Global: Monthly Climate Outlook December to Septemberste

Issued: March 2021

Overview

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

Current Status: Over the last three months, temperatures have been above normal across most parts of this area, especially across the Middle East. The only exception to this is Pitcairn Island where temperatures have been cold for each of the last three months.

Outlook: Over the next three months, most areas are likely to be warmer than normal, the only exception to this is across northern parts of South America where it is likely to be colder than normal.
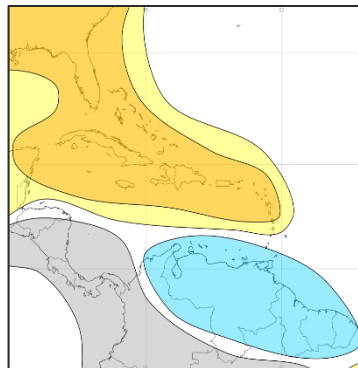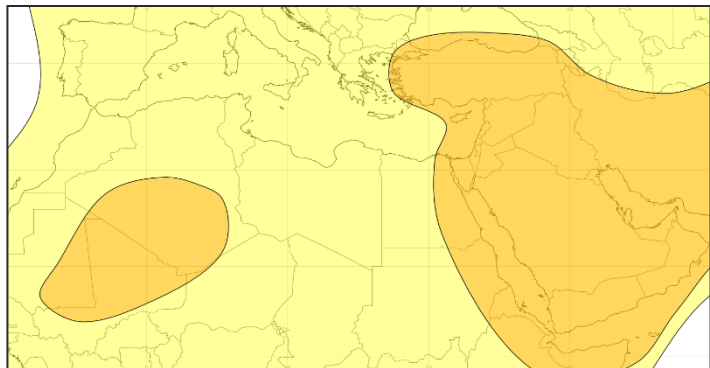
3-Month Outlook April to June - Temperature

Below Normal		Near-Normal	Above Normal	
Very Likely	Likely		Likely	Very Likely

Left: Middle East and North Africa
Right: Caribbean region

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

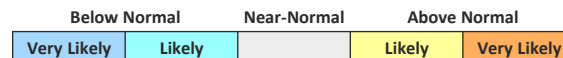**Current Status:** The Caribbean, MENA and British Overseas Territories have generally experienced either near normal or below normal conditions over the past three months

Outlook: Over the next three months, drier than normal conditions are more likely in the Middle East and near-normal conditions are more likely across northern Africa. Drier than normal conditions are likely across the Caribbean, whereas in northern South America, and especially Guyana, wetter than normal conditions are more likely due to a predicted more northerly position for the Intertropical Convergence Zone.
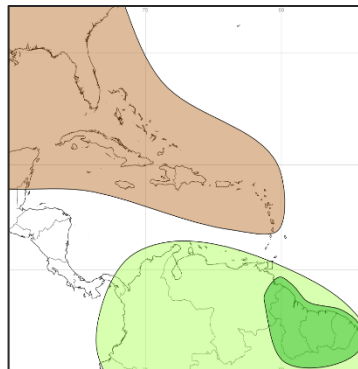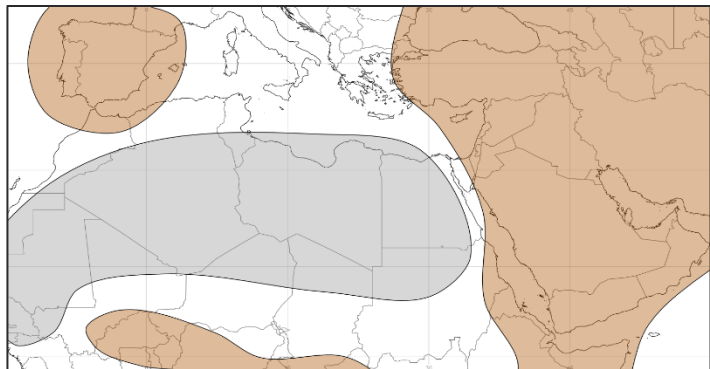
3-Month Outlook April to June - Rainfall

Below Normal		Near-Normal	Above Normal	
Very Likely	Likely		Likely	Very Likely

Left: Middle East and North Africa
Right: Caribbean region

Global Outlook - Temperature

Outlook:

With the current El Niño–Southern Oscillation (ENSO) prediction indicating the possibility of change to neutral conditions over the next three months, La Niña is having less of a cooling influence on the forecast. In the context of climate change, this means that most of the the world's land area is likely to see above normal temperatures.

