Global: Monthly Climate Outlook October to July

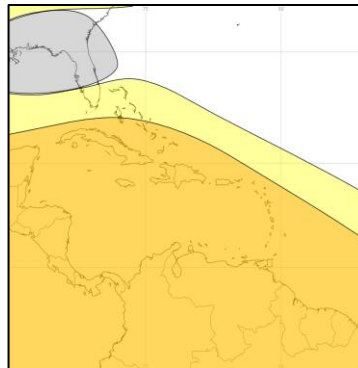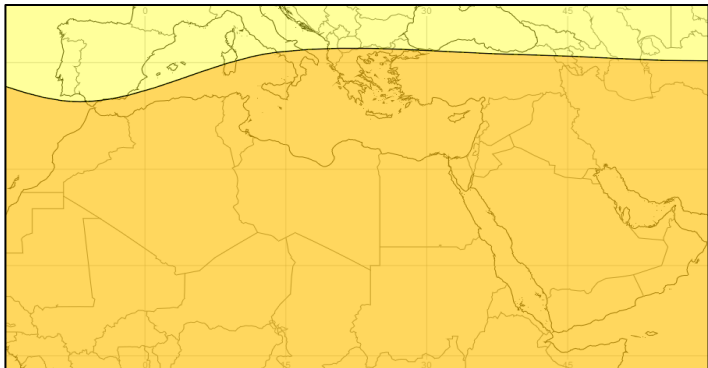**Issued: January 2024**

Overview

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

Current Status:

Across the MENA region, the Caribbean and the British Overseas Territories temperatures were hot over the last three months. The exception to this has been the British Overseas Territories in the central Pacific which were cool or cold in October and November before returning to near-normal in December.

Outlook:

It is likely or much more likely to be warmer than normal in the MENA region, the Caribbean and the British Overseas Territories over the next three months.

3-Month Outlook February to April - 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:
Across most of the Middle East, rainfall was near-normal over the last three months, exceptions being some parts of Turkey, Syria and Iraq which were wet in November or December. In North Africa, many parts have been dry during October, November and December while northern Libya was wet in December. The Caribbean and British Overseas Territories were either dry or had near-normal rainfall over the last three months, the exception being Haiti which was very wet in December.

Outlook:
Over the next three months, parts of the Middle East and North Africa are likely to be drier than normal. In the Caribbean, Guyana is likely to be drier than normal.

Tropical Cyclone outlook: North Atlantic tropical storm seasonal forecasts for 2024 will be issued in May.
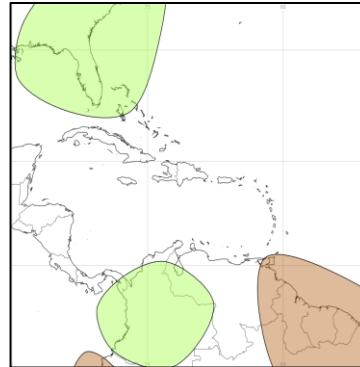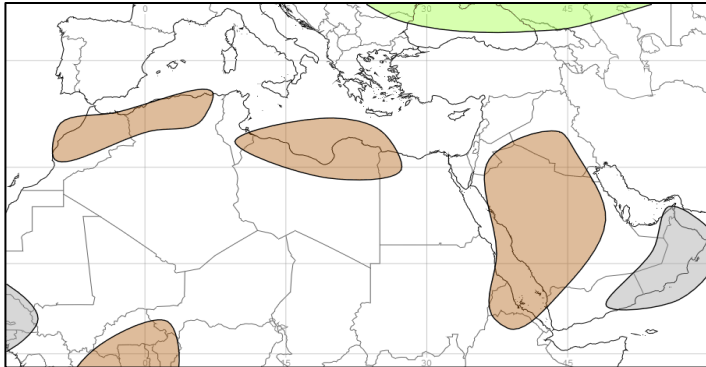
3-Month Outlook February to April - Rainfall

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 current El Niño event, nearly all land areas are likely or much more likely to be warmer than normal during February to April. The main exception is for the Falkland Islands which are likely to be colder than normal.

