



AFRICA: Monthly Climate Outlook June to March

Issued: September 2024

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Overview

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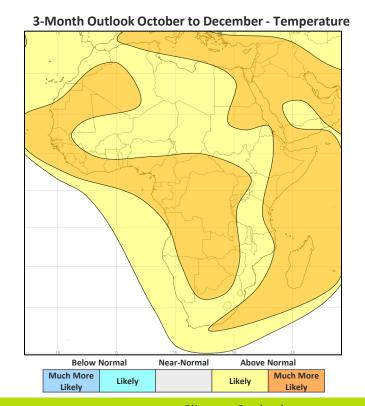




Africa Current Status and Outlook - Temperature

Current Status: Many areas were warm or hot over the last three months. There have been some exceptions with parts of Ethiopia seeing below normal temperatures over the last three months. During July and August, many parts of the Sahel had either near or below average temperatures. Also, Madagascar was cold during August.

Outlook: Consistent with a warming climate warmer than normal conditions are likely across the whole continent.







Africa Current Status and Outlook - Rainfall

Current Status: The West African monsoon has brought wet or very wet conditions to much of the Sahel over the last three months. Areas further south over West and Central Africa have seen normal or dry conditions. Conditions were more mixed across East Africa in what tends to be a drier part of the year for these areas. Much of southern Africa tends to see little rainfall through this period though southwestern parts of South Africa have been wet or very wet.

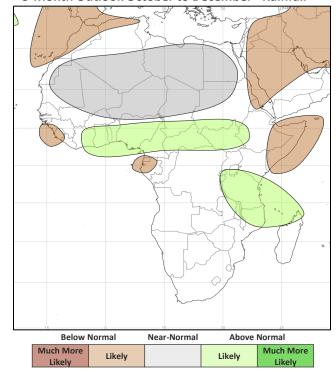
Outlook: The West African monsoon will continue to retreat through the next couple of months with above average rainfall likely from Ghana across to the Ethiopian Highlands.

Signals are more mixed across East Africa during the 'Short Rains' season. Somalia and eastern Ethiopia are likely to be drier than average whilst Tanzania and surrounding areas are likely to be wetter than average.

Rains across southern Africa start to increase during November and December. Signals are currently limited with a similar likelihood of above and below average rainfall for most areas though parts of Mozambique and Madagascar are likely to be wetter than average. Should La Niña become fully established, this may start to favour above average rainfall across parts of Southern Africa during the rainy season.

Tropical cyclones – The Southwest Indian Ocean season typically begins during December and peaks between January and March. Early indications suggest an above average season is likely with a slightly greater risk than normal of landfalls over Madagascar and Mozambique.

3-Month Outlook October to December - Rainfall



Climate Outlook

Africa: June to March

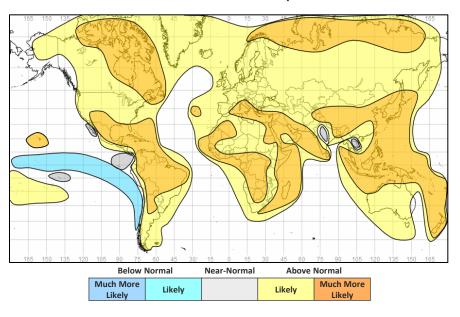




Global Outlook - Temperature

Outlook: Consistent with a warming climate, warmer than normal conditions are likely across the vast majority of land areas. There are limited exceptions, most notably some Pacific coastal districts in the Americas where near normal or colder than normal conditions are more likely – this is linked to cooler sea surface temperatures associated with the developing La Niña. The main other exceptions are for central India and parts of mainland Southeast Asia which is linked to likely wetter than normal conditions in these areas.

3-Month Outlook October to December - Temperature







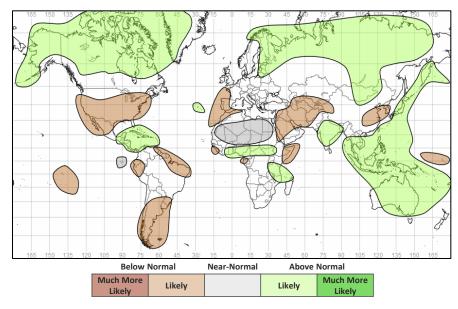
Global Outlook - Rainfall

Outlook:

