

# Global: Monthly Climate Outlook

## August to May

**Issued: November 2021**

[Overview](#)

[Current Status](#)

[Outlooks](#)

[Annex 1 – Supplemental Information](#)

# Overview

[MENA, Caribbean and British Overseas Territories Current Status and Outlook – Temperature](#)

[MENA, Caribbean and British Overseas Territories Current Status and Outlook – Rainfall](#)

[Global Seasonal Outlook – Temperature](#)

[Global Seasonal Outlook – Rainfall](#)

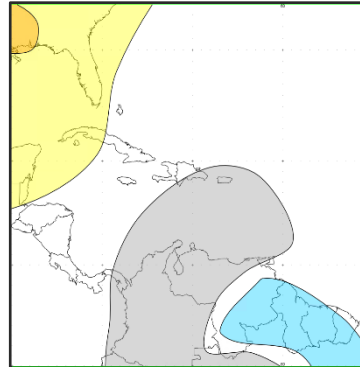
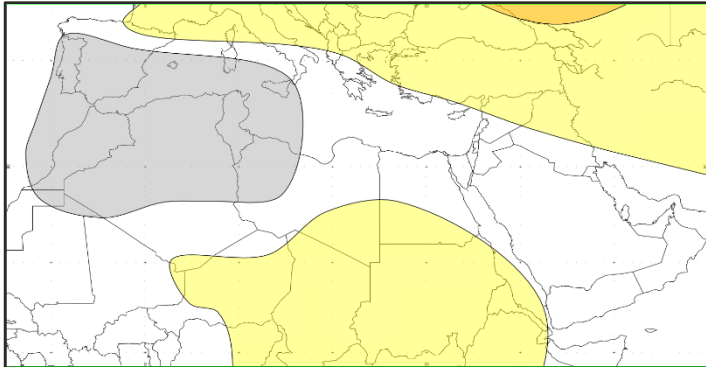
# MENA, Caribbean and British Overseas Territories Current Status and Outlook - Temperature

## Current Status:

Normal to hot conditions have been observed across MENA, Caribbean and British Overseas Territories through much of August and September. Conditions were more mixed during October, and much of Yemen and Somalia saw Hot conditions.

## Outlook:

For the next three months northern parts of the Middle East are likely to be warmer than normal. Temperatures in parts of northwest Africa are likely to be near-normal. Guyana is likely to be colder than normal.



## 3-Month Outlook December to February - Temperature

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

Left: Middle East and North Africa

Right: Caribbean region

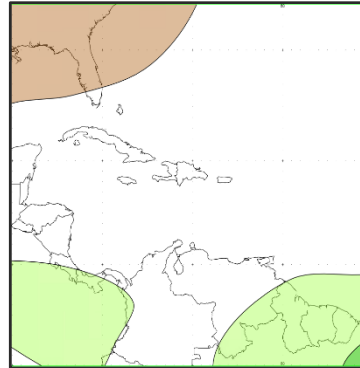
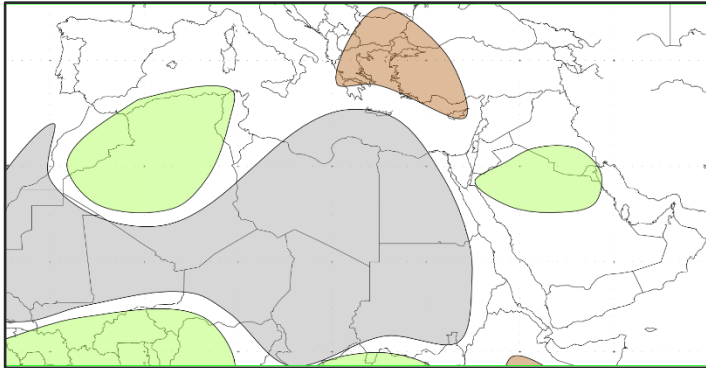
# MENA, Caribbean and British Overseas Territories Current Status and Outlook - Rainfall

## Current Status:

The dry season is coming to end across the Middle East, where little rainfall has been observed away from the Western Highlands of Yemen, where it has been wet. It has been mainly dry across North Africa, apart from parts of Mauritania and Eritrea where the West Africa Monsoon generated areas of very wet conditions throughout August and into September when the monsoon was at its most northerly extent. Haiti and Guyana also saw wet conditions through August and September.