3-Month Outlook February to April - Temperature

Below Normal		Near-Normal	Above Normal	
Much More Likely	Likely		Likely	Much More Likely
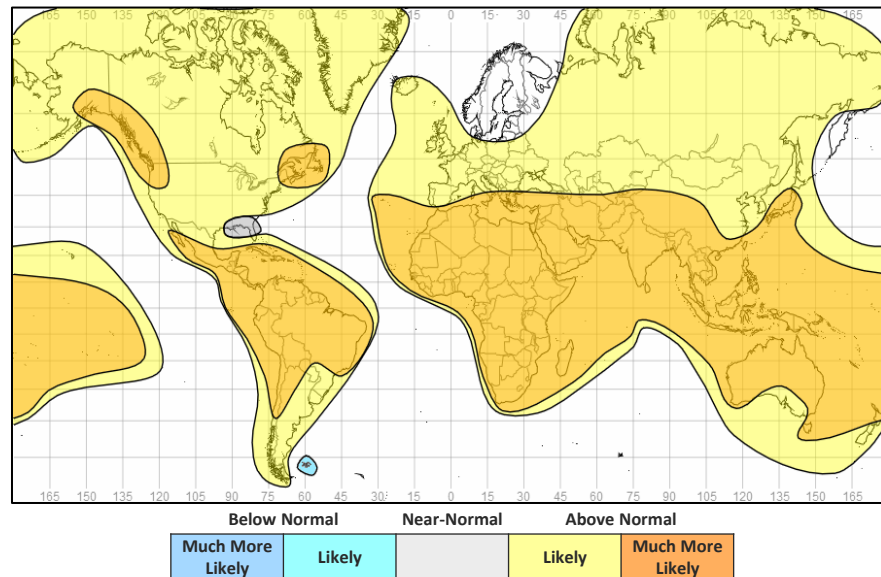
Global Outlook - Rainfall

Outlook:

El Niño-Southern Oscillation (ENSO) – Sea surface temperatures (SSTs) across the equatorial Pacific remain indicative of an ongoing El Niño event. The current El Niño is moderate in strength.

The current El Niño event is highly likely to continue for the remainder of the Northern Hemisphere winter. A transition to ENSO Neutral is then likely (~70% chance) between April and June.

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. Its influence tends to be most dominant across the tropics. 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 positive Indian Ocean Dipole event remains active but is steadily weakening.

Seasonal prediction systems currently suggest that this event will return to neutral conditions within the next two months (during February and March).

This will reinforce the influence of El Niño across some regions. For many parts of East Africa above normal rainfall is likely, increasing the risk of floods. Conversely, across southern Africa and Australia below normal rainfall is likely, increasing the threat of drought.

3-Month Outlook February to April - Rainfall

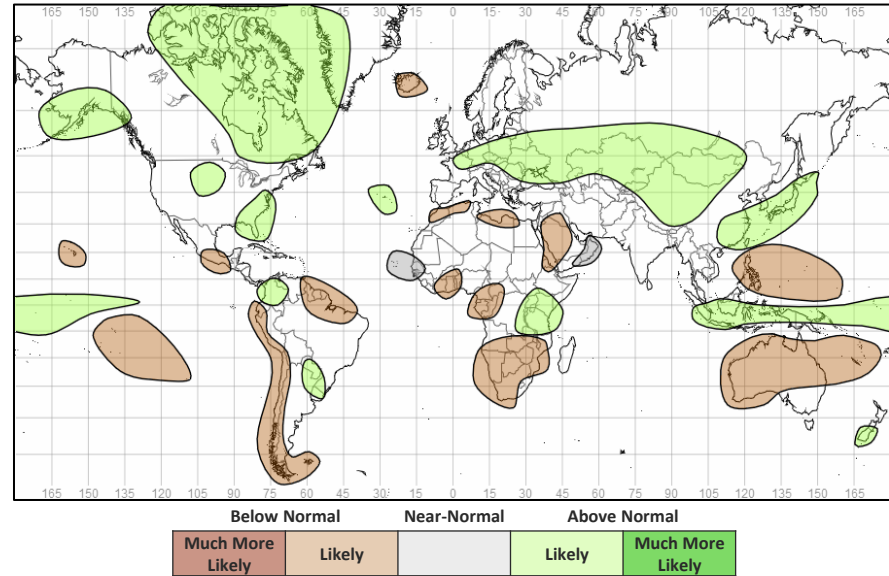| Below Normal		Near-Normal	Above Normal	
Much More Likely	Likely		Likely	Much More Likely

