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Global: Monthly Climate Outlook August to January

Issued: July 2023

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Overview

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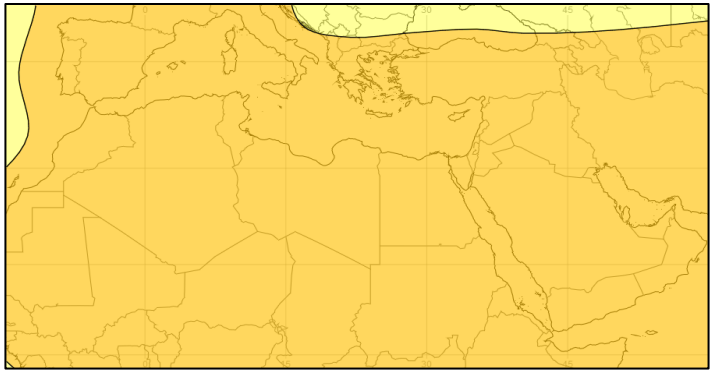
Global Seasonal Outlook – Temperature

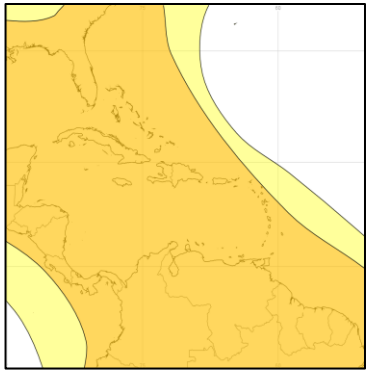
Global Seasonal Outlook – Rainfall

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

Current Status: Across northwest Africa, temperatures were hot in April returning to near-normal temperatures in May and June. Temperatures were near-normal across the rest of the MENA region over the past three months. The Caribbean and southern Europe were warm or hot over the past three months.

Outlook: For the next three months, the MENA and Caribbean regions are likely to be warmer than normal.





3-Month Outlook August to October - Temperature

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

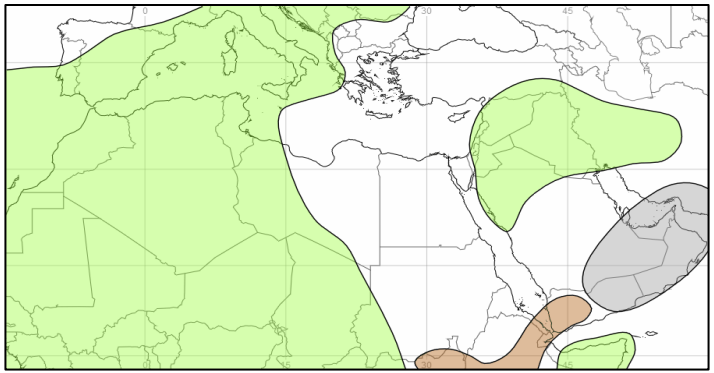
Left: Middle East and North Africa
Right: Caribbean region

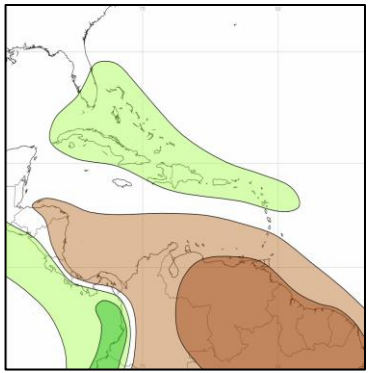
MENA, Caribbean and British Overseas Territories Current Status and Outlook - Rainfall

Current Status: The Middle East, and Iraq were wet in April, returning to near-normal rainfall in May and June. In North Africa, after below average rainfall in April, Tunisia and parts of Algeria and Morocco were wet or very wet in May and June. Turkey was wet or very wet over the past three months. In the Caribbean, dry or very dry conditions were observed over the past three months, although across Haiti rainfall was wet in April and near-normal in May and June.

