Global: Monthly Climate Outlook
August to May

Issued: November 2022

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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

Global Seasonal Outlook – Temperature

Global Seasonal Outlook – Rainfall

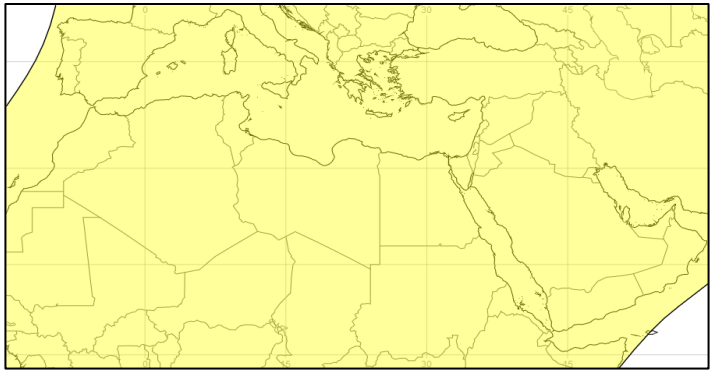
MENA, Caribbean and British Overseas Territories Current Status and Outlook - Temperature

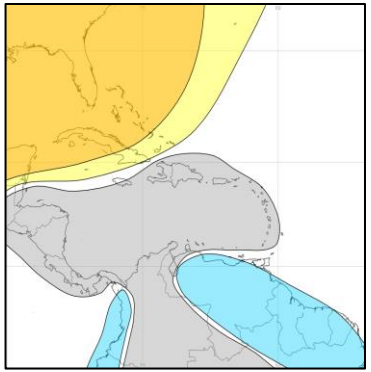
Current Status:

For much of the last three months, most of the MENA region has had above normal temperatures. The main exception has been Yemen which has seen more mixed temperatures. Across the Caribbean temperatures were also mixed, though generally erring towards normal to hot. Hot conditions were most prevalent for the Overseas Territories over the last three months except for the Central Pacific which remained cold.

Outlook:

Warmer than normal conditions are likely across whole MENA region. Much of the Caribbean region is likely to be warmer than normal, though near-normal temperatures are likely for the Lesser Antilles and colder than normal for Guyana.





3-Month Outlook December to February - Temperature

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

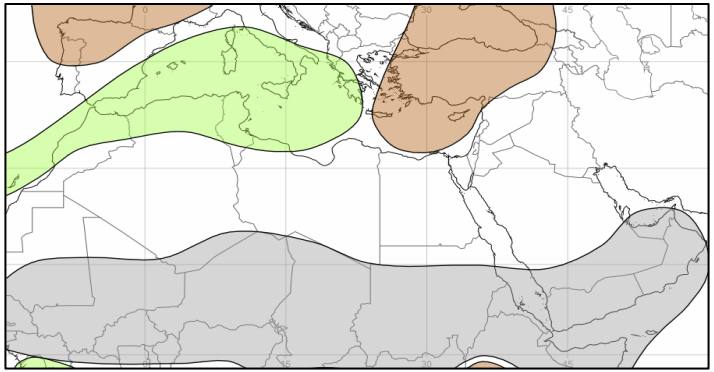
Left: Middle East and North Africa
Right: Caribbean region

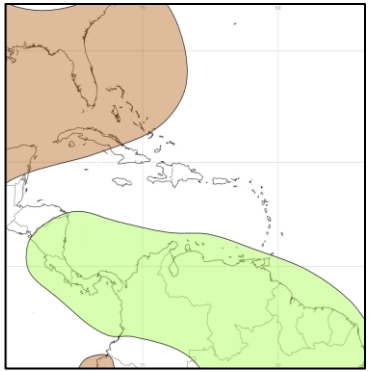
MENA, Caribbean and British Overseas Territories Current Status and Outlook - Rainfall

Current Status: Rainfall across much of MENA was near-normal over the last three months though there is typically little rainfall at this time of year. The main exception was western Yemen which was wet or very wet during August, but normal in September and October. Much of the Caribbean region was dry during August, with more mixed conditions were present in September, with the north of the region wetter than normal . Conditions have been mixed for the British Overseas Territories over the last three months.