For the next three months, temperatures are very likely to be warmer than normal across most of the US and Caribbean, the Middle East extending east across Central Asia towards Japan, as well as Malaysia/Indonesia and adjacent countries.

Notable exceptions to this are northern parts of South America, which is accompanied by wetter than normal conditions (see slide 6). The Pacific coast of Canada and Alaska is also likely to be cooler than normal.

3-Month Outlook April to June - Temperature

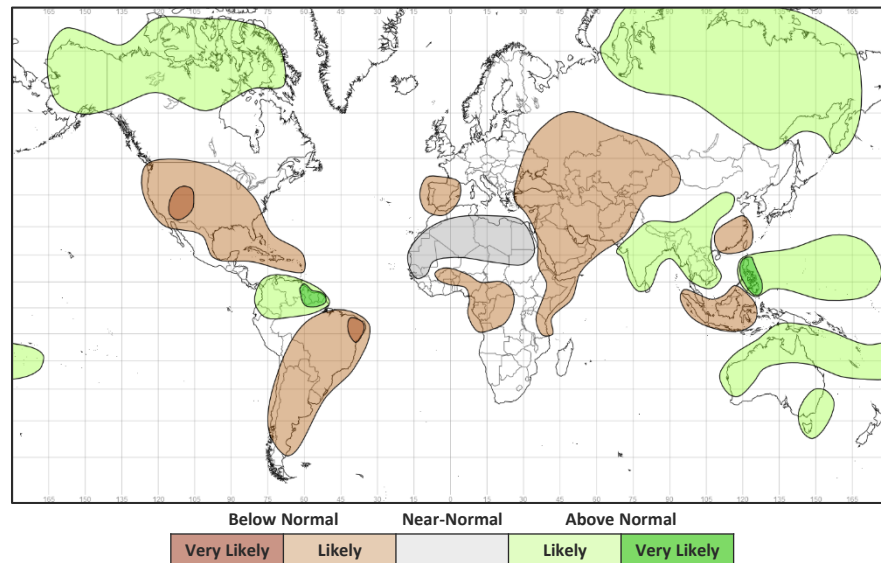| Below Normal		Near-Normal	Above Normal	
Very Likely	Likely		Likely	Very Likely
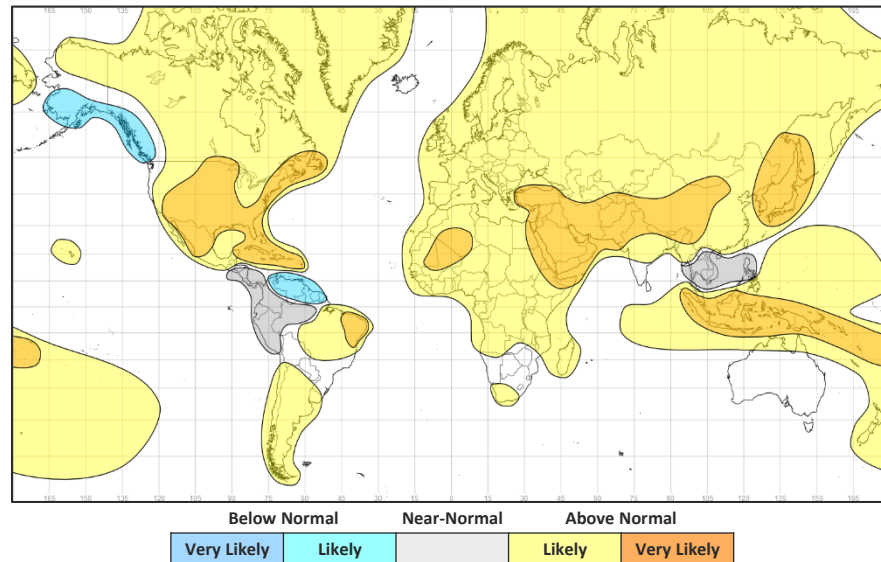
Global Outlook - Rainfall

Outlook:

Whilst La Niña conditions are predicted to decline, La Niña will still have an influence on rainfall patterns through some of this period (though it is more weakly represented in the total 3-month outlook period)

The La Nina associated suppression of rainfall over the tropical Pacific Ocean can also lead to increases in rainfall across the tropical land areas; this below normal and above normal rainfall pattern is predicted for Indonesia and South East Asia respectively over the next three months.

For the next three months, conditions are likely to be drier than normal for large parts of the Americas, the main exception being northern South America where due to a northward displaced Intertropical Convergence Zone, conditions are likely to very likely to be wetter than normal on the Atlantic facing coasts and adjacent countries.