Outlook: Across much of the MENA region over the next 3 months, it is likely to be wetter than normal - this is typically a dry period, so rainfall amounts are likely to be small. The exception is western Yemen where it is likely to be drier than normal - this is the wet season, so there is a risk of drought developing. Across the Caribbean, wetter than normal conditions are likely across most of the region, although across the Windward Islands and Guyana, drier than normal conditions are more likely.

Tropical Cyclone outlook: Information can be found here.





3-Month Outlook August to October - Rainfall

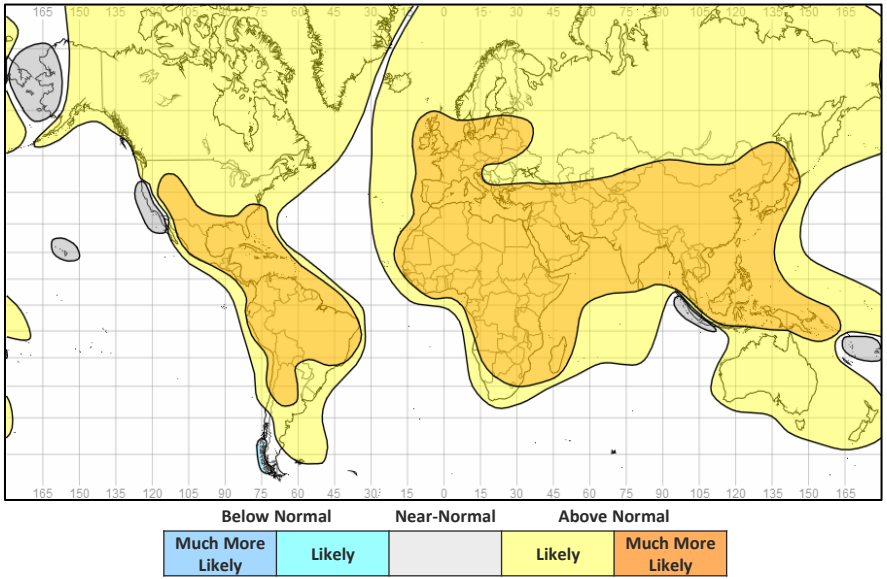
Below Normal		Near-Normal	Above Normal	
Much More Likely	Likely		Likely	Much More Likely

Left: Middle East and North Africa
Right: Caribbean region

Global Outlook - Temperature

Outlook: With the backdrop of a warming climate and the developing El Nino event, most land areas are likely to be warmer than normal with limited exceptions. These include northern Australia, southern parts of Indonesia and western Mexico/southwest USA where near normal temperatures are most likely.

3-Month Outlook August to October - Temperature



Global Outlook - Rainfall

Outlook:

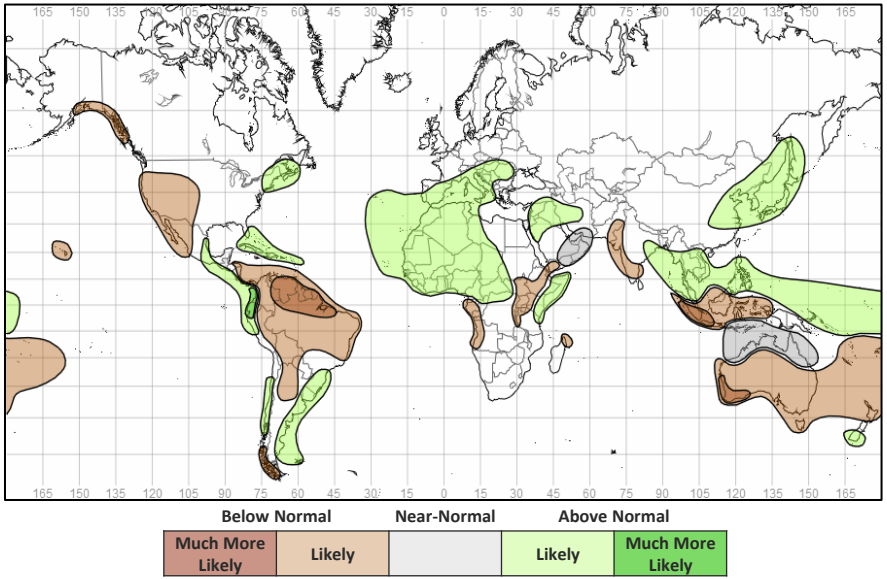
El Niño-Southern Oscillation (ENSO) – Sea surface temperatures across the equatorial Pacific are above average, in the Nino 3.4 region they are 1C above average. The atmospheric response has been slower but is now consistent with weak El Nino conditions. NOAA have declared El Nino to be underway.

