



# **Global:** Monthly Climate Outlook February to November

Issued: May 2021

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# Overview

MENA, Caribbean and British Overseas Territories Current Status and Outlook – Temperature

MENA, Caribbean and British Overseas Territories Current Status and Outlook – Rainfall

<u>Global Seasonal Outlook – Temperature</u>

<u>Global Seasonal Outlook – Rainfall</u>





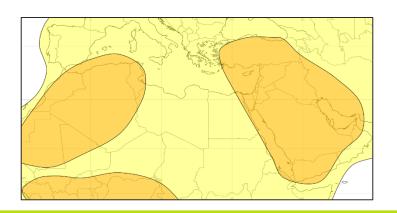
# MENA, Caribbean and British Overseas Territories Current Status and Outlook - Temperature

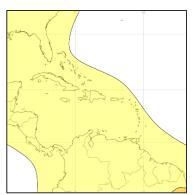
#### **Current Status:**

During the last three month the Middle East has experienced much above normal temperatures, and most other regions have been warmer than normal. The exception to this has been some of the more remote British Overseas Territories, such as Pitcairn Islands, as well as northern parts of South America, where below normal temperatures have dominated for the last three months.

#### Outlook:

For most of these areas the next three months will be characterised by temperatures that are likely to be warmer than normal.





## 3-Month Outlook June to August - 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:**

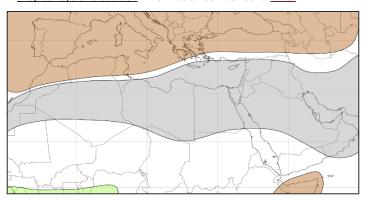
MENA, the Caribbean and British Overseas Territories have seen near normal to below normal rainfall over the last three months. Parts of Iraq have been very dry in March.

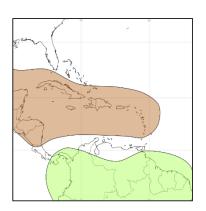
#### Outlook:

For the next three months, conditions are likely to be drier than normal for Turkey, Iran and Turkmenistan. Near-normal rainfall is likely across most of North Africa and much of the Middle East.

For the Caribbean, much of the area is likely to be drier than normal, with the exception being northern South America and the far southeast of Central America, where conditions are likely to be wetter than normal through this period.

Tropical Cyclone outlook: Information can be found here.





## 3-Month Outlook June to August - Rainfall

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

Left: Middle East and North Africa

Right: Caribbean region





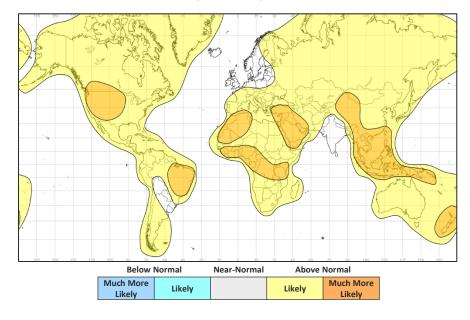
## Global Outlook - Temperature

#### Outlook:

The El Niño—Southern Oscillation (ENSO) is now neutral as is expected to remain so for at least the next three months, and this decreases the predictability of seasonal forecasts. Later this year, there is small chance of La Niña redeveloping. However, ENSO predictions made at this time of year have lower skill than at other times of the year.

Despite a neutral ENSO state some consistent signals are apparent. Many parts of the globe are likely to see warmer than normal conditions through the next three months. Parts of the western USA, much of central and northern Africa, Middle East and Southeast Asia are much more likely to be warmer than normal.

## 3-Month Outlook June to August - Temperature



## **Met Office** ■



## Global Outlook - Rainfall

#### Outlook:

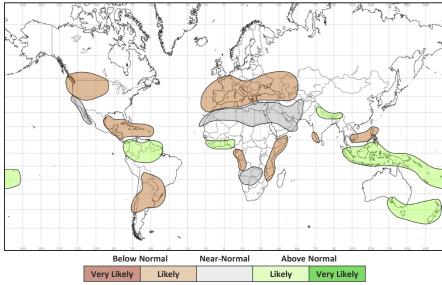
As described in the temperature section, the influences of the recent La Niña is reduced in the forecast and predictability is lower than if ENSO was in an active phase. The Indian Ocean Dipole (IOD) is likely to remain neutral, making seasonal rainfall less predictable in the coming months across East Africa and southern Asia.

Over the next three months, the seasonal northward shift of rains will see the onset of the South Asian Monsoon (SAM). Predictions for the SAM are finely balanced with mixed and conflicting signals from longer range forecast systems. Overall, however, there is a slight increase in the likelihood of drier than normal conditions in southwest India and wetter than normal conditions across northern India, Nepal, Bhutan and parts of Bangladesh.

