

# Global: Monthly Climate Outlook March to December

**Issued: June 2022**

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# Overview

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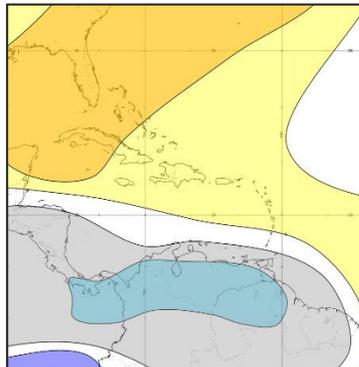
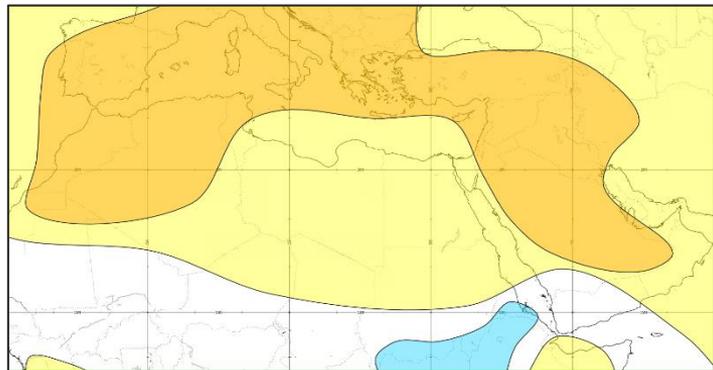
[Global Seasonal Outlook – Temperature](#)

[Global Seasonal Outlook – Rainfall](#)

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

**Current Status:** Across much of the Middle East temperatures were colder than normal during March, then hotter than normal during April, easing back to near-normal or colder than normal in some parts in May. Temperatures across North Africa were generally near or above normal although Morocco, Libya and Egypt experienced below normal temperatures in March. Temperatures across the Caribbean have been mixed over the last few months, with regional and month-to-month variability. However, Haiti was hotter than normal during May.

**Outlook:** For the majority of the MENA region, as well as Southern Europe, it is likely, or much more likely, to be warmer than normal during the next three months. Temperatures are likely to be near-normal for parts of Yemen. In the Caribbean a north-south temperature gradient is expected, the north is likely or much more likely to be warmer than normal, whilst the south is likely to be near-normal to colder than normal.



## 3-Month Outlook July to September - Temperature

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

Left: Middle East and North Africa

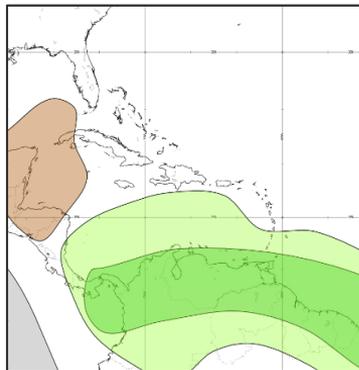
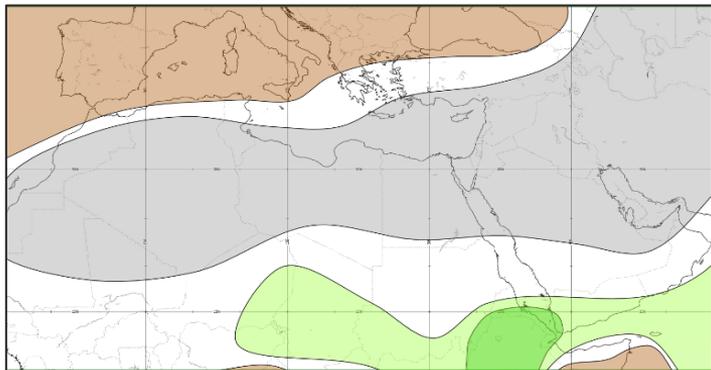
Right: Caribbean region

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

**Current Status:** For March, rainfall was near- or above normal for much of the Middle East. Drier conditions developed for many areas through April and into May (although in May, very little precipitation typically falls in these areas). Conditions were mixed over North Africa with most northern areas wet or very wet during March and to a lesser degree in April. Across the Caribbean rainfall has been near- or below normal through March and April, but above normal in May.

**Outlook:** Over the next three months, much of the MENA region likely to have near-normal rainfall; although climatologically, very little rain falls in this period. It is likely to be wetter than normal for parts of Yemen, as well as Guyana, and the south of the Caribbean.