A moderate El Niño is likely over the next three months and this event is expected to persist throughout the rest of the year and into the northern hemisphere winter. There is a small chance (~20%) chance of this El Nino becoming a strong event, with similar or larger impacts than the 1997-98 and 2015-16 later this year.

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

Indian Ocean Dipole (IOD) – The Indian Ocean Dipole is currently neutral and is not influencing regional conditions. All seasonal forecasts currently suggest a positive IOD will develop over the next couple of months. Should this occur, this would help reinforce the influence of El Niño over southeast Asia, Africa and Australia.

3-Month Outlook August to October - Rainfall



Current Status

Current Status maps

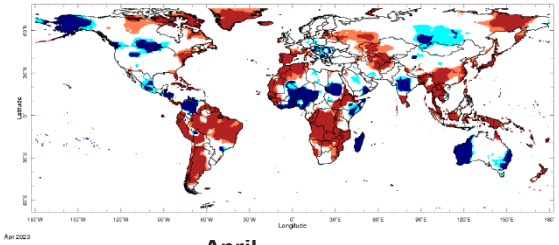
MENA – Middle East

MENA – North Africa

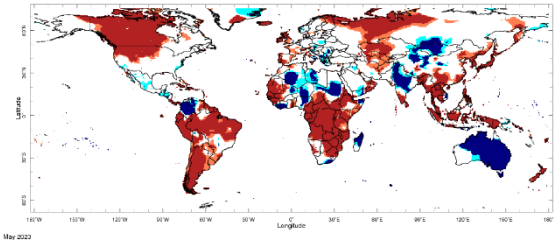
Caribbean

British Overseas Territories

Current Status – Temperature percentiles



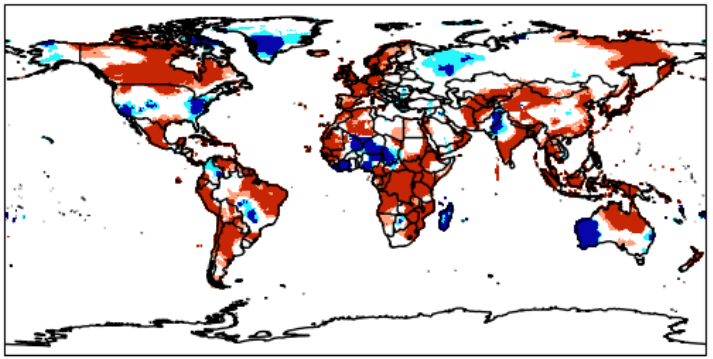
April

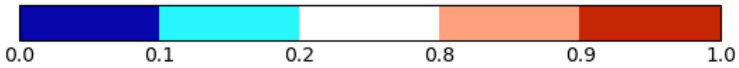


May

In the absence of IRI's update, the June map has been created in-house at Met Office, using the same underpinning GHCN CAMS 2-metre temperature dataset processed into the identical quintile categories as shown for April and May.

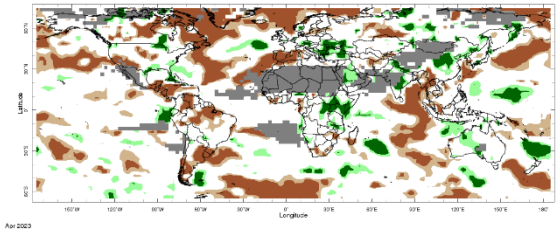
Jun 2023



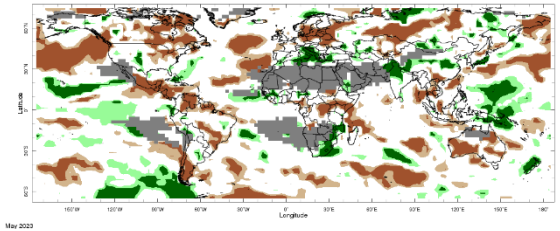


Notes: The percentiles shown in the map indicate a ranking of temperature, with the 0th percentile being the coolest and the 100th percentile being the warmest in the 1981-2010 climatology. Orange and red shading represent values above the 80th (Warm) and 90th (Hot) percentile, respectively; regions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

