

# Global: Monthly Climate Outlook July to April

**Issued: October 2023**

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# Overview

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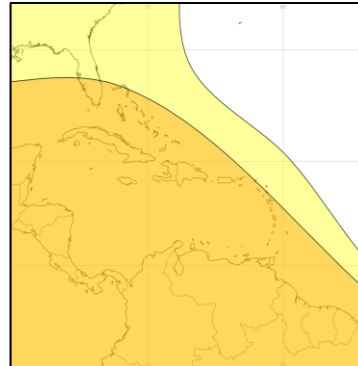
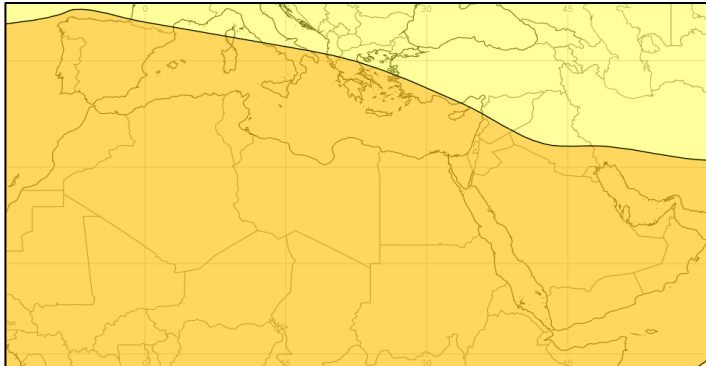
[Global Seasonal Outlook – Temperature](#)

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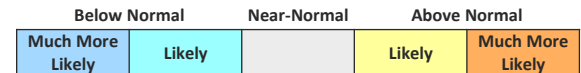
# MENA, Caribbean and British Overseas Territories Current Status and Outlook - Temperature

**Current Status:** Across most of the MENA region, temperatures were cool during July and then warm or hot in August and September. The Caribbean and southern Europe were hotter than normal over the last three months.

**Outlook:** It is likely or much more likely to be warmer than normal in the MENA region, the Caribbean and the British Overseas Territories over the next three months.



## 3-Month Outlook November to January - Temperature



Left: Middle East and North Africa

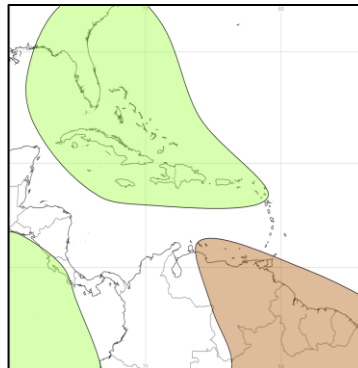
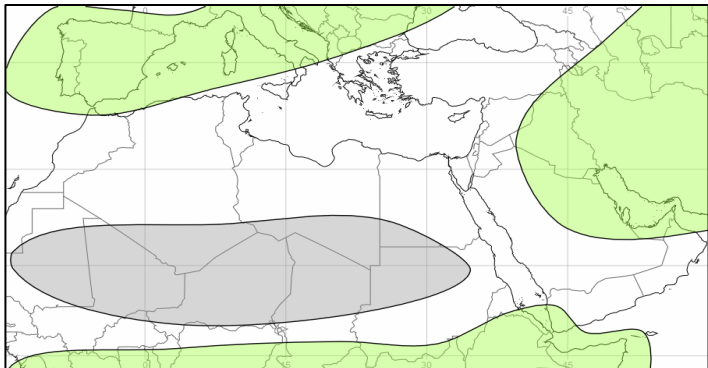
Right: Caribbean region

# MENA, Caribbean and British Overseas Territories Current Status and Outlook - Rainfall

**Current Status:** Across most of the MENA region, rainfall was near-normal over the last three months. In the Caribbean rainfall was mixed over the last three months. Most of the region experienced near-normal rainfall in July, was wet in August and very dry in September. The exception to this was Guyana, which was very dry throughout.

**Outlook:** It is likely to be wetter than normal over the next three months across parts of the Middle East, specifically in Iraq and parts of the Yemen. In Mauritania and Egypt, rainfall is likely to be near-normal over the next three months. For much of the Caribbean region it is likely to be wetter than normal, and in Guyana it is likely to be drier than normal.