## Outlook:

Over the next three months, parts of Libya and northeast Morocco are likely to be wetter than normal. This is also true for the south of Iraq. Elsewhere, broadly near-normal rainfall is likely.



## 3-Month Outlook December to February - 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:

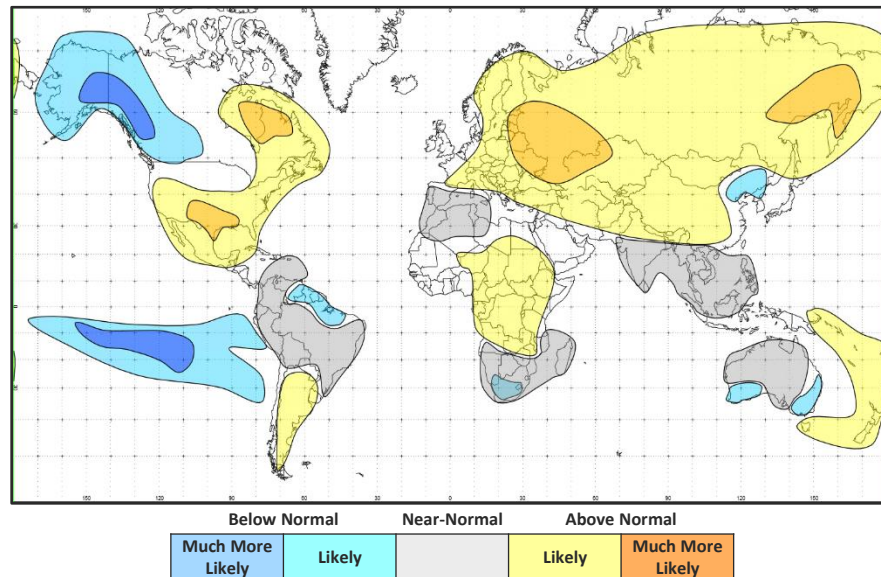
Consistent with the gradual warming of the climate, many parts of the globe are likely to see warmer than normal conditions through the next three months.

However, sea surface temperatures in the tropical Pacific Ocean are cooler than average at present - a phenomenon known as La Niña. This can influence climatic conditions on a global scale.

With La Niña conditions expected to persist into 2022, parts of Australia, southern Africa, the northern half of South America and parts of north-eastern North America are likely to be colder than normal.

La Niña is not the only driver of global weather and its effects on global weather vary each time it occurs. This means for many parts of Africa, Europe and Asia, mixed or conflicting signals from seasonal models are apparent.

## 3-Month Outlook December to February - Temperature



# Global Outlook - Rainfall

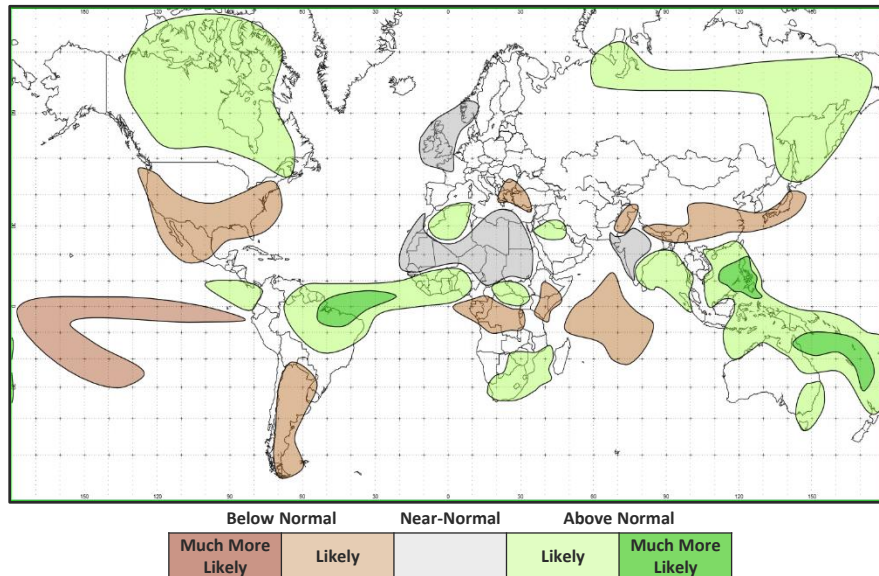
## Outlook:

La Niña has a strong influence on global rainfall patterns. In broad terms it tends to increase rainfall totals in many land areas of the tropics, with reduced rainfall to the north and south of this. More information on typical impacts can be found here <https://www.metoffice.gov.uk/research/climate/seasonal-to-decadal/gpc-outlooks/el-nino-la-nina/enso-impacts>.