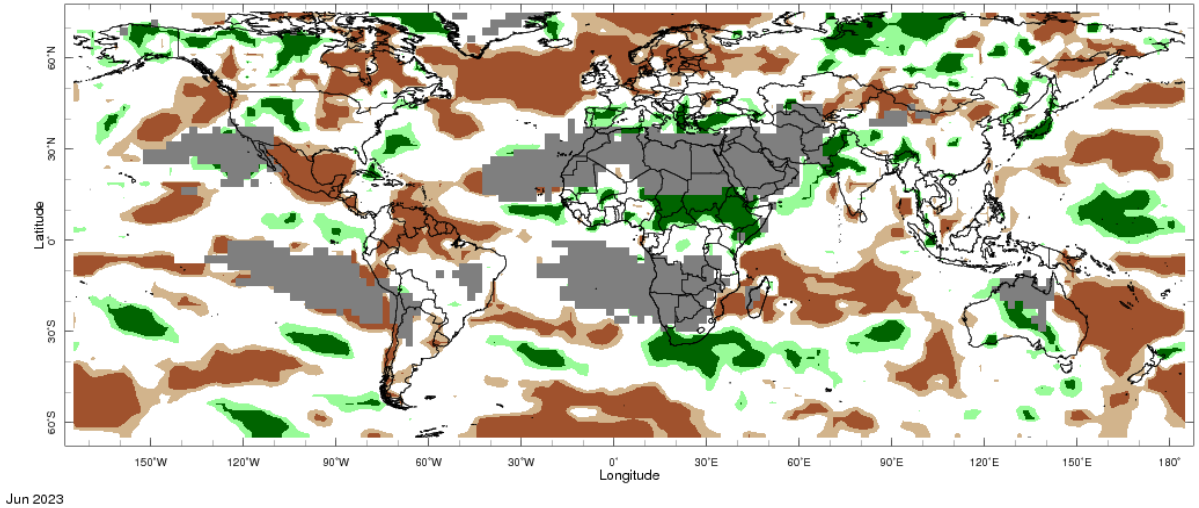
Current Status – Precipitation percentiles



April



May



June

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		
	April	May	June	April	May	June
Turkey	Normal	Normal	Normal	Wet	Normal (2)	Very Wet (4)
Palestine	Normal	Normal	Normal	Normal	Normal*	Normal*
Lebanon	Normal	Normal	Normal	Normal	Normal*	Normal*
Jordan	Normal	Normal	Normal	Normal	Normal*	Normal*
Syria	Normal	Normal	Normal	Normal	Normal*	Normal*
Iraq	Normal	Normal	Normal	Wet	Normal*	Normal*
Yemen	Cold	Mixed (1)	Cool	Normal	Normal (3)	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 southwest and far east, cool or cold for central areas
(2) Note: Wet or very wet in the west
(3) Note: Wet in the far west
(4) Note: Normal in the southeast

Current Status – MENA – North Africa

	Current Status: Temperature			Current Status: Rainfall		
	April	May	June	April	May	June
Mauritania	Hot	Hot	Hot	Normal*	Normal*	Normal (5)
Morocco	Hot	Normal	Hot	Very Dry	Normal (2)	Normal
Algeria	Hot (1)	Normal (3)	Hot	Very Dry	Normal (2)	Normal (6)
Tunisia	Hot	Normal	Normal	Normal	Very Wet	Normal (6)
Libya	Normal	Normal (4)	Normal	Normal	Normal*	Normal*
Egypt	Normal (1)	Normal	Normal	Normal*	Normal*	Normal*
Eritrea	Hot	Hot	Hot	Normal*	Normal	Very Wet

Notes:

The table gives an assessment of whether temperature and rainfall across each country have been above normal, normal or below normal over the past three months, using data from the NOAA Climate Prediction Center and the IRI Map Room: http://iridl.ldeo.columbia.edu/maproom/.