El Niño-Southern Oscillation (ENSO) — ENSO is currently neutral. Equatorial sea surface temperatures across the central and eastern Pacific are around or below average. It looks likely (~70% chance) that La Niña will emerge over the next couple of months and then persist into the northern hemisphere winter. Skilful prediction of ENSO tends to be high at this time of year and the majority of forecasts favour a weak to moderate La Niña. A transition to La Niña would improve the predictability of global weather patterns on seasonal timescales, particularly in the tropics, though its influence may not be as strong as some La Niña events over recent years. This can be seen in current output from seasonal predictions systems which represent some of the typical influences of La Niña on rainfall patterns, particularly in the tropics, though the signal not as strong as would be the case if a La Niña was already underway.

Indian Ocean Diploe (IOD) – The IOD is currently neutral. Sea surface temperatures across much of the Indian Ocean basin are above average. The IOD is most likely to remain neutral over the next few months but with a negative phase of the IOD more likely than positive. However, skilful prediction of the IOD at this time of year tends to be limited beyond a couple of months ahead.

3-Month Outlook October to December - Rainfall







Current Status

Current Status maps

Western Africa

Central Africa

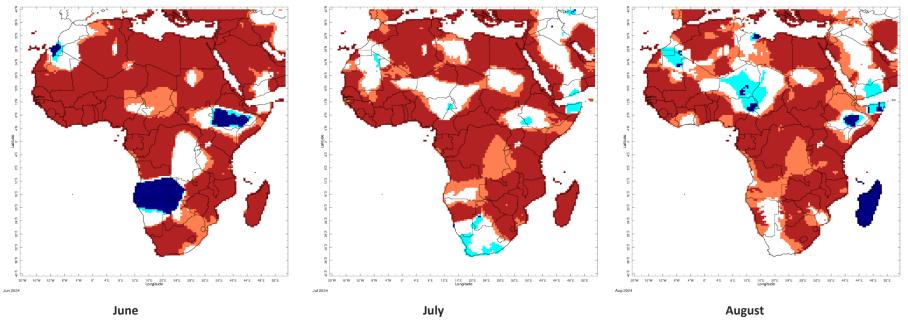
Eastern Africa

Southern Africa





Current Status – Temperature percentiles



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

Notes: The percentiles shown in percentile being the warmest in

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.

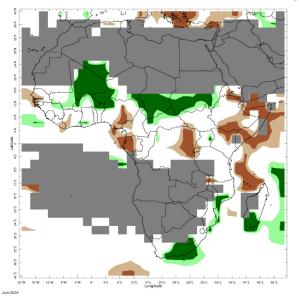
Climate Outlook

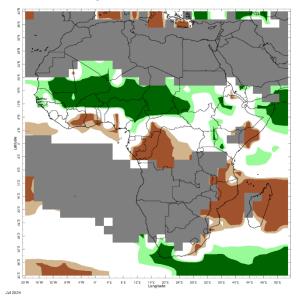
Africa: June to March



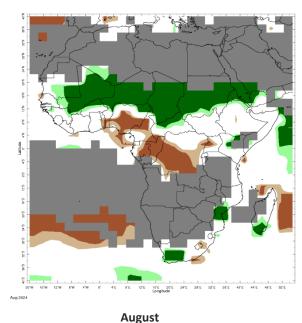


Current Status – Precipitation percentiles





July





Notes: The percentiles shown in the map indicate a ranking of rainfall, with the 0th percentile being the driest and the 100th percentile being the wettest in the 1981-2010 climatology. Green and dark green shading represent values above the 80th (Wet) and 90th (Very Wet) percentile, respectively; regions shaded in light and dark brown indicate rainfall below the 20th (Dry) and 10th (Very Dry) percentile, with respect to the 1981-2010 climatology. Grey areas on the map mask out regions that receive less than 10 mm/month of rainfall on normal in the 1981-2010 climatology for the month. The data used in this map are from the NOAA Climate Prediction Center.