**Atlantic Tropical Storm outlook:** the 2022 Atlantic Tropical Storm season is from June to November, and the latest forecast for activity can be found here - <https://www.metoffice.gov.uk/research/weather/tropical-cyclones/seasonal/northatlantic2022>. Expectations for the likely number of named storms, hurricanes and major hurricanes for the season ahead are all predicted to be higher than normal.



## 3-Month Outlook July to September - 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

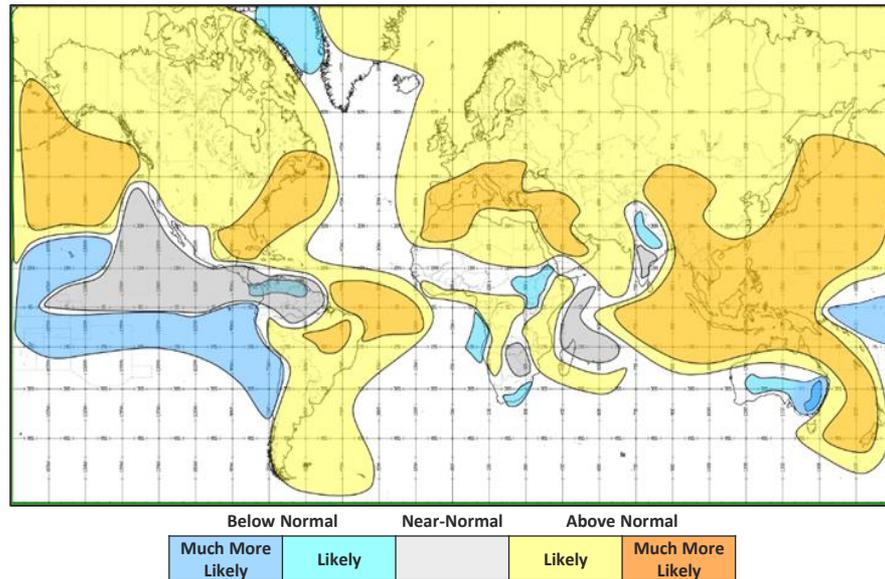
## Outlook:

La Niña is likely to persist into the Northern hemisphere autumn. More details can be found in the precipitation section.

Many parts of the globe are likely to be warmer than normal during the next three months. However, consistent with La Niña, parts of Australia, the Indian sub-continent, The Sahel region in Africa and parts of southern Africa are likely to be colder than normal.

The tropical Pacific is also likely to be colder than normal, with these colder temperatures also affecting coastal and equatorial parts of South America.

## 3-Month Outlook July to September - Temperature



# Global Outlook - Rainfall

## Outlook:

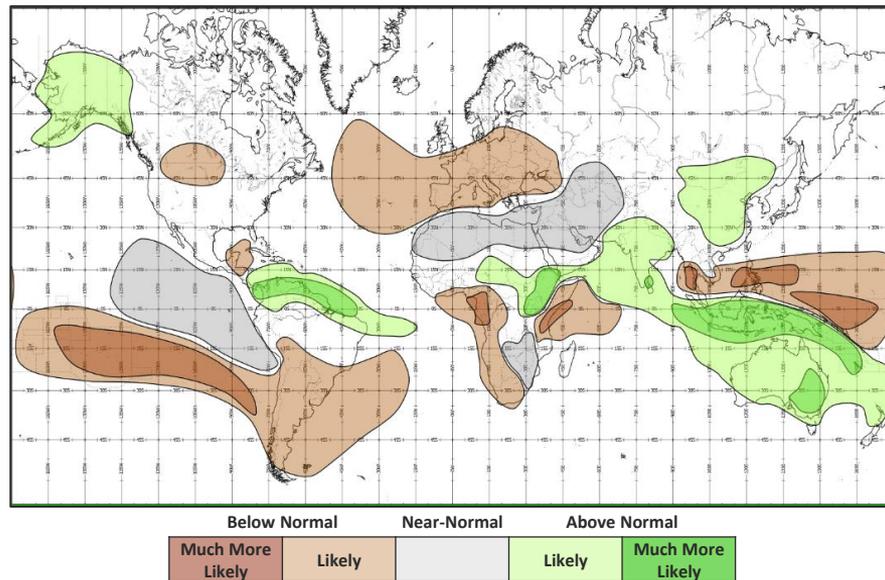
**El Niño-Southern Oscillation (ENSO)** – The 2021-22 La Niña event continues in the tropical Pacific Ocean. Both oceanic and atmospheric indicators have changed little over the past month.

The latest [ENSO outlook](#) issued by NOAA (27<sup>th</sup> June) states that although La Niña is likely to continue, the odds decrease into the late Northern Hemisphere summer (52% chance in July-September 2022) before slightly increasing during the Northern Hemisphere autumn and early winter 2022 (58-59% chance).