Outlook: The northern hemisphere winter tends to be the wettest time of the year for the Levant and North Africa, and the driest for the southern Arabian Peninsula. Over the next three months, southeast Europe, including Turkey, is likely to be drier than normal; wetter than normal conditions are likely across Mediterranean regions of northwest Africa (Morocco, Alegria and Tunisia) and southwest Europe. Across the Caribbean it is likely to be drier than normal in the far north and wetter than normal in the far south.

Tropical Cyclone outlook: The North Atlantic Hurricane season has now ended, though further storms cannot be ruled out in December.





3-Month Outlook December to February - 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

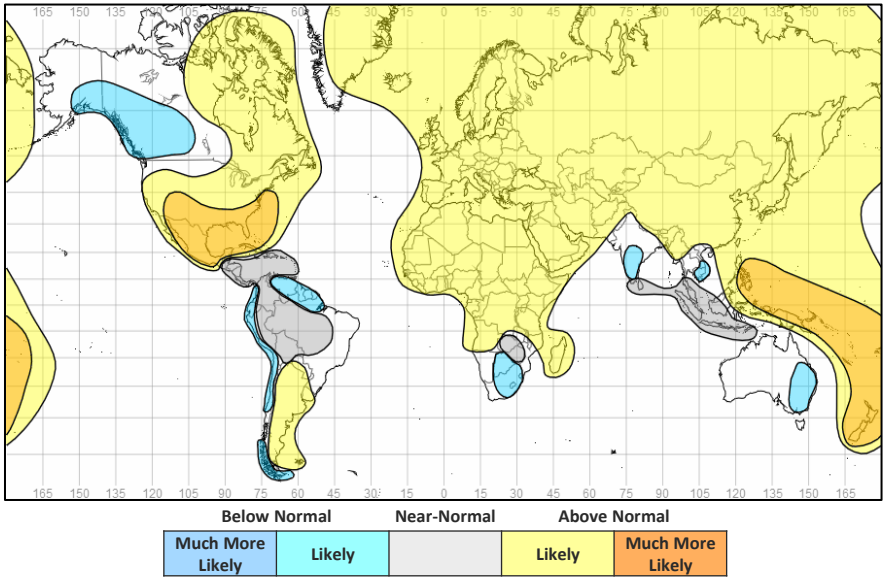
Outlook:

The ongoing La Niña will be the dominant driver of conditions through this period, albeit within the context of background warming trend.

Many regions are likely to be warmer than normal over the next three months. However, there are exceptions as a result of La Niña,including northern South America, Australia, mainland Southeast Asia, southern Africa and parts of India where colder than normal conditions are likely.

Northern hemisphere winter temperatures are likely, or much more likely to be warmer than normal for North America and most of Europe. The exception is western Canada and Alaska where colder than normal conditions are likely. Despite an overall mild winter in Europe, impacts from cold weather are more likely than in recent years, with early season cold snaps more likely.

3-Month Outlook December to February - Temperature



Global Outlook - Rainfall

Outlook:

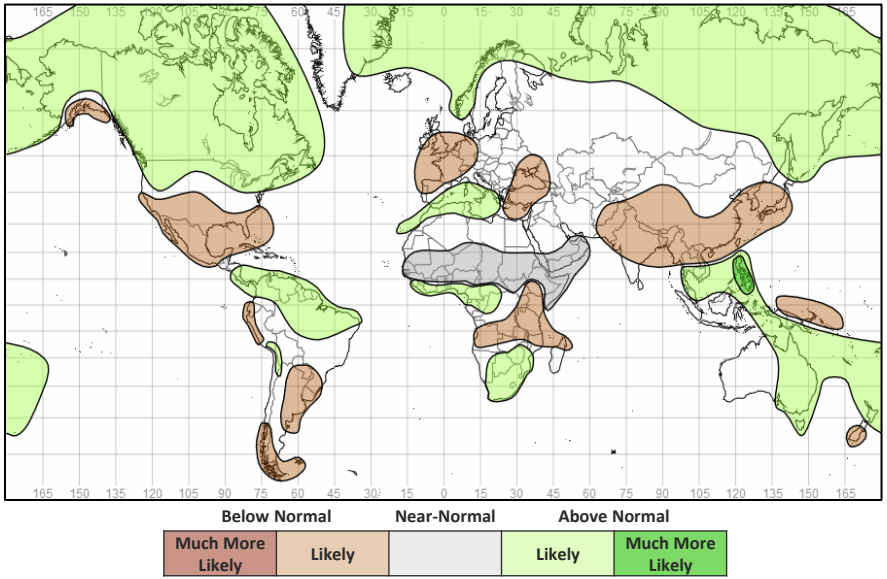
El Niño-Southern Oscillation (ENSO) –La Niña event continues in the tropical Pacific Ocean with oceanic and atmospheric indicators consistent with an ongoing event. The established and ongoing La Niña is major driver of global weather patterns and increases confidence in predictions on seasonal timescales, particularly in the tropics.