Elsewhere, it is likely to be wetter than normal for parts of West Africa (just inland from the Gulf of Guinea), as well northern parts of South America. Here, a southward displaced and more active than normal Intertropical Convergence Zone (ITCZ) means conditions are likely to be wetter than normal across areas which have already seen impacts from flooding over the last few months.

Much of the rest of South America, as well as the Caribbean, central and southern Europe and central parts of Asia are likely to be drier than normal. This is also true for southern Vietnam and parts of the Philippines. Meanwhile, wetter than normal conditions are more probable across much of Indonesia, Malaysia and Papua New Guinea.

## 3-Month Outlook June to August - Rainfall







# **Current Status**

**Current Status maps** 

MENA – Middle East

MENA – North Africa

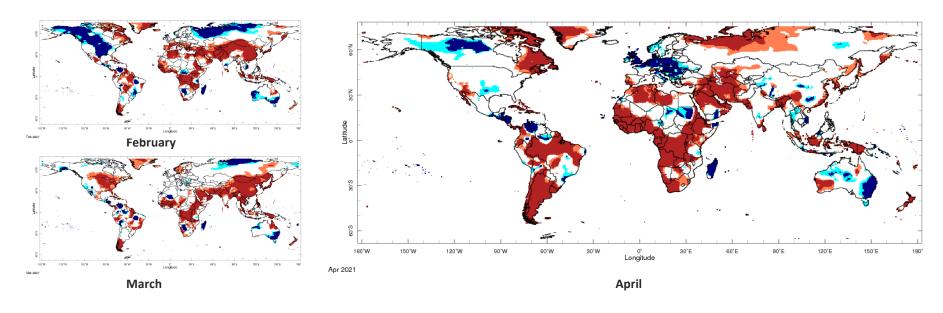
Caribbean

**British Overseas Territories** 





# Current Status – Temperature percentiles



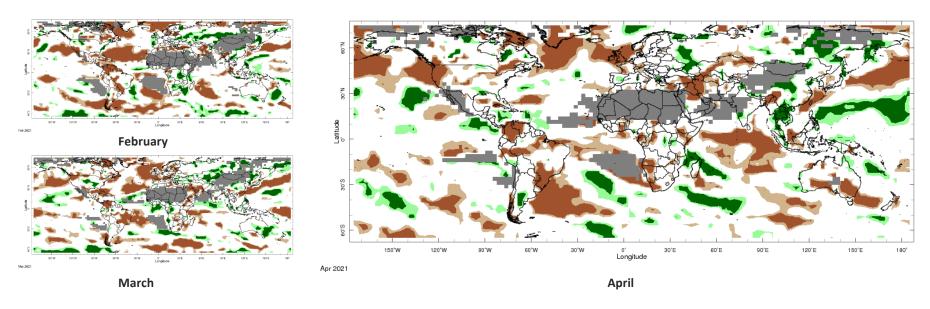


**Notes:** The percentiles shown in the map indicate a ranking of temperature, with the 0th percentile being the coolest and the 100th percentile being the warmest in the 1981-2010 climatology. Orange and red shading represent values above the 80th (Warm) and 90th (Hot) percentile, respectively; regions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





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

	Curre	Current Status: Temperature		
	February	March	April	
Turkey	Hot	Normal	Normal (5)	
Palestine	Hot	Normal	Hot	
Lebanon	Hot	Normal	Hot	
Jordan	Hot	Warm	Hot	
Syria	Hot	Normal	Warm	
Iraq	Hot	Mixed (1)	Hot	
Yemen	Normal	Mixed (2)	Normal	

Current Status: Rainfall				
February	March	April		
Mixed (3)	Wet	Normal (6)		
Normal	Normal	Normal		
Normal	Normal	Normal		
Normal	Dry	Normal		
Mixed (4)	Normal	Dry		
Normal	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:**

- (1) Note: Warm in the south, and very warm in the far south. Near normal elsewhere
- (2) Note: Hot in the far east and far west. Normal elsewhere
- (3) Note: Near normal in the north, very dry in the south
- (4) Note: Very dry in the north, near normal in the south
- (5) Note: Hot in the east
- (6) Note: Very Dry in the east





## Current Status – MENA – North Africa

	Current Status: Temperature		
	February	March	April
Mauritania	Mixed (1)	Mixed	Mixed (5)
Morocco	Normal (2)	Normal	Warm
Algeria	Hot	Normal	Hot
Tunisia	Hot	Normal	Warm
Libya	Mixed (3)	Normal	Hot
Egypt	Mixed (4)	Mixed (3)	Normal
Eritrea	Hot	Hot	Hot