Current Status – Western Africa (1)

	Current Status: Temperature		
	June	July	August
Mauritania	Mixed (1)	Mixed (1)	Mixed (1)
Sierra Leone	Hot	Hot	Hot
Liberia	Hot	Hot	Hot
Mali	Hot	Hot	Hot (2)

Cur	Current Status: Rainfall		
June	June July August		
Normal*	Very Wet	Very Wet	
Normal	Normal	Normal	
Normal	Normal	Normal	
Very Wet	Very Wet	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:

(1) Note: Normal or cold in the north, hot in the south

(2) Note: Normal in the northeast





Current Status – Western Africa (2)

	Current Status: Temperature		
	June	July	August
Ghana	Hot	Hot	Mixed (3)
Nigeria	Hot	Hot (1)	Hot (1)
Cameroon	Hot	Hot	Hot
Burkina Faso	Hot	Hot	Hot

Cu	Current Status: Rainfall		
June	June July August		
Normal	Normal	Normal	
Mixed	Normal (2)	Dry (4)	
Normal	Normal (2)	Dry	
Wet	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:

- (1) Note: Normal or cool in the northeast
- (2) Note: Very Wet in the north
- 3) Note: Hot in the north, normal in the south
- (4) Note: Very wet in the far north





Current Status – Central Africa

	Current Status: Temperature		
	June	July	August
Niger	Hot	Normal	Normal (4)
Chad	Hot	Hot (3)	Normal (5)
DRC	Mixed (1)	Hot	Hot

Cur	Current Status: Rainfall		
June	June July August		
Wet	Very Wet	Very Wet	
Very Wet	Very Wet	Very Wet	
Mixed (2)	Dry	Dry	

Notes:

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

Additional Information:

(1) Note: Hot in the north and west, normal elsewhere (2) Note: Dry or very dry in the northeast, normal elsewhere

(3) Note: Normal in the west

(4) Note: Cool in the northeast, hot in the far southwest

(5) Note: Warm or hot in the far east and southeast, cool in the far west, else normal

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





Current Status – Eastern Africa (1)

	Current Status: Temperature		
	June	July	August
Sudan	Hot	Warm	Hot
South Sudan	Mixed (1)	Warm	Hot
Uganda	Hot	Hot	Hot
Rwanda	Warm	Hot	Hot

Cui	Current Status: Rainfall		
June	June July August		
Very Wet	Wet	Very Wet	
Normal	Normal	Normal	
Normal	Wet	Dry	
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:

(1) Note: Hot in the west, normal in the east





Current Status – Eastern Africa (2)

	Current Status: Temperature		
	June	July	August
Tanzania	Hot	Hot	Hot
Eritrea	Hot	Hot	Warm
Ethiopia	Mixed (1)	Mixed (1)	Mixed (5)
Kenya	Hot	Hot	Hot
Somalia	Mixed (2)	Mixed (2)	Mixed (2)

Cur	Current Status: Rainfall		
June	June July August		
Normal	Very Dry	Normal*	
Mixed (4)	Normal	Very Wet	
Dry	Normal	Normal	
Dry	Normal	Normal	
Dry	Mixed (3)	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/.

Additional Information:

- (1) Note: Hot in the north and east, normal or cool elsewhere
- (2) Note: Mostly hot but normal or cool in the north
- Note: Very dry in the south, very wet in the north.
- 4) Note: Normal in the north, very dry in the south
- (5) Note: Warm or hot in the northwest, cool or cold in the southeast

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





Current Status – Southern Africa

	Current Status: Temperature		
	June	July	August
South Africa	Hot	Mixed (3)	Mixed (3)
Zambia	Mixed (1)	Hot	Hot
Zimbabwe	Hot	Hot	Hot
Mozambique	Hot	Hot	Hot
Malawi	Hot	Hot	Hot
Madagascar	Hot	Hot	Cold

Cur	rent Status: Rain	ıfall	
June	June July August		
Wet	Dry (4)	Dry (4)	
Normal*	Normal*	Normal*	
Normal*	Normal*	Normal*	
Wet	Very Dry	Normal (5)	
Normal*	Very Dry	Normal*	
Mixed (2)	Very Dry	Normal (6)	

Notes:

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

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

Additional Information:

- 1) Note: Normal or cool in the southwest, warm or hot in the northeast
- (2) Note: Very wet in the south, normal elsewhere
- (3) Note: Cool in the south, hot in the north, normal elsewhere
- (4) Note: Very wet in the southwest
- 5) Note: Very wet in central areas
- 6) Note: Very wet in the far south





Outlooks

Notes for use

Western Africa

Central Africa

Eastern Africa

Southern Africa





Outlooks: Notes for use

Outlooks for months 4 to 6:

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

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

Climatological odds:

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





Outlook: October to March – Western Africa (1)