Whilst La Niña is present and likely to last through the northern hemisphere winter, there is some uncertainty with respect to its longevity; NOAA suggest 76% chance of La Niña during the northern hemisphere winter (December-February) 2022-23, with a transition to ENSO-neutral (the most likely outcome) during February-April 2023 (57% chance).

La Niña will remain the most dominant driver of global weather patterns over the next few months at least, especially for tropical regions. With a couple of notable exceptions (e.g. East Africa) La Niña, very broadly speaking, tends to increase the likelihood of wetter than normal conditions across many land areas of the tropics. More information on typical impacts can be found here https://www.metoffice.gov.uk/research/climate/seasonal-to-decadal/gpc-outlooks/el-nino-la-nina/enso-impacts

Indian Ocean Dipole (IOD) – Consistent with the seasonal cycle, the current negative IOD event is starting to break down and a return to neutral conditions is expected during December as the southern hemisphere monsoons commence. Some influence of the current negative IOD will be maintained, possibly until mid-December. A negative IOD increases the likelihood of wet conditions across Southeast Asia and much of Australia, and dry conditions across East Africa.

3-Month Outlook December to February - Rainfall



Current Status

Current Status maps

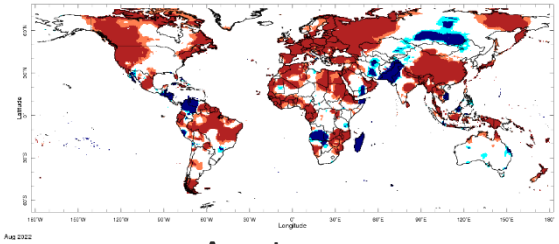
MENA – Middle East

MENA – North Africa

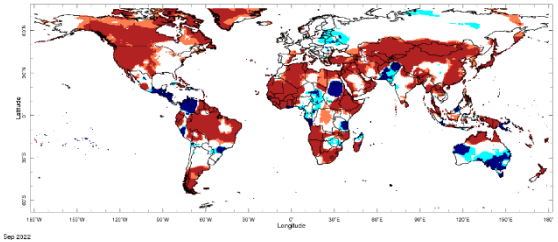
Caribbean

British Overseas Territories

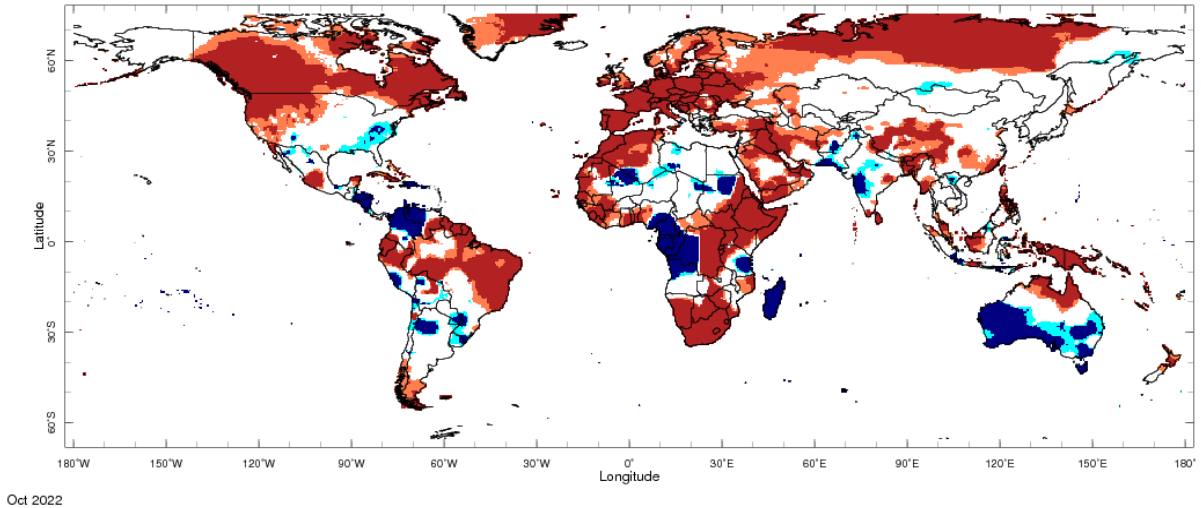
Current Status – Temperature percentiles