**Tropical Cyclone outlook:** The latest forecast, issued 01 August 2023, suggested a more active than usual North Atlantic tropical storm seasonal in 2023 - 19 named storms predicted (1991-2020 long-term average – 14), 9 hurricanes (long-term average – 7) and 6 major hurricanes (long-term average – 3). The full forecast can be found [here](#). To date this season has had 19 named storms, of which 7 were hurricanes. Of these 7 hurricanes, 3 were classified as major hurricanes, with winds of at least 111mph.



### 3-Month Outlook November to January - Rainfall

Below Normal		Near-Normal	Above Normal	
Much More Likely	Likely		Likely	Much More Likely

Left: Middle East and North Africa

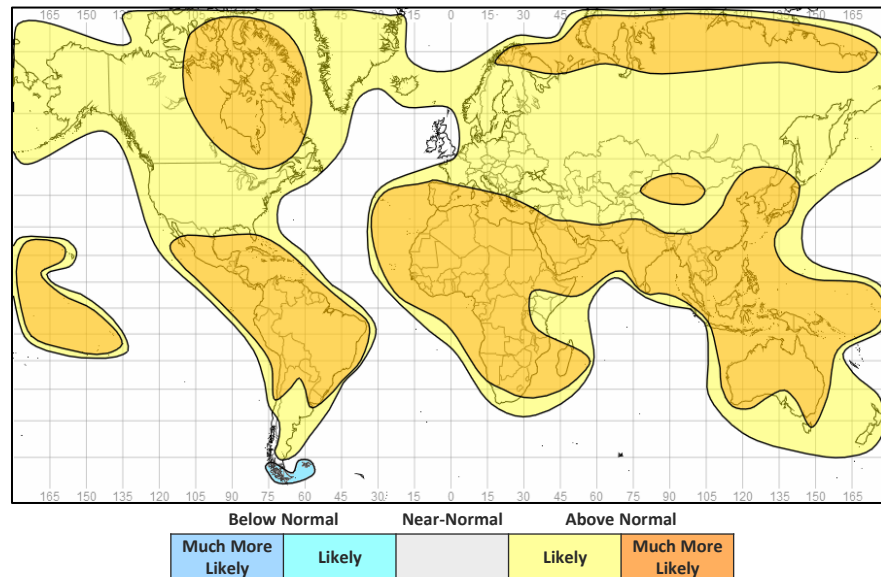
Right: Caribbean region

# Global Outlook - Temperature

## Outlook:

With the backdrop of a warming climate and the current El Niño event, most land areas are likely or much more likely to be warmer than normal with limited exceptions.

## 3-Month Outlook November to January - Temperature



# Global Outlook - Rainfall

## Outlook:

**El Niño-Southern Oscillation (ENSO)** – Sea surface temperatures (SSTs) across the equatorial Pacific remain indicative on an ongoing El Niño event. In the Niño 3.4 region SSTs are currently 1.4°C above normal and the atmospheric response is now consistent with El Niño conditions. The current El Niño is moderate in strength.

Seasonal prediction models indicate a moderate or strong El Niño is highly likely to continue through to the Northern Hemisphere spring (80% chance during March-May 2024).

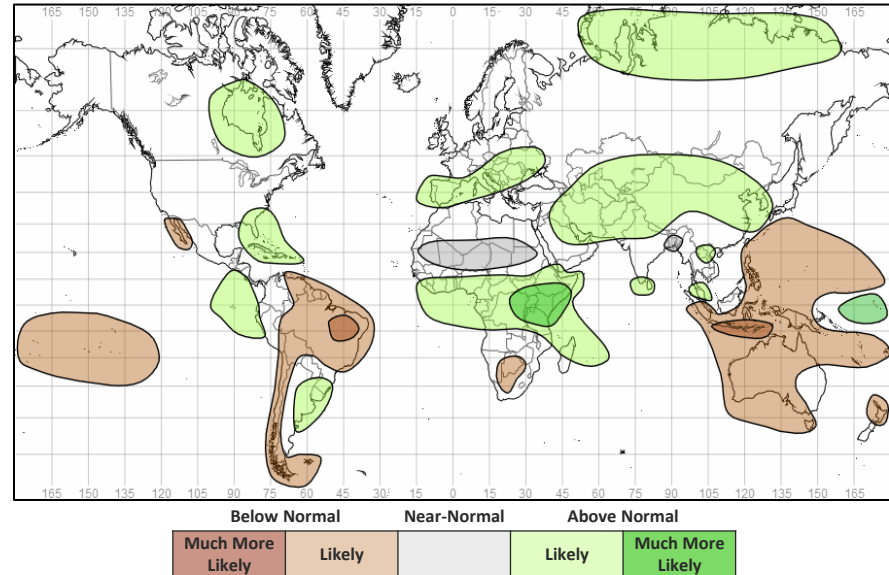
El Niño impacts regional weather patterns around the world, leading to some regions experiencing wetter than normal conditions and other regions drier than normal conditions. During El Niño, temperatures around the globe are likely or much more likely to be higher than normal, and this is reflected in the current outlooks.