Current Status

Current Status maps

MENA – Middle East

MENA – North Africa

Caribbean

British Overseas Territories

Current Status – Temperature percentiles
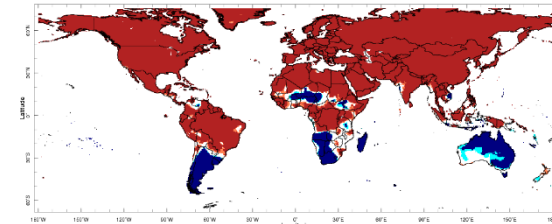
October
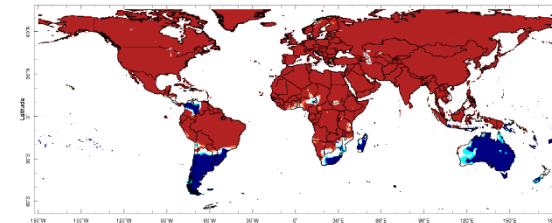
November

Dec 2023

December

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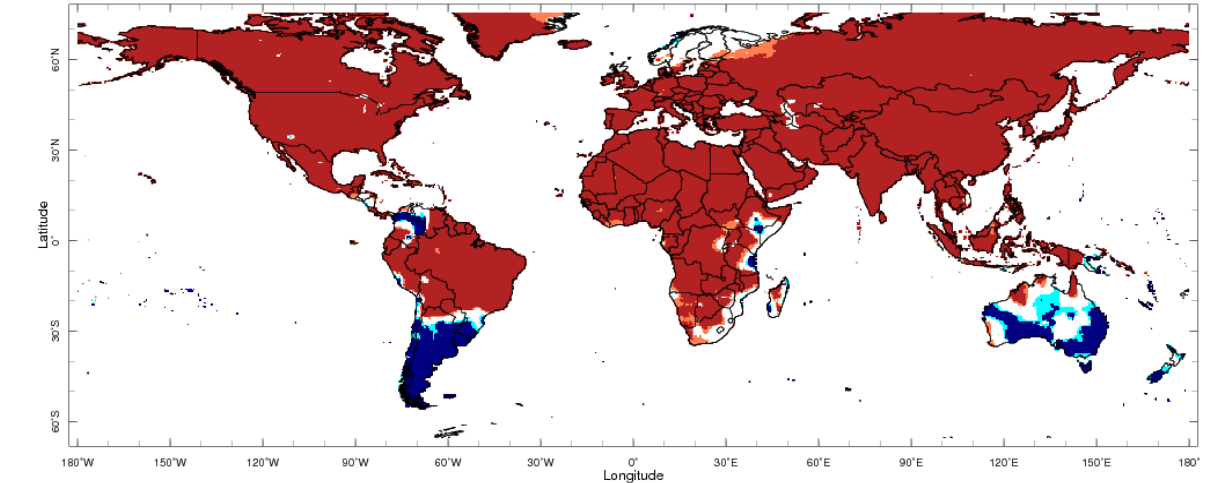
Notes: The percentiles shown in the map indicate a ranking of temperature, with the 0th percentile being the coolest and the 100th percentile being the warmest in the 1981-2010 climatology. Orange and red shading represent values above the 80th (Warm) and 90th (Hot) percentile, respectively; regions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