August



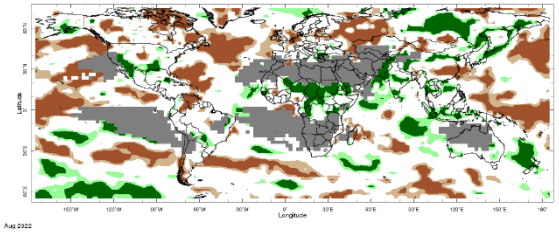
September



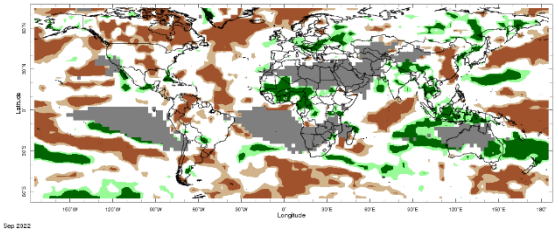
October

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.

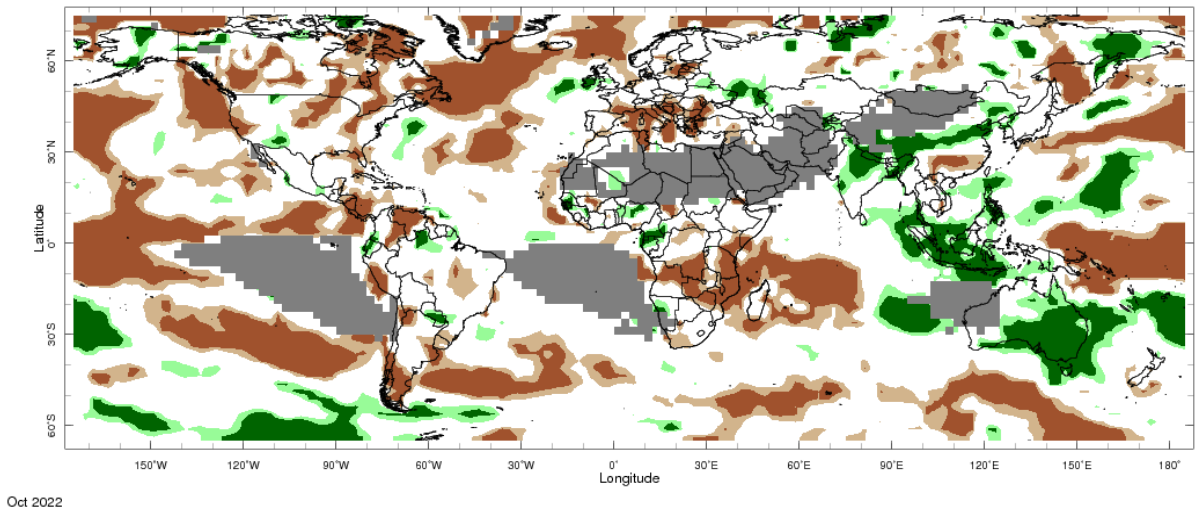
Current Status – Precipitation percentiles



August



September



September

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		
	August	September	October	August	September	October
Turkey	Hot	Hot	Warm	Mixed (1)	Normal	Normal
Palestine	Hot	Hot	Hot	Normal*	Normal*	Dry
Lebanon	Hot	Hot	Hot	Normal*	Normal*	Dry
Jordan	Hot	Hot	Warm	Normal*	Normal*	Normal*
Syria	Hot	Hot	Normal	Normal*	Normal*	Dry
Iraq	Hot	Hot	Hot	Normal*	Normal*	Normal
Yemen	Mixed (2)	Normal	Hot	Mixed (1)	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 Wet in west, normal in east.
(2) Note: Normal in west, cold in east.