**Indian Ocean Dipole (IOD)** – The Indian Ocean Dipole is currently positive. Continued warming in the western Indian Ocean has increased the index to +1.85C above normal.

Seasonal forecasts currently suggest that this event will persist until the end of year before returning to neutral conditions early in 2024.

This will reinforce the influence of El Niño, further increasing the likelihood of drought across Southeast Asia (especially Indonesia) and Australia, with above normal rainfall across East Africa, increasing the risk of floods.

## 3-Month Outlook November to January - Rainfall



# Current Status

[Current Status maps](#)

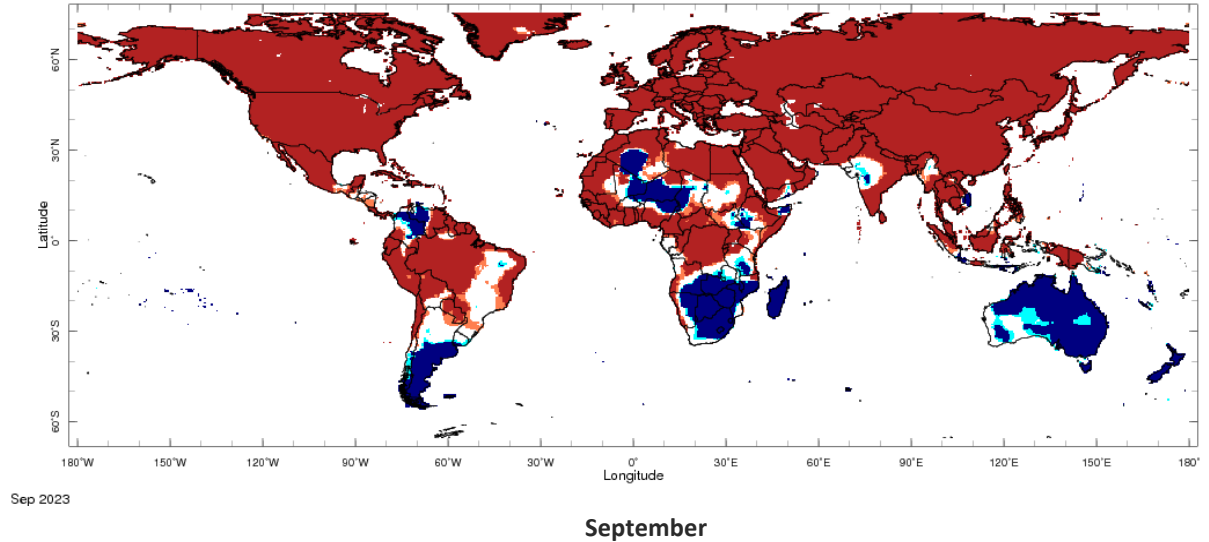
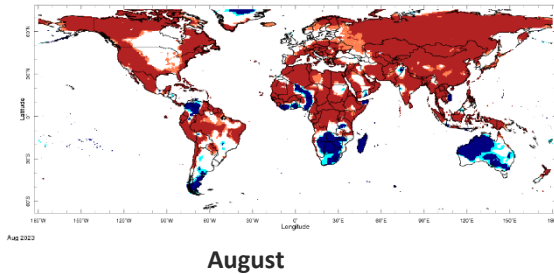
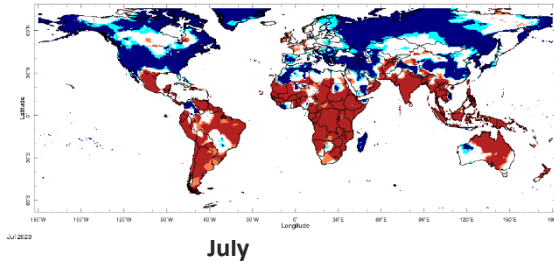
[MENA – Middle East](#)

[MENA – North Africa](#)