October

November

December

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 |
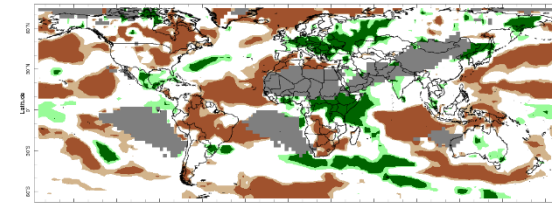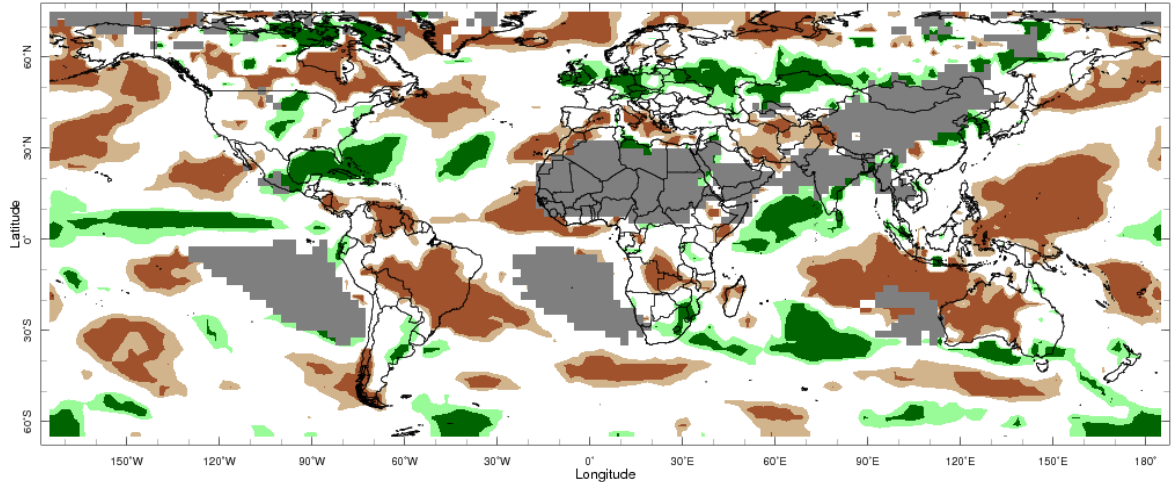
Notes: The percentiles shown in the map indicate a ranking of rainfall, with the 0th percentile being the driest and the 100th percentile being the wettest in the 1981-2010 climatology. Green and dark green shading represent values above the 80th (Wet) and 90th (Very Wet) percentile, respectively; regions shaded in light 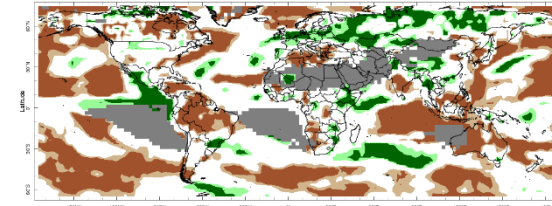and dark brown indicate rainfall below the 20th (Dry) and 10th (Very Dry) percentile, with respect to the 1981-2010 climatology. Grey areas on the map mask out regions that receive less than 10 mm/month of rainfall on normal in the 1981-2010 climatology for the month. The data used in this map are from the NOAA Climate Prediction Center.