Current Status – MENA – North Africa

	Current Status: Temperature			Current Status: Rainfall		
	August	September	October	August	September	October
Mauritania	Mixed (1)	Hot	Mixed (1)	Normal*	Mixed (4)	Normal*
Morocco	Hot	Normal	Hot	Normal*	Normal*	Normal
Algeria	Hot	Hot	Mixed (2)	Normal*	Normal*	Normal
Tunisia	Hot	Hot	Hot	Normal*	Normal*	Very Dry
Libya	Mixed (2)	Mixed (2)	Normal	Normal*	Normal*	Normal*
Egypt	Hot	Mixed (3)	Normal	Normal*	Normal*	Normal*
Eritrea	Hot	Hot	Hot	Very Wet	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: Hot in north and west.
(2) Note: Large variations across the country.
(3) Note: Hot in the north, cold in the south.
(4) Note: Very wet in the south, normal elsewhere.

Current Status – Caribbean

	Current Status: Temperature			Current Status: Rainfall		
	August	September	October	August	September	October
Caribbean Region	Mixed (1)	Mixed (1)	Hot	Mixed (2)	Mixed (2)	Normal
Haiti	Normal	Normal	Cold	Normal	Normal	Normal
Guyana	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: Large variations across the region
(2) Note: Mostly normal/dry, but very wet in the north.

Current Status – British Overseas Territories

	Current Status: Temperature			Current Status: Rainfall		
	August	September	October	August	September	October
Southern Europe	Hot	Hot	Hot	Normal*	Normal*	Dry
Central Indian Ocean	Normal	Normal	Cold	Dry	Dry	Dry
Central Pacific	Cold	Cold	Cold	Wet	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

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

		Forecast summary		
		December	December to February	March to May
Turkey	*Temperature*	Climatological odds	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	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Climatological odds	Climatological odds
Lebanon	*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
Jordan	*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 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		
		December	December to February	March to May
Syria	*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
Iraq	*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
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	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(1)

		Forecast summary		
		December	December to February	March to May
Mauritania	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Likely to be near-normal	Climatological odds	Climatological odds
Morocco	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Likely to be near-normal	Likely to be wetter than normal	Climatological odds
Algeria	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Climatological odds	Likely to be wetter than normal in the north; Climatological odds elsewhere	Climatological odds
Tunisia	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Climatological odds	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: March to August – MENA – North Africa(2)

		Forecast summary		
		December	December to February	March to May
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 wetter than normal in the far northwest; Climatological odds elsewhere	Climatological odds
Egypt	*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	Climatological odds	Climatological odds
Eritrea	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds

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		
		December	December to February	March to May
Caribbean Region	*Temperature*	Likely to be near-normal	Likely to be near-normal	Climatological odds
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Haiti	*Temperature*	Likely to be near-normal	Likely to be near-normal	Climatological odds
	Rainfall	Likely to be drier than normal	Climatological odds	Climatological odds
Guyana	*Temperature*	Likely to be colder than normal	Likely to be colder than normal	Climatological odds
	Rainfall	Likely to be wetter than 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: March to August – British Overseas Territories

		Forecast summary		
		December	December to February	March to May
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 wetter than normal in the west; Likely to be drier than normal in the east	Likely to be wetter than normal in the west; Likely to be drier than normal in the east	Climatological odds
Central Indian Ocean	*Temperature*	Likely to be near-normal	Likely to be colder than normal	Likely to be near-normal
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Climatological odds
Central Pacific	*Temperature*	Likely to be colder than normal	Likely to be colder than normal	Climatological odds
	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/sst

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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