[Caribbean](#)

[British Overseas Territories](#)

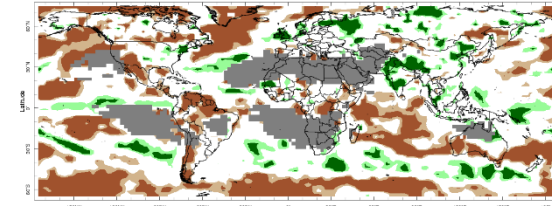
# Current Status – Temperature percentiles



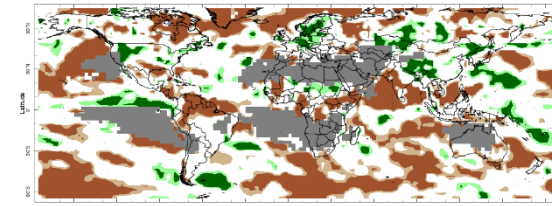
**Notes:** The percentiles shown in the map indicate a ranking of temperature, with the 0th percentile being the coolest and the 100th percentile being the warmest in the 1981-2010 climatology. Orange and red shading represent values above the 80th (Warm) and 90th (Hot) percentile, respectively; regions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



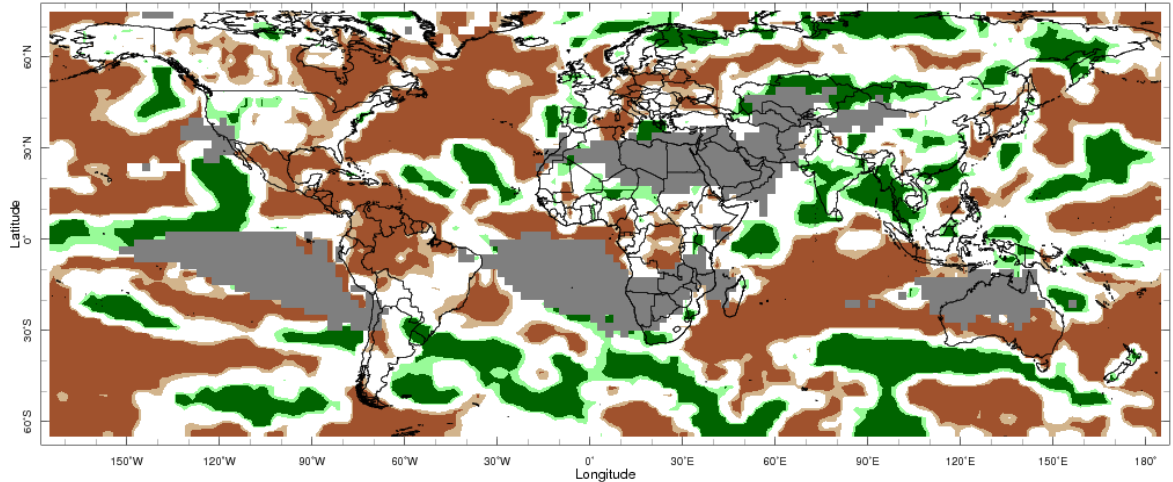
# Current Status – Precipitation percentiles



July



August



September



**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 – MENA – Middle East

### Current Status: Temperature

	July	August	September
Turkey	Cold	Mixed (2)	Hot
Palestine	Normal	Warm	Hot
Lebanon	Normal	Warm	Hot
Jordan	Normal	Warm	Hot
Syria	Cold	Warm	Hot
Iraq	Cold	Warm	Hot
Yemen	Cool	Mixed (1)	Hot

### Current Status: Rainfall

	July	August	September
	Normal	Dry	Normal
	Normal*	Normal*	Normal*
	Normal*	Normal*	Normal*
	Normal*	Normal*	Normal*
	Normal*	Normal*	Normal*
	Normal*	Normal*	Normal*
	Normal	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:

(1) Note: Large variations around the country but mostly normal

(2) Note: Hot in the southwest, cold in the northeast, normal elsewhere

# Current Status – MENA – North Africa

## Current Status: Temperature

	July	August	September
Mauritania	Mixed (1)	Mixed (1)	Hot
Morocco	Cool	Hot	Hot
Algeria	Cool	Hot	Hot
Tunisia	Cold	Hot	Hot
Libya	Normal	Hot	Hot
Egypt	Normal	Warm	Hot
Eritrea	Hot	Hot	Hot

## Current Status: Rainfall

	July	August	September
	Very Wet	Normal*	Mixed (2)
	Normal*	Normal*	Normal
	Normal*	Very Dry	Mixed (3)
	Normal*	Normal	Very Dry
	Normal*	Normal*	Normal*
	Normal*	Normal*	Normal*
	Very Dry	Normal	Very 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/>.