Therefore, it seems likely that La Niña will remain a dominant driver of global weather patterns over the next few months at least, more especially for tropical regions. With a couple of notable exceptions (e.g., East Africa) La Niña, very broadly speaking, tends to increase the likelihood of wetter than normal conditions across many land areas of the tropics. 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>

**Indian Ocean Dipole (IOD)** – Seasonal forecast systems continue to suggest a negative IOD, potentially strongly negative, is likely to develop during the Northern Hemisphere summer. Should this occur, this would start to influence rainfall patterns both around the Indian Ocean basin and more widely. However, it should be noted skilful prediction of the IOD is limited at this time of year so forecasts of a negative phase still need to be treated with caution.

## 3-Month Outlook July to September - Rainfall



# Current Status

[Current Status maps](#)

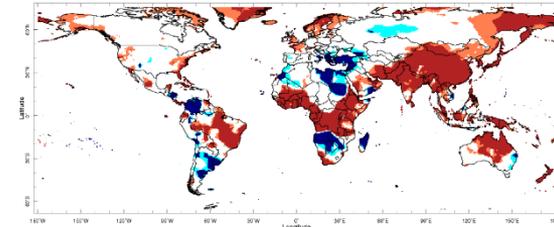
[MENA – Middle East](#)

[MENA – North Africa](#)

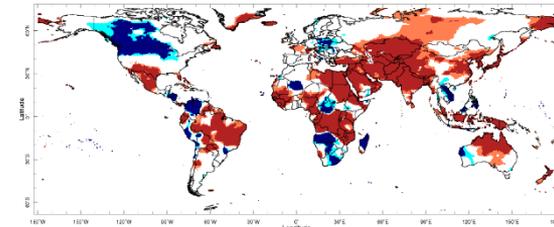
[Caribbean](#)

[British Overseas Territories](#)

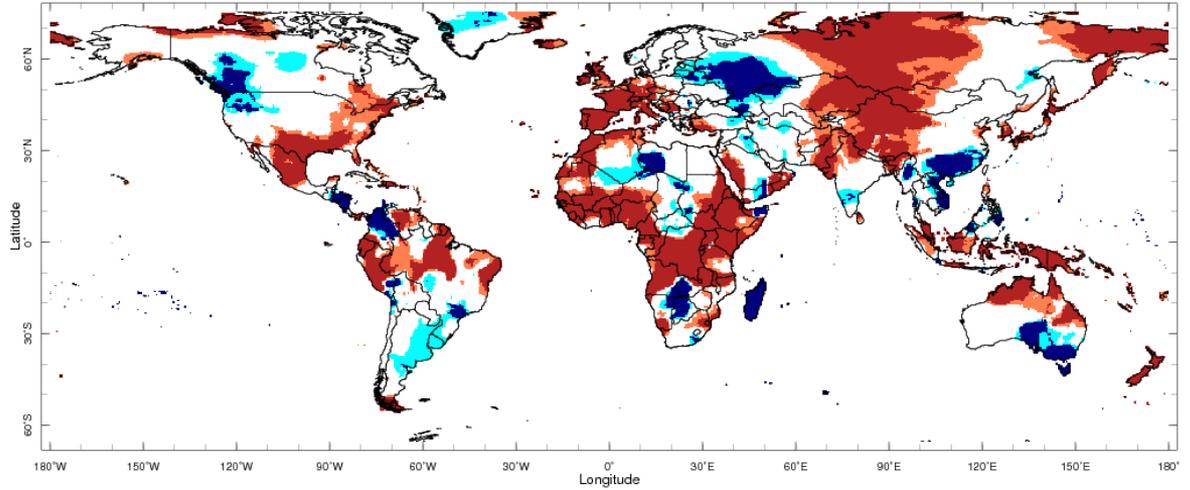
# Current Status – Temperature percentiles



Mar 2022  
March



Apr 2022  
April



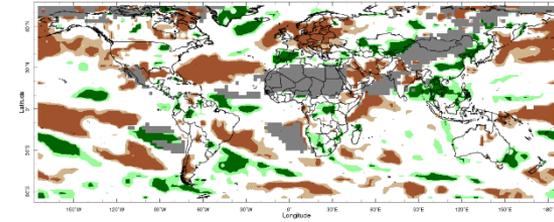
May 2022

May



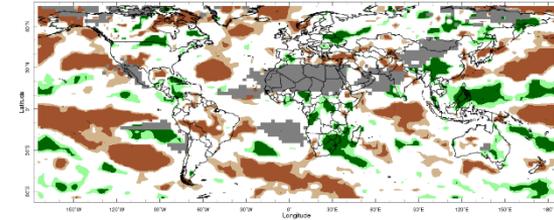
**Notes:** The percentiles shown in the map indicate a ranking of temperature, with the 0th percentile being the coolest and the 100th percentile being the warmest in the 1981-2010 climatology. Orange and red shading represent values above the 80th (Warm) and 90th (Hot) percentile, respectively; regions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