For the next three months and consistent with a typical La Niña influence, Asia, southern Africa and northern parts of South America are likely to be wetter than normal. Conversely, conditions are likely to be drier than normal for southern North America, southern South America and eastern China.

For areas where the link between rainfall patterns and La Niña is less apparent, such as parts of central and north Africa, Europe and Asia, seasonal models are showing mixed or conflicting signals. Only significant seasonal trends away from normal have been identified.

## 3-Month Outlook December to February - Rainfall



# Current Status

[Current Status maps](#)

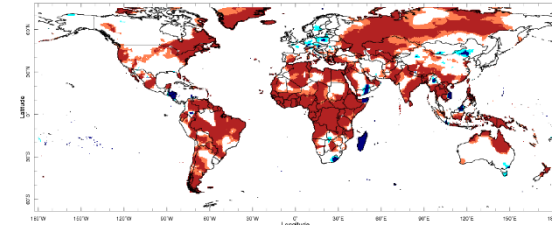
[MENA – Middle East](#)

[MENA – North Africa](#)

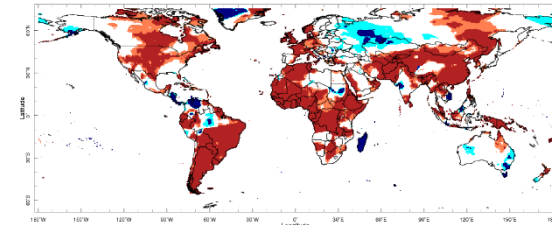
[Caribbean](#)

[British Overseas Territories](#)

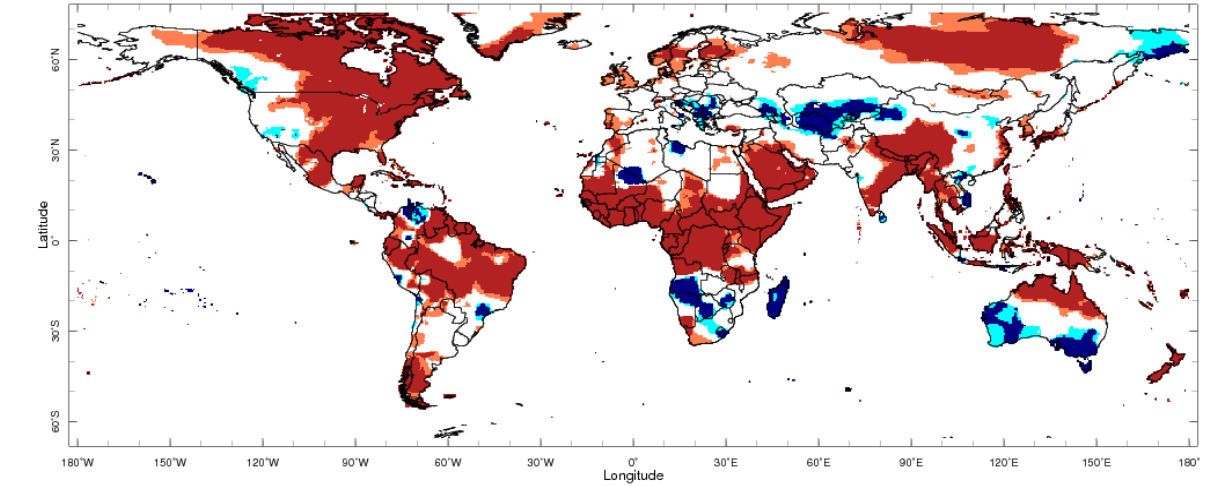
# Current Status – Temperature percentiles