For the next three months as the seasonal rains advance northwards it is likely to be drier than normal in east Africa, especially near the coast. Parts of west Africa are also likely to be drier than normal due to indications that the West African Monsoon may be less active than normal over the next three months. Conditions are also likely to be drier than normal across most of the Middle East and into Central Asia.

3-Month Outlook April to June - Rainfall

	Below Normal		Near-Normal	Above Normal	
	Very Likely	Likely		Likely	Very Likely

Current Status

Current Status – Temperature percentiles

December

January

February

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

| 0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 |
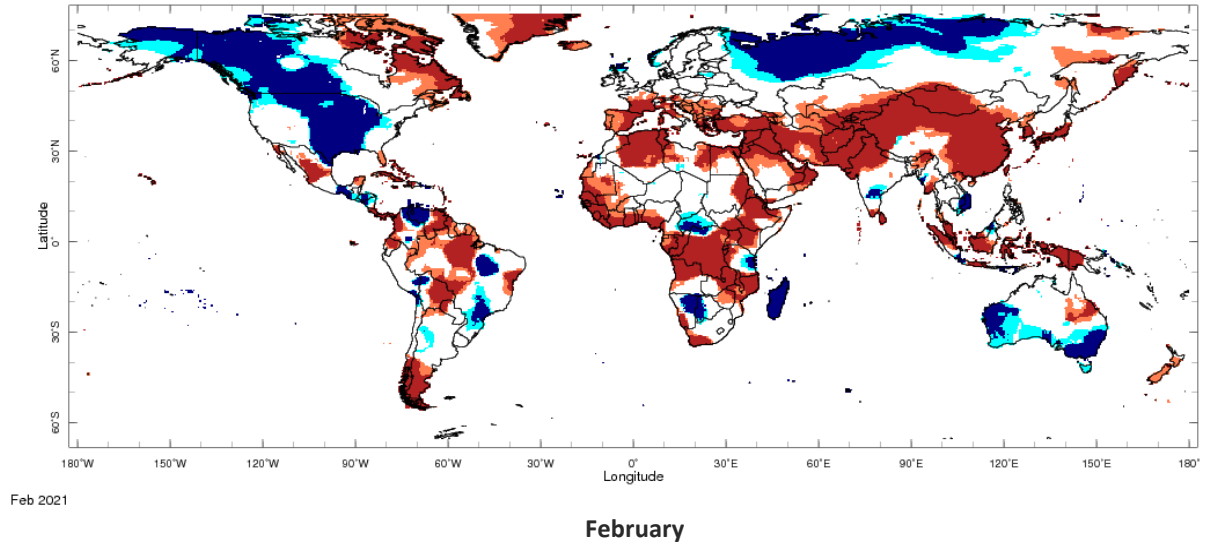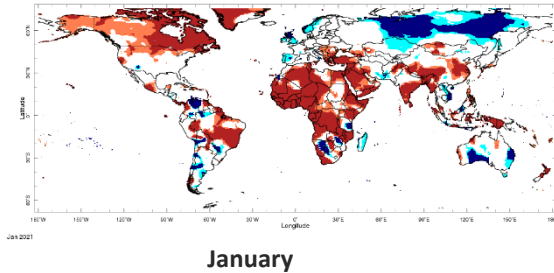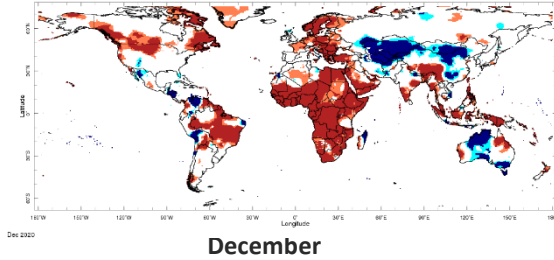
Notes: The percentiles shown in the map indicate a ranking of temperature, with the 0th percentile being the coolest and the 100th percentile being the warmest in the 1981-2010 climatology. Orange and red shading represent values above the 80th (Warm) and 90th (Hot) percentile, respectively; regions 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