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

Additional Information:

(1) Note: Cold in the far south
(2) Note: Wet or very wet in some northern areas
(3) Note: Cool or cold in the south
(4) Note: Cool or cold in the west
(5) Note: Wet in the south
(6) Note: Very Wet in the north

Current Status – Caribbean

	Current Status: Temperature		
	April	May	June
Caribbean Region	Hot	Hot	Hot
Haiti	Hot	Hot	Hot
Guyana	Hot	Hot	Hot

	Current Status: Rainfall		
	April	May	June
Caribbean Region	Normal	Dry	Dry
Haiti	Wet	Dry	Normal
Guyana	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:

Current Status – British Overseas Territories

	Current Status: Temperature			Current Status: Rainfall		
	April	May	June	April	May	June
Southern Europe	Hot	Hot	Hot	Very Dry	Normal	Wet
Central Indian Ocean	Hot	Normal	Normal	Wet	Normal	Normal
Central Pacific	Cool	Cool	Cool	Normal	Normal	Normal

Notes:

The table gives an assessment of whether temperature and rainfall across each country have been above normal, normal or below normal over the past three months, using data from the NOAA Climate Prediction Center and the IRI Map Room: http://iridl.ldeo.columbia.edu/maproom/.

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

Additional Information:

Outlooks

Outlooks – Notes for use

MENA – Middle East

MENA – North Africa

Caribbean

British Overseas Territories

Outlooks: Notes for use

Outlooks for months 4 to 6:

As forecast uncertainty generally increases with longer range **the 4-6-month outlook is less reliable than the 1-3 month outlook**. Outlook information will only be provided when the model data signals likely outcomes. Additionally, the longer range outlook utilises fewer models because not all seasonal models are available for the extended range.

Information provided in this presentation should be used to raise early awareness of potential hazards only and should be updated with the 3-month outlook when available.

Climatological odds:

A forecast is only provided in the outlooks where there is information in the model data about likely outcomes. Therefore, where the likelihoods for above-, near- and below- normal conditions are evenly balanced the phrase 'climatological odds' will be used. This means the outcome could fall anywhere within the possible climatological range. Near-normal conditions should not necessarily be assumed, and users should update with shorter-term forecasts when available.

Outlook: August to January – MENA – Middle East (1)

		Forecast summary		
		August	August to October	November to January
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	Likely to be wetter than normal in the southeast, Climatological odds elsewhere	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 wetter than normal	Climatological odds
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 wetter than normal	Climatological odds
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 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: August to January – MENA – Middle East (2)

		Forecast summary		
		August	August to October	November to January
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 wetter than normal	Likely to be wetter than normal
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 wetter than normal	Likely to be wetter than normal
Yemen	*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 in the west, Likely to be near-normal in the east	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: August to January – MENA – North Africa(1)

		Forecast summary		
		August	August to October	November to January
Mauritania	*Temperature*	Likely to be warmer than normal	Much more likely to be warmer than normal	Much more likely to be warmer than normal
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal	Climatological odds
Morocco	*Temperature*	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Much more likely to be warmer than normal
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal	Climatological odds
Algeria	*Temperature*	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal	Climatological odds
Tunisia	*Temperature*	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	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: August to January – MENA – North Africa(2)

		Forecast summary		
		August	August to October	November to January
Libya	*Temperature*	**Much more likely to be warmer than normal**	**Much more likely to be warmer than normal**	Much more likely to be warmer than normal
	Rainfall	Likely to be near-normal	Likely to be wetter than normal in the west, Climatological odds in the east	Climatological odds
Egypt	*Temperature*	**Much more likely to be warmer than normal**	**Much more likely to be warmer than normal**	Much more likely to be warmer than normal
	Rainfall	Likely to be near-normal	Climatological odds	Climatological odds
Eritrea	*Temperature*	**Much more likely to be warmer than normal**	**Much more likely to be warmer than normal**	Much more likely to be warmer than normal
	Rainfall	Likely to be near-normal	Climatological odds	Climatological odds