Aug 2021



September



Oct 2021

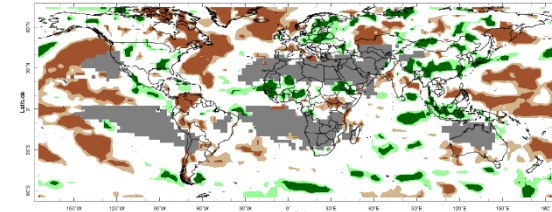
October



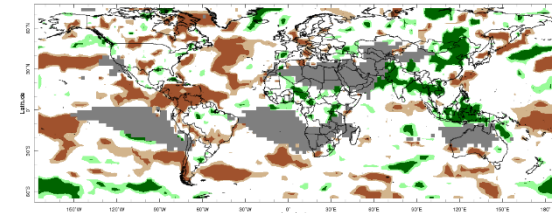
**Notes:** The percentiles shown in the map indicate a ranking of temperature, with the 0th percentile being the coolest and the 100th percentile being the warmest in the 1981-2010 climatology. Orange and red shading represent values above the 80th (Warm) and 90th (Hot) percentile, respectively; regions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



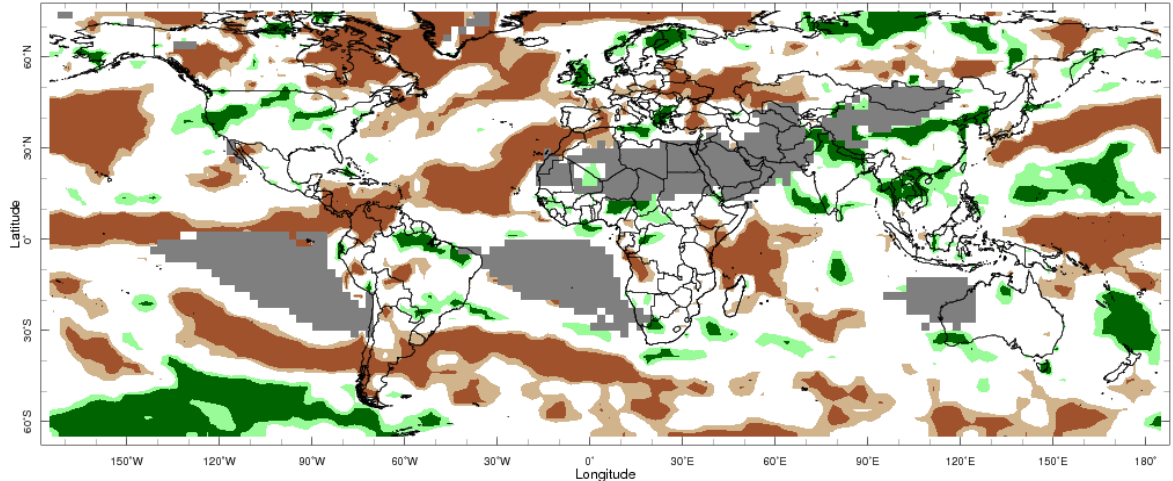
# Current Status – Precipitation percentiles



Aug 2021



September



Oct 2021

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 – MENA – Middle East

## Current Status: Temperature

	August	September	October
Turkey	Mixed (1)	Mixed (3)	Normal
Palestine	Hot	Normal	Normal
Lebanon	Hot	Normal	Normal
Jordan	Hot	Normal	Warm
Syria	Warm	Normal	Normal
Iraq	Normal	Normal	Mixed (2)
Yemen	Cool	Normal	Hot

## Current Status: Rainfall

	August	September	October
	Normal*	Normal	Dry
	Normal*	Normal*	Normal
	Normal*	Normal*	Normal*
	Normal*	Normal*	Normal*
	Normal*	Normal*	Normal*
	Normal*	Normal*	Normal*
	Normal*	Normal*	Normal*
	Normal (3)	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.

**(2) Note:** Hot in the south

**(3) Note:** Wet in the west

# Current Status – MENA – North Africa

## Current Status: Temperature

	August	September	October
Mauritania	Mixed (1)	Hot	Hot
Morocco	Mixed (2)	Hot	Hot
Algeria	Hot	Hot	Normal (4)
Tunisia	Hot	Hot	Normal
Libya	Mixed (3)	Normal	Normal (5)
Egypt	Hot	Normal	Warm
Eritrea	Hot	Hot	Hot

## Current Status: Rainfall

August	September	October
Very Wet	Normal	Normal
Normal*	Normal	Very Dry
Normal*	Normal	Normal
Normal*	Very Dry	Mixed (6)
Normal*	Normal*	Normal
Normal*	Normal*	Normal
Very Wet	Normal	Mixed (7)