December

January

February

Rainfall Percentiles (BROWN below 20th and GREEN above 80th)

| | | | | | | | | | | |
|0|0.1|0.2|0.3|0.4|0.5|0.6|0.7|0.8|0.9|1.0|
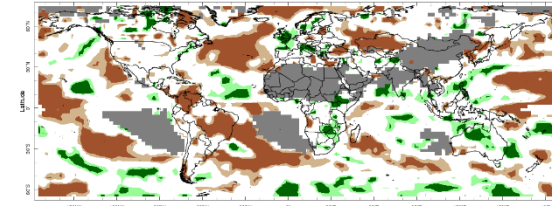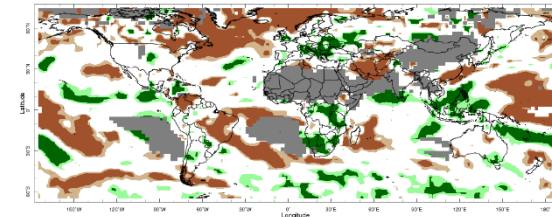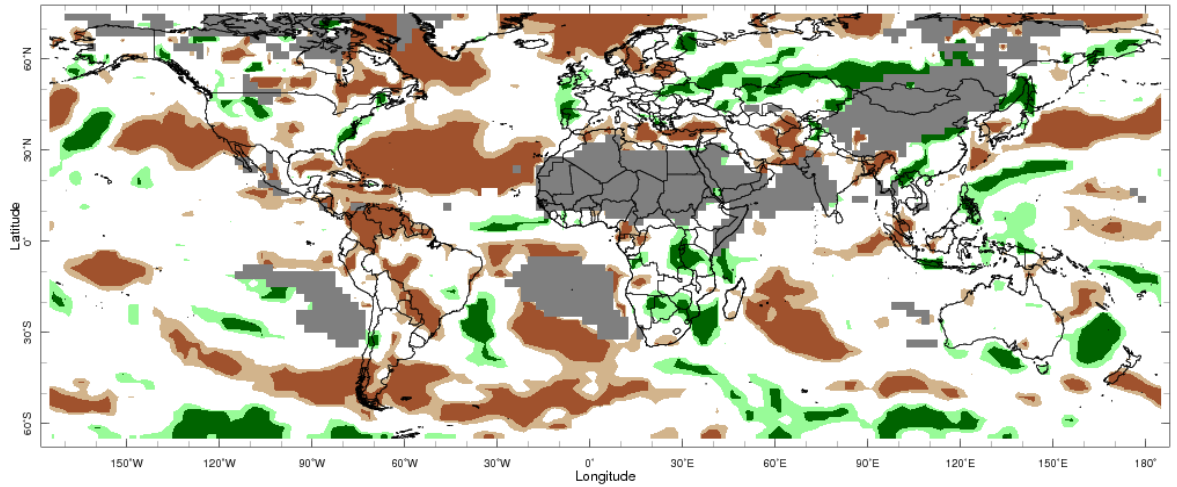
Notes: The percentiles shown in the map indicate a ranking of rainfall, with the 0th percentile being the driest and the 100th percentile being the wettest in the 1981-2010 climatology. Green and dark green shading represent values above the 80th (Wet) and 90th (Very Wet) percentile, respectively; regions 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				Current Status: Rainfall		
	December	January	February		December	January	February
Turkey	Hot	Hot	Hot		Dry	Mixed^	Mixed^^^^
Palestine	Hot	Hot	Hot		Normal	Normal	Normal
Lebanon	Hot	Hot	Hot		Normal	Normal	Normal
Jordan	Hot	Hot	Hot		Normal	Normal	Normal
Syria	Hot	Hot	Hot		Wet	Mixed^^	Mixed^^^^^
Iraq	Normal	Hot	Hot		Normal	Dry^^^	Normal
Yemen	Hot	Hot	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:
^**Note:** Very wet in the far northwest, near normal or wet elsewhere
^^**Note:** Wet in central/northern/northwestern areas, near normal elsewhere
^^^**Note:** Near normal in the north and west
^^^^**Note:** Near normal in the north, very dry in the south
^^^^^**Note:** Very dry in the north, near normal in the south

Current Status – MENA – North Africa

	Current Status: Temperature				Current Status: Rainfall		
	December	**January**	**February**		**December**	**January**	**February**
Mauritania	Hot	Hot	Mixed^^^^		Normal*	Normal*	Normal*
Morocco	Warm	Normal	Normal^^^^^		Dry	Mixed^	Normal
Algeria	Normal	Hot	Hot		Normal	Dry*^^	Dry*^^
Tunisia	Normal	Hot	Hot		Normal	Dry	Dry*^^
Libya	Normal	Mixed^^^	Mixed^^^^^^		Normal*	Dry*^^	Dry*^^
Egypt	Hot	Hot	Mixed^^^^^^^		Normal*	Normal*	Normal*
Eritrea	Hot	Hot	Hot		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:
^Note: Very Wet in the far north of the country, with rainfall near normal elsewhere
^^Note: Dry across parts of the north
^^^Note: Hot in the west, normal or warm elsewhere
^^^^Note: Very hot in the southwest, to normal in the north
^^^^^Note: Hot in the far northeast
^^^^^^Note: Mainly normal, but warm to hot in parts of far east and west
^^^^^^^Note: Hot in the north, normal in the south