Current Status – MENA – Middle East

Current Status: Temperature				Current Status: Rainfall		
	October	November	December	October	November	December
Turkey	Hot	Hot	Hot	Mixed (1)	Wet (2)	Normal
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	Normal	Wet (3)	Normal
Iraq	Hot	Hot	Hot	Normal*	Normal	Normal (4)
Yemen	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:

(1) Note: Very Dry in the west, normal in the east
(2) Note: Normal in central regions
(3) Note: Normal in the west
(4) Note: Wet in far west

Current Status – MENA – North Africa

Current Status: Temperature		
October	**November**	**December**

	October	November	December
Mauritania	Hot	Hot	Hot
Morocco	Hot	Hot	Hot
Algeria	Hot	Hot	Hot
Tunisia	Hot	Hot	Hot
Libya	Hot	Hot	Hot
Egypt	Hot	Hot	Hot
Eritrea	Hot	Hot	Hot

Current Status: Rainfall		
October	**November**	**December**

	October	November	December
Mauritania	Very Dry	Normal*	Normal*
Morocco	Normal	Very Dry	Dry
Algeria	Mixed (1)	Normal (2)	Normal (3)
Tunisia	Very Dry	Normal	Normal
Libya	Very Dry	Very Dry	Very Wet
Egypt	Normal*	Normal*	Normal*
Eritrea	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: Very dry in the northeast
(2) Note: Very dry in the west
(3) Note: Dry in the west

Current Status – Caribbean

	Current Status: Temperature				Current Status: Rainfall		
	October	November	December		October	November	December
Caribbean Region	Hot	Hot	Hot		Mixed (1)	Normal (2)	Normal (3)
Haiti	Hot	Hot	Hot		Normal	Normal	Very Wet
Guyana	Hot	Hot	Hot		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: Mostly normal but dry in the Bahamas and Turks and Caicos
(2) Note: Very dry across the Lesser Antilles.
(3) Note: Very wet in northwest, else normal

Current Status – British Overseas Territories

	Current Status: Temperature		
	October	**November**	**December**
Southern Europe	Hot	Hot	Hot
Central Indian Ocean	Hot	Hot	Hot
Central Pacific	Cool	Cold	Normal

	Current Status: Rainfall		
	October	**November**	**December**
Southern Europe	Normal	Dry	Dry
Central Indian Ocean	Very Dry	Normal	Dry
Central Pacific	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:

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: March to August – MENA – Middle East (1)

		Forecast summary		
		February	February to April	May to July
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 wetter than normal	Climatological odds	Climatological odds
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	Climatological odds	Likely to be drier than 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	Climatological odds	Likely to be drier than 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	Climatological odds	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.

Outlook: March to August – MENA – Middle East (2)

		Forecast summary		
		February	February to April	May to July
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	Climatological odds	**Likely to be drier than 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**	Climatological odds	Likely to be near-normal
Yemen	*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

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: March to August – MENA – North Africa(1)

		Forecast summary		
		February	February to April	May to July
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	Likely to be wetter than normal
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 near-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 near-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 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: March to August – MENA – North Africa(2)

		Forecast summary		
		February	February to April	May to July
Libya	*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 near-normal	Climatological odds
Egypt	*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 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 near-normal	Climatological odds	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: March to August – Caribbean

		Forecast summary		
		February	February to April	May to July
Caribbean Region	*Temperature*	Likely to be near-normal in the North; Likely to be warmer than normal in the South	Likely to be warmer than normal	Much more likely to be warmer than normal
	Rainfall	Likely to be wetter than normal in the North; Likely to be drier than normal in the South	Likely to be wetter than normal in the North; Likely to be drier than normal in the South	Likely to be wetter than normal
Haiti	*Temperature*	Climatological odds	Likely to be warmer than normal	Much more likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Likely to be wetter than normal
Guyana	*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	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: March to August – British Overseas Territories

Forecast summary			
	February	**February to April**	**May to July**
Southern Europe — *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
Southern Europe — *Rainfall*	Climatological odds	Likely to be drier than normal	Climatological odds
Central Indian Ocean — *Temperature*	**Much more likely to be warmer than normal**	**Much more likely to be warmer than normal**	Likely to be warmer than normal
Central Indian Ocean — *Rainfall*	**Likely to be wetter than normal**	**Likely to be wetter than normal**	Likely to be wetter than normal
Central Pacific — *Temperature*	Likely to be near-normal	Likely to be colder than normal	Climatological odds
Central Pacific — *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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