Current Status: Rainfall				
February	March	April		
Normal*	Normal*	Normal*		
Normal	Normal	Normal		
Dry*	Normal*	Normal*		
Dry*	Normal*	Normal*		
Dry*	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: Very hot in the southwest, to normal in the north
- (2) Note: Hot in the far northeast
- (3) Note: Mainly normal, but warm to hot in parts of far east and west
- (4) Note: Hot in the north, normal in the south (5) Note: Cold in the north and Hot in the south





## Current Status – Caribbean

	Current Status: Temperature			
	February March April			
Caribbean Region	Hot	Hot	Hot	
Haiti	Hot	Hot	Hot	
Guyana	Warm	Normal	Normal	

Current Status: Rainfall				
February March April				
Mixed (1) Mixed (2)		Wet		
Normal Normal		Normal		
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: Very Dry for Jamaica and Puerto Rico, Normal elsewhere.
- (2) Note: Dry or very dry for much of the northern Caribbean. Near normal elsewhere.





## Current Status – British Overseas Territories

	Current Status: Temperature		
February March Ap			
Southern Europe	Mixed (1)	Normal	Hot
Central Indian Ocean	Warm	Warm	Cold
Central Pacific	Cold	Cold	Cold

Current Status: Rainfall					
February	February March April				
Mixed (2)	Dry	Mixed (2)			
Normal	Normal	Dry			
Normal	Normal	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: Temperatures highly variable across the region.

(2) Note: Gibraltar Normal, Cyprus Very Dry.





# Outlooks

<u>Outlooks – Notes for use</u>

MENA – Middle East

MENA – North Africa

<u>Caribbean</u>

**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: June to November – MENA – Middle East (1)

		Forecast summary		
		June	June to August	September to November
Turkey	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 drier than normal	Likely to be drier than normal	Climatological odds
Palestine	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 near-normal	Likely to be near-normal	Likely to be drier than normal
Lebanon	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 near-normal	Likely to be near-normal	Likely to be drier than normal
Jordan	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 near-normal	Likely to be near-normal	Likely to be drier than normal





# Outlook: June to November – MENA – Middle East (2)

		Forecast summary		
		June	June to August	September to November
Syria	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 near-normal	Likely to be near-normal	Likely to be drier than normal
Iraq	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 near-normal	Likely to be near-normal	Likely to be drier than normal
Yemen	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 near-normal	Climatological odds	Climatological odds





# Outlook: June to November – MENA – North Africa(1)

		Forecast summary		
		June	June to August	September to November
Mauritania	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 near-normal	Likely to be near-normal	Climatological odds
Morocco	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 near-normal	Likely to be drier than normal	Climatological odds
Algeria	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 near-normal	Likely to be drier than normal in the north and Likely to be near-normal in the south	Climatological odds
Tunisia	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 drier than normal	Likely to be drier than normal	Climatological odds





# Outlook: June to November – MENA – North Africa(2)

		Forecast summary		
		June	June to August	September to November
Libya	Temperature	Climatological odds	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
Egypt	Temperature	Climatological odds	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
Eritrea	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	Climatological odds	Climatological odds



**Outlooks** 



## Outlook: June to November – Caribbean

		Forecast summary		
		June	June to August	September to November
Caribbean	Temperature	Likely to be near-normal	Likely to be warmer than normal	Likely to be warmer than normal
Region	Rainfall	Much more likely to be drier than normal	Likely to be drier than normal	Climatological odds
Haiti	Temperature	Much more 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	Climatological odds
Guyana	Temperature	Likely to be near-normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal	Climatological odds



**Outlooks** 



## Outlook: June to November – British Overseas Territories

	Forec		Forecast summary	st summary	
		June	June to August	September to November	
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 in Gibraltar; Likely to be near-normal in Cyprus	Likely to be drier than normal in Gibraltar; Likely to be near-normal in Cyprus	Climatological odds	
Central Indian Ocean	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	
Central Pacific	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	





# Annex 1 – Supplemental Information





## Tropical Storm Outlook for the North Atlantic Ocean basin

Tropical storm seasonal forecast for the June to November period:

Average activity is currently forecast.

More information, and the full forecast can be found at <a href="https://www.metoffice.gov.uk/research/weather/tropical-cyclones/seasonal/northatlantic2021">https://www.metoffice.gov.uk/research/weather/tropical-cyclones/seasonal/northatlantic2021</a>





## 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) <a href="http://iridl.ldeo.columbia.edu/maproom/">http://iridl.ldeo.columbia.edu/maproom/</a>

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)

**Global: February to November** 





## 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 probabilisty 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)





# Enquiries

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