Current Status – Caribbean

	Current Status: Temperature				Current Status: Rainfall		
	December	January	February		December	January	February
Caribbean Region	Normal	Warm	Hot		Dry	Mixed^	Mixed^^
Haiti	Normal	Warm	Hot		Normal	Normal	Normal
Guyana	Hot	Normal	Warm		Dry	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:
^Note: Very Wet for Jamaica and eastern Cuba. Dry for western Cuba and Dominican Republic. Normal elsewhere.
^^Note: Very Dry for Jamaica and Puerto Rico, Normal elsewhere.

Current Status – British Overseas Territories

Current Status: Temperature				Current Status: Rainfall		
	December	January	February	December	January	February
Southern Europe	Mixed^	Mixed^	Mixed^	Very Wet	Mixed^^	Mixed^^^
Central Indian Ocean	Warm	Warm	Warm	Wet	Normal	Normal
Central Pacific	Cold	Cold	Cold	Very Dry	Very 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:
^Note: Temperatures highly variable across the region in December and January, mainly normal with some hot areas.
^^Note: Gibraltar wet. Cyprus normal.
^^^Note: Gibraltar normal, Cyprus very dry.

Outlooks

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: April to September – MENA – Middle East (1)

		Forecast summary		
		April	April to June	July to September
Turkey	*Temperature*	Likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds – see note	Likely to be drier than normal	Likely to be drier than normal
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 drier than normal	Likely to be wetter 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 drier than normal	Likely to be wetter 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 drier 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: April to September – MENA – Middle East (2)

		Forecast summary		
		April	April to June	July to September
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 drier than normal	Likely to be near-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 drier than normal	Likely to be drier than normal	Likely to be near-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 drier than normal	Likely to be drier than normal	Likely to be wetter than normal in the far west, otherwise likely to be near-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: April to September – MENA – North Africa(1)

		Forecast summary		
		April	April to June	July to September
Mauritania	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal in the west, and much more likely to be warmer than normal in the east	Much more likely to be warmer than normal in the north, to Climatological odds – see note in the south
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds – see note
Morocco	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds – see note	Climatological odds – see note	Likely to be drier than normal
Algeria	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal in the north, and much more likely to be warmer than normal in the south	Much more likely to be warmer than normal
	Rainfall	Climatological odds – see note	Likely to be near-normal	Climatological odds – see note
Tunisia	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds – see note	Climatological odds – see note	Climatological odds – see note

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: April to September – MENA – North Africa(2)

		Forecast summary		
		April	April to June	July to September
Libya	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be near-normal	Likely to be near-normal	Likely to be near-normal
Egypt	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal in the west, and **much more likely to be warmer than normal** in the east	Likely to be warmer than normal
	Rainfall	Likely to be near-normal	Likely to be near-normal	Likely to be near-normal
Eritrea	*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	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: April to September – Caribbean

		Forecast summary		
		April	April to June	July to September
Caribbean Region	*Temperature*	Likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal, but much more likely to be warmer than normal for Cuba and the Bahamas
	Rainfall	Climatological odds – see note	Likely to be drier than normal	Likely to be drier than normal
Haiti	*Temperature*	Likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds – see note	Likely to be drier than normal	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	Much more likely to be wetter than normal	Much more likely to be wetter than normal	Climatological odds – see note

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: April to September – British Overseas Territories

		Forecast summary		
		April	April to June	July to September
Southern Europe	*Temperature*	**Likely to be warmer than normal**	**Likely to be warmer than normal**	Much more likely to be warmer than normal
	Rainfall	Climatological odds – see note	Gibraltar and Cyprus are **likely to be drier than normal**. Climatological odds – see note for much of the rest of the region	Likely to be drier than normal in the far west, likely to be near-normal in the east
Central Indian Ocean	*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 – see note	Climatological odds – see note
Central Pacific	*Temperature*	Climatological odds – see note	Climatological odds – see note	Likely to be warmer than normal
	Rainfall	Climatological odds – see note	Climatological odds – see note	Climatological odds – see note

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 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

Email: internationaldevelopment@metoffice.gov.uk

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