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

### Additional Information:

- (1) Note: Cool or cold in the north, hot in the south
- (2) Note: Wet in the northeast, dry in southeast, else normal
- (3) Note: Very dry in the northeast

## Current Status – Caribbean

Current Status: Temperature

	July	August	September
Caribbean Region	Hot (1)	Hot	Hot
Haiti	Hot	Hot	Hot
Guyana	Hot	Hot	Hot

Current Status: Rainfall

	July	August	September
Caribbean Region	Normal	Wet (2)	Very Dry
Haiti	Normal	Dry	Dry
Guyana	Very Dry	Very Dry	Very 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/>.

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

### Additional Information:

- (1) **Note:** Cold in the north
- (2) **Note:** Normal across Turks and Caicos, dry in the Bahamas.

# Current Status – British Overseas Territories

Current Status: Temperature

	July	August	September
Southern Europe	Normal	Hot	Hot
Central Indian Ocean	Hot	Hot	Hot
Central Pacific	Cold	Cool	Cool

Current Status: Rainfall

	July	August	September
	Normal*	Normal*	Normal*
	Dry	Very Dry	Very Dry
	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:

# Outlooks

[Outlooks – Notes for use](#)

[MENA – Middle East](#)

[MENA – North Africa](#)

[Caribbean](#)

[British Overseas Territories](#)

# 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 – MENA – Middle East (1)

		Forecast summary		
		November	November to January	February to April
Turkey	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
Palestine	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	Climatological odds	Climatological odds
Lebanon	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	Climatological odds	Climatological odds
Jordan	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	Climatological odds	Climatological odds

**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 – MENA – Middle East (2)

		Forecast summary		
		November	November to January	February to April
Syria	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	Climatological odds	Climatological odds
Iraq	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	Climatological odds
Yemen	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 wetter than normal far west, else Climatological odds	Likely to be wetter than normal far west, else Climatological odds	Likely to be wetter than normal

**Outlooks for months 4 to 6:** As forecast uncertainty generally increases with longer range the 4-6-month outlook is less reliable than the 1-3 month outlook. Outlook information will only be provided when the model data signals likely outcomes. Additionally, the longer range outlook utilises fewer models because not all seasonal models are available for the extended range. Information provided in this presentation should be used to raise early awareness of potential hazards only and should be updated with the 3-month outlook when available.

# Outlook: March to August – MENA – North Africa(1)

		Forecast summary		
		November	November to January	February to April
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
Morocco	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Algeria	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Tunisia	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds

**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 – MENA – North Africa(2)

		Forecast summary		
		November	November to January	February to April
Libya	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Egypt	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 near-normal	Climatological odds	Climatological odds
Eritrea	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 wetter than normal	Likely to be wetter than normal	Climatological odds

**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 – Caribbean

		Forecast summary		
		November	November to January	February to April
Caribbean Region	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 wetter than normal	Likely to be wetter than normal	Climatological odds
Haiti	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 wetter than normal	Likely to be wetter than normal	Climatological odds
Guyana	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	Climatological odds

**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 – British Overseas Territories

		Forecast summary		
		November	November to January	February to April
Southern Europe	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
Central Indian Ocean	Temperature	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	Climatological odds	Climatological odds
Central Pacific	Temperature	Climatological odds	Climatological odds	Climatological odds
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Climatological odds

**Outlooks for months 4 to 6:** As forecast uncertainty generally increases with longer range the 4-6-month outlook is less reliable than the 1-3 month outlook. Outlook information will only be provided when the model data signals likely outcomes. Additionally, the longer range outlook utilises fewer models because not all seasonal models are available for the extended range. Information provided in this presentation should be used to raise early awareness of potential hazards only and should be updated with the 3-month outlook when available.

# Annex 1 – Supplemental Information

## For further information

WMO Lead Centre for Long-Range Forecast Multi-Model Ensemble (LC-LRFMME)

<https://www.wmolc.org/>

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 (<https://public.wmo.int/en/our-mandate/climate/regional-climate-outlook-products>)

# 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 CPTC (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

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