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

Outlook: August to January – Caribbean

		Forecast summary		
		August	August to October	November to January
Caribbean Region	*Temperature*	**Much more likely to be warmer than normal**	**Much more likely to be warmer than normal**	Much more likely to be warmer than normal
	Rainfall	**Likely to be wetter than normal**	**Likely to be wetter than normal** but **likely to be drier than normal** in the southern Lesser Antilles	Likely to be wetter than normal in the north, Likely to be drier than normal in the south
Haiti	*Temperature*	**Much more likely to be warmer than normal**	**Much more likely to be warmer than normal**	Much more likely to be warmer than normal
	Rainfall	**Likely to be wetter than normal**	**Likely to be wetter than normal**	Likely to be wetter than normal
Guyana	*Temperature*	**Much more likely to be warmer than normal**	**Much more likely to be warmer than normal**	Much more likely to be warmer than normal
	Rainfall	**Much more likely to be drier than normal**	**Much more likely to be drier than 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: August to January – British Overseas Territories

		Forecast summary		
		August	August to October	November to January
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 wetter than normal**	**Likely to be wetter than normal**	Climatological odds
Central Indian Ocean	*Temperature*	**Much more likely to be warmer than normal**	**Much more likely to be warmer than normal**	Much more likely to be warmer than normal
	Rainfall	**Likely to be drier than normal**	Climatological odds	Climatological odds
Central Pacific	*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

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

Annex 1 – Supplemental Information

For further information

WMO Lead Centre for Long-Range Forecast Multi-Model Ensemble (LC-LRFMME)
https://www.wmolc.org/

International Research Institute for Climate and Society (IRI)
http://iridl.ldeo.columbia.edu/maproom/

NOAA El Niño technical info
https://www.ncei.noaa.gov/access/monitoring/enso/

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

Climate Outlook Fora
https://public.wmo.int/en/our-mandate/climate/regional-climate-outlook-products

Technical notes

The WMO lead centre for long-range forecast multi-model ensemble (LC-LRFMME) produce a probabilistic multi-model mean forecast product in which the multi-model mean is based on uncalibrated model output with a model weighting system that accounts for errors in both the forecast probability and ensemble mean. The method used by LC-LRFMME separately computes a probabilistic forecast and calculates tercile probabilities with respect to climatology for each individual model, before creating the weighted multi-model mean. In seasonal prediction, shifts in the tercile probabilities are always closely associated with the shifts in the probability of extremes, and we can use the probability of terciles to provide information on the likelihood of above- or below- normal conditions. The thresholds used in the forecast summaries are defined below.

Seasonal forecasts rely on the aspects of the global weather and climate system that are more predictable, such as tropical sea-surface temperatures or the El Niño–Southern Oscillation (ENSO). However, whilst such forecasts may be able to show what is more or less likely to occur, they acknowledge that other outcomes are possible.

In addition, forecast uncertainty generally increases with longer range so the 6-month outlook is less reliable. It is also based on less information, because not all models are available to this range. Therefore the information presented here should be used to raise early awareness of potential hazards, and should be updated with the 3-month outlook when available.

In the report and tables precipitation is referred to as rainfall but in fact encompasses any form of water, liquid or solid, falling from the sky. Temperatures are the (2 metre) near-surface temperature.

Description	Definition
Much more likely to be below normal	When probability of lower tercile > 70%
More likely to be below normal	When probability of lower tercile is 40-70%
Likely to be normal	When probability of middle tercile is 40-70%
Much more likely to be near-normal	When probability of middle tercile > 70%
Likely to be above near-normal	When probability of upper tercile is 40-70%
Much more likely to be above normal	When probability of upper tercile > 70%
Climatological odds	When probabilities for all categories are roughly 33%

Global Producing Centres (GPC) forecasts used by WMO LC-LRFMME:

- GPC 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)

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