		Forecast summary			
		October	October to December	January to March	
Mauritania	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 near-normal	Likely to be near-normal	Climatological odds	
Sierra Leone	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Much more likely to be warmer than normal	
	Rainfall	Climatological odds	Likely to be drier than normal	Climatological odds	
Liberia	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Much more likely to be warmer than normal	
	Rainfall	Climatological odds	Climatological odds	Climatological odds	
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	Likely to be near-normal	Likely to be near-normal	





Outlook: October to March – Western Africa (2)

		Forecast summary		
		October	October to December	January to March
Ghana	Temperature Rainfall	Much more likely to be warmer than normal Likely to be wetter than normal	Much more likely to be warmer than normal Likely to be wetter than normal	Much more likely to be warmer than normal Climatological odds
Nigeria	Temperature	Likely to be warmer than normal north, Much more likely to be warmer than normal south	Likely to be warmer than normal north, Much more likely to be warmer than normal south	Likely to be warmer than normal
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal	Climatological odds
Cameroon	Temperature Rainfall	Much more likely to be warmer than normal Likely to be wetter than normal	Much more likely to be warmer than normal Likely to be wetter than normal	Likely to be warmer than normal Climatological odds
Burkina Faso	Temperature Rainfall	Likely to be warmer than normal Climatological odds	Likely to be warmer than normal Climatological odds	Likely to be warmer than normal Climatological odds





Outlook: October to March – Central Africa

	Forecast summary			
		October	October to December	January to March
Niger	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 south, Likely to be near-normal north	Likely to be near-normal	Likely to be near-normal
Chad	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 south, Likely to be near-normal north	Likely to be near-normal	Likely to be near-normal
Democratic	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Much more likely to be warmer than normal
Republic of Congo	Rainfall	Climatological odds	Climatological odds	Climatological odds





Outlook: October to March – Eastern Africa (1)

		Forecast summary		
		October	October to December	January to March
Sudan	Temperature	Likely to be warmer than normal	Much more likely to be warmer than normal northeast, else Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be wetter than normal south, Likely to be near-normal north	Climatological odds	Likely to be near-normal
South Sudan	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal	Likely to be near-normal
Uganda	Temperature	Likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be wetter than normal	Climatological odds	Likely to be drier than normal





Outlook: October to March – Eastern Africa (2)

		Forecast summary		
		October	October to December	January to March
Tanzania	Temperature	Likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal	Climatological odds
Rwanda	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 west, Climatological odds east	Likely to be wetter than normal	Climatological odds
Eritrea	Temperature	Likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Likely to be drier than normal	Climatological odds





Outlook: October to March – Eastern Africa (3)

		Forecast summary			
		October	October to December	January to March	
Ethiopia	Temperature	Likely to be warmer than normal west, Much more likely to be warmer than normal east	Likely to be warmer than normal west, Much more likely to be warmer than normal east	Likely to be warmer than normal	
	Rainfall	Likely to be wetter than normal west, Climatological odds east	Likely to be wetter than normal west, Likely to be drier than normal east	Climatological odds	
Kenya	Temperature	Likely to be warmer than normal west, Much more likely to be warmer than normal east	Likely to be warmer than normal west, Much more likely to be warmer than normal east	Likely to be warmer than normal	
	Rainfall	Likely to be wetter than normal west, Likely to be drier than normal east	Likely to be wetter than normal south, else Climatological odds	Likely to be drier than normal	
Somalia	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Much more likely to be warmer than normal	
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Likely to be near-normal	





Outlook: October to March – Southern Africa (1)

		Forecast summary		
		October	October to December	January to March
South Africa	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Zambia	Temperature	Likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Zimbabwe	Temperature	Likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Mozambique	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 north, else Climatological odds	Likely to be wetter than normal





Outlook: October to March – Southern Africa (1)

		Forecast summary		
		October	October to December	January to March
Malawi	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	Likely to be wetter than normal
Madagascar	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 north, else Climatological odds	Likely to be wetter than normal





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.ncei.noaa.gov/access/monitoring/enso/

Met Office

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

Climate Outlook Fora (WMO Factsheet), including:

Greater Horn of Africa Climate Outlook Forum (GHACOF): GHACOF 68 Statement (Aug 2024)

PRÉvisions climatiques Saisonnières en Afrique Soudano-Sahélienne (PRESASS): PRESASS April 2024 Final Communique





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

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

- GPC 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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