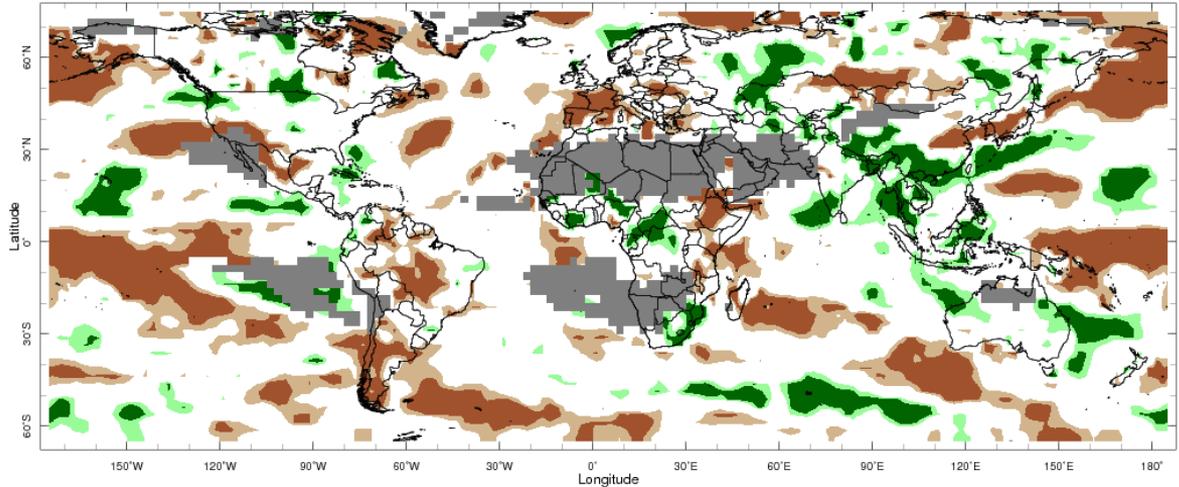
Mar 2022

March



Apr 2022

April



May 2022

May



**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

	March	April	May
Turkey	Cold	Hot	Mixed (2)
Palestine	Cold	Hot	Hot
Lebanon	Cold	Hot	Hot
Jordan	Cold	Hot	Normal
Syria	Cold	Hot	Normal
Iraq	Normal	Hot	Cool
Yemen	Mixed (1)	Normal	Mixed (3)

## Current Status: Rainfall

	March	April	May
	Mixed (4)	Very Dry	Mixed (4)
	Normal	Very Dry	Normal*
	Wet	Very Dry	Normal*
	Normal	Very Dry	Normal*
	Wet	Normal	Normal*
	Dry	Normal	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:

- (1) Note:** Cold in east, hot in far southwest, normal elsewhere
- (2) Note:** Cold in far east, warm in far west, normal elsewhere
- (3) Note:** Hot in the far west, cold in the east, normal elsewhere
- (4) Note:** Wet in east, normal elsewhere

# Current Status – MENA – North Africa

	Current Status: Temperature		
	March	April	May
Mauritania	Mixed (1)	Warm	Warm
Morocco	Cool	Normal	Hot
Algeria	Normal	Normal	Mixed (2)
Tunisia	Normal	Normal	Hot
Libya	Cold	Hot	Mixed (3)
Egypt	Cool	Hot	Normal
Eritrea	Hot	Hot	Hot

	Current Status: Rainfall		
	March	April	May
Mauritania	Normal*	Normal*	Normal*
Morocco	Mixed (4)	Normal	Normal
Algeria	Mixed (4)	Mixed (4)	Normal*
Tunisia	Mixed (4)	Normal	Normal*
Libya	Normal	Normal*	Normal*
Egypt	Mixed (4)	Normal*	Normal*
Eritrea	Normal	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: Hot in the southeast, normal elsewhere
- (2) Note: Hot in the north, cool in the south, normal elsewhere
- (3) Note: Cold in the southwest, normal elsewhere
- (4) Note: Wet or very wet in north, normal elsewhere

## Current Status – Caribbean

Current Status: Temperature

	March	April	May
Caribbean Region	Warm	Normal	Mixed (1)
Haiti	Warm	Normal	Hot
Guyana	Normal	Warm	Normal

