook. In addition, the longer-range outlook utilises fewer models because not all seasonal models are available for the extended range.

The latest output from the WMO Long Range Forecast Multi Model Ensemble (right), shows that the models are predicting similar likelihoods for above normal, near-normal and below-normal outcomes, with no tercile typically being more than 50% likely.

The latest statement from the NOAA Climate Prediction Centre / NCEP states that *"La Niña is likely to continue through the Northern Hemisphere winter 2020-21 (~95% chance during January-March) and into spring 2021 (~65% chance during March-May)."* (Full statement 23/11/2019)

East Africa Impacts March-May:
In East Africa, the 'Long Rains' occurs in March-April-May (MAM) and are predominantly controlled by the seasonal migration of the Intertropical Convergence Zone (ITCZ), rather than the influence of La Niña or the Indian Ocean Dipole (IOD). The ITCZ tracks the position of maximum solar irradiance across the continent and is accompanied by a band of rainfall. However, as La Niña events have often been linked to drier Short Rains during OND, if this is then followed by a drier or delayed Long Rains in MAM, there is the potential for widespread drought.

Southern Africa impacts March-May:
La Niña conditions increase the likelihood of weather systems tracking across southern Africa in April, bringing wetter than normal conditions.



WMO LFR-MME Forecast for precipitation Mar – May 2021, issued Nov 2020

Tropical Storm Outlook for the SW Indian Ocean

RMSC La Reunion Tropical Cyclone Centre Seasonal Forecast 2020-2021

Summary:

The 2020-2021 cyclone season is expected to be characterized by near to above-normal activity in the Southwest Indian Ocean cyclone basin. This season could therefore see a total of between 9 and 12 systems (tropical storms and cyclones), with slightly more than half of them (between 5 and 7) reaching the tropical cyclone stage. Although this year the geneses zones will be favored in the eastern half of the basin, we expect a return to a more climatological pattern of TC tracks, i.e. mainly oriented towards the west or southwest, which could lead cyclonic phenomena to threaten the inhabited lands of the western part of the basin.

Full statement here - Statement of the Seasonal Forecast for 2020-2021_RSMC La Reunion_EN

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/ghacof56/
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)

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