### 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 elsewhere.
- (2) **Note:** Hot in the north-east, normal elsewhere.
- (3) **Note:** Hot in the north and east, normal elsewhere
- (4) **Note:** Very Cold in the south
- (5) **Note:** Very cold in the north
- (6) **Note:** Wet in the north, mixed elsewhere
- (7) **Note:** Wet in the south; normal elsewhere

## Current Status – Caribbean

### Current Status: Temperature

	August	September	October
Caribbean Region	Normal	Warm	Warm
Haiti	Normal	Warm	Warm
Guyana	Mixed (1)	Normal	Hot

### Current Status: Rainfall

	August	September	October
Caribbean Region	Mixed (2)	Very Dry	Very Dry
Haiti	Wet	Normal	Normal
Guyana	Wet	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 north, normal in the south.

**(2) Note:** Locally Wet

## Current Status – British Overseas Territories

	Current Status: Temperature		
	August	September	October
Southern Europe	Hot	Hot	Mixed (1)
Central Indian Ocean	Normal	Hot	Warm
Central Pacific	Cold	Cold	Cold

	Current Status: Rainfall		
	August	September	October
	Dry*	Normal	Normal
	Normal	Dry	Dry
	Normal	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: Large regional variations apparent

# 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: December to May – MENA – Middle East (1)

		Forecast summary		
		December	December to February	March to May
Turkey	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Likely to be drier than normal in the west; Climatological odds elsewhere	Climatological odds
Palestine	Temperature	Likely to be near-normal	Climatological odds	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Lebanon	Temperature	Likely to be near-normal	Climatological odds	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Jordan	Temperature	Likely to be near-normal	Climatological odds	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: December to May – MENA – Middle East (2)

		Forecast summary		
		December	December to February	March to May
Syria	Temperature	Likely to be near-normal	Likely to be warmer than normal in the north, Climatological odds elsewhere	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Iraq	Temperature	Likely to be warmer than normal in the north, Climatological odds elsewhere	Likely to be warmer than normal in the north, Climatological odds elsewhere	Likely to be warmer than normal
	Rainfall	Likely to be wetter than normal in the southeast; Climatological odds elsewhere	Likely to be wetter than normal in the southeast; Climatological odds elsewhere	Climatological odds
Yemen	Temperature	Climatological odds	Climatological odds	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: December to May – MENA – North Africa(1)

		Forecast summary		
		December	December to February	March to May
Mauritania	Temperature	Climatological odds	Climatological odds	Likely to be warmer than normal
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds
Morocco	Temperature	Likely to be near-normal	Likely to be near-normal	Likely to be warmer than normal
	Rainfall	Likely to be wetter than normal in the east; Likely to be near-normal elsewhere	Likely to be wetter than normal in the east; Likely to be near-normal elsewhere	Climatological odds
Algeria	Temperature	Likely to be near-normal	Likely to be near-normal	Likely to be warmer than normal
	Rainfall	Likely to be near-normal	Likely to be wetter than normal	Climatological odds
Tunisia	Temperature	Likely to be near-normal	Likely to be near-normal	Likely to be warmer than normal
	Rainfall	Likely to be near-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: December to May – MENA – North Africa(2)

		Forecast summary		
		December	December to February	March to May
Libya	Temperature	Climatological odds	Climatological odds	Likely to be near-normal
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds
Egypt	Temperature	Likely to be warmer than normal in the south; Likely to be near-normal elsewhere	Likely to be warmer than normal in the south; Likely to be near-normal elsewhere	Likely to be near-normal
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds
Eritrea	Temperature	Climatological odds	Climatological odds	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: December to May – Caribbean

		Forecast summary		
		December	December to February	March to May
Caribbean Region	Temperature	Climatological odds	Climatological odds	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Likely to be drier than normal
Haiti	Temperature	Climatological odds	Climatological odds	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Likely to be drier than normal
Guyana	Temperature	Likely to be colder than normal	Likely to be colder than normal	Likely to be near-normal
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal	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: December to May – British Overseas Territories

		Forecast summary		
		December	December to February	March to May
Southern Europe	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Likely to be drier than normal
Central Indian Ocean	Temperature	Likely to be near-normal	Likely to be near-normal	Likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Likely to be drier than normal
Central Pacific	Temperature	Much more likely to be colder than normal	Likely to be colder than normal	Likely to be colder than normal
	Rainfall	Much more likely to be drier than normal	Much more likely to be drier than normal	Much more 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.

# 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.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>)

# 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 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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