Current Status: Rainfall

	March	April	May
Caribbean Region	Dry	Normal	Mixed (1)
Haiti	Normal	Wet	Normal
Guyana	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:

(1) Note: Large variations across the region

## Current Status – British Overseas Territories

	Current Status: Temperature		
	March	April	May
Southern Europe	Cold	Normal (1)	Hot
Central Indian Ocean	Normal	Cold	Mixed (2)
Central Pacific	Cold	Cold	Cold

	Current Status: Rainfall		
	March	April	May
Southern Europe	Wet	Mixed (1)	Very Dry
Central Indian Ocean	Normal	Normal	Mixed (2)
Central Pacific	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:** Hot across Cyprus

**(2) Note:** Large variations across the regions

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

		Forecast summary		
		July	July to September	October to December
Turkey	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	Likely to be drier than normal
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 near-normal	Likely to be near-normal	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 near-normal	Likely to be near-normal	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 near-normal	Likely to be near-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: July to December – MENA – Middle East (2)

		Forecast summary		
		July	July to September	October to December
Syria	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
Iraq	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
Yemen	Temperature	Likely to be near-normal	Likely to be near-normal	Climatological odds
	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: July to December – MENA – North Africa(1)

		Forecast summary		
		July	July to September	October to December
Mauritania	Temperature	<b>Much more likely to be warmer than normal</b> in the far north; Likely to be near-normal elsewhere	<b>Much more likely to be warmer than normal</b> in the far north; Likely to be near-normal elsewhere	Climatological odds
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds
Morocco	Temperature	<b>Much more likely to be warmer than normal</b>	<b>Much more likely to be warmer than normal</b>	Likely to be warmer than normal
	Rainfall	Likely to be near-normal	Likely to be near-normal	Likely to be drier than normal
Algeria	Temperature	<b>Much more likely to be warmer than normal</b>	<b>Much more likely to be warmer than normal</b>	Climatological odds
	Rainfall	Likely to be near-normal	Likely to be near-normal	Likely to be drier than normal
Tunisia	Temperature	<b>Much more likely to be warmer than normal</b>	<b>Much more likely to be warmer than normal</b>	Likely to be warmer than normal
	Rainfall	Likely to be near-normal	Likely to be near-normal	Likely to be drier than normal

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

## Outlook: July to December – MENA – North Africa(2)

		Forecast summary		
		July	July to September	October to December
Libya	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds
Egypt	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be colder than normal
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds
Eritrea	Temperature	Likely to be near-normal	Likely to be colder than normal	Likely to be warmer than normal
	Rainfall	Likely to be wetter than normal	Much more 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: July to December – Caribbean

		Forecast summary		
		July	July to September	October to December
Caribbean Region	Temperature	<b>Much more likely to be warmer than normal</b> in the north; <b>Likely to be colder than normal</b> in parts of the south	<b>Much more likely to be warmer than normal</b> in the north; <b>Likely to be colder than normal</b> in parts of the south	Likely to be warmer than normal
	Rainfall	<b>Likely to be drier than normal in the east; Likely to be wetter than normal or Much more likely to be wetter than normal</b> in the south; <b>Likely to be near-normal</b> elsewhere	<b>Likely to be drier than normal in the east; Likely to be wetter than normal or Much more likely to be wetter than normal</b> in the south; <b>Likely to be near-normal</b> elsewhere	Climatological odds
Haiti	Temperature	<b>Likely to be warmer than normal</b>	<b>Likely to be warmer than normal</b>	Climatological odds
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds
Guyana	Temperature	<b>Likely to be colder than normal</b>	Likely to be near-normal	Likely to be near-normal
	Rainfall	<b>Likely to be wetter than normal</b>	<b>Much more likely to be wetter than normal</b>	Much more 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: July to December – British Overseas Territories

		Forecast summary		
		July	July to September	October to December
Southern Europe	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 drier than normal	Likely to be drier than normal	Likely to be drier than normal
Central Indian Ocean	Temperature	Likely to be warmer than normal or Much more likely to be warmer than normal for much of the area; Likely to be near-normal in the west	Likely to be warmer than normal or Much more likely to be warmer than normal for much of the area; Likely to be near-normal in the west	Likely to be warmer than normal
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal	Likely to be drier than normal
Central Pacific	Temperature	Likely to be warmer than normal	Likely to be near-normal	Likely to be colder than normal
	Rainfall	Much more 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.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 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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Web: <https://www.metoffice.gov.uk/services/government/international-development>