Global: Monthly Climate Outlook September to June

Issued: December 2024

Overview

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

Current Status: The Caribbean Region has been hot over the past three months while more mixed conditions were observed over Colombia and Venezuela. Warm or hot conditions have prevailed over MENA for much of the past three months although temperatures in Syria and Iraq were normal. Temperatures returned back to normal across many regions during October and November.

Outlook: Warmer than normal conditions are likely across the MENA, southern Europe and the Caribbean. For large parts of Syria and Iraq, temperature predictions are more finely balanced and, whilst a prolonged spell of cold weather is unlikely, occasional cold snaps are possible throughout the period. Meanwhile, near normal temperature are expected across northern parts of South America.
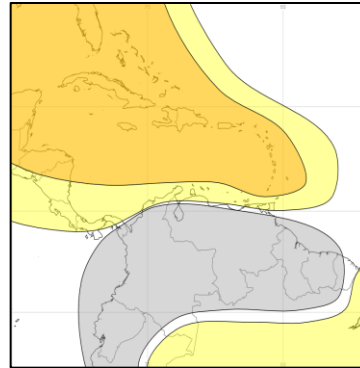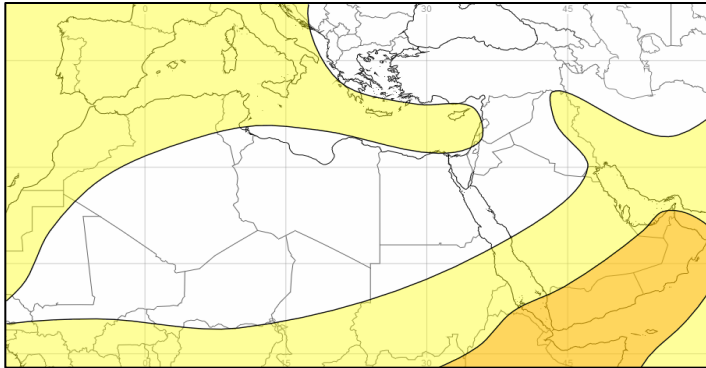
3-Month Outlook January to March - Temperature

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

Left: Middle East and North Africa
Right: Caribbean region

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

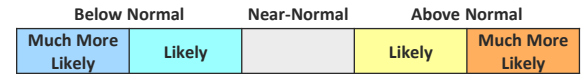**Current Status:** Normal conditions were mostly observed across much of MENA between September and November, although parts of Syria and Iraq have ben wet in November. Widely dry conditions were observed in September across the Caribbean, with October being more mixed and November very wet across Haiti, Turks and Caicos and BVI. Very dry conditions have prevailed across Venezuela, Guyana and much of Colombia.

Outlook: For many parts of the MENA, the climatological chance of rainfall tends to increase into winter, although for countries such as Yemen the converse is true. Across northern parts of the region, seasonal systems favour drier than normal conditions through the coming three months. The northern half of Caribbean is more likely to be drier than normal, whilst the southern half of the Caribbean, mainly the Lesser Antilles is more likely to be wetter than normal. Across South America, wetter than normal conditions are very likely across Columbia. The chance of wetter than normal conditions is lower across Guyana and Venezuela and confined to the south of both countries.

Tropical Cyclones: The North Atlantic season is now over.
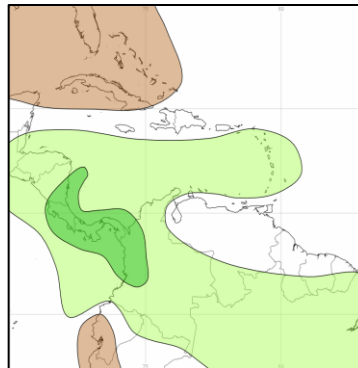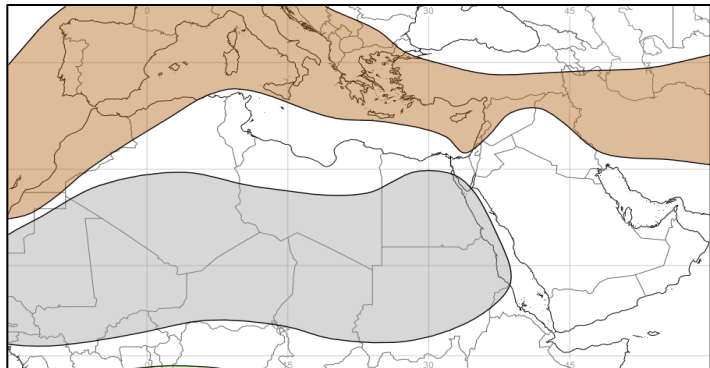
3-Month Outlook January to March - Rainfall

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: Weak La Niña is likely to develop and persist over the next three months, transitioning back to ENSO-Neutral in the northern hemisphere spring. More details in the precipitation section.

Many parts of the globe are likely to see warmer than normal conditions through the next three months. However, consistent with a developing La Niña, parts of Alaska, western Canada, and the Pacific coastlines of South America are more likely to be colder than normal.

3-Month Outlook January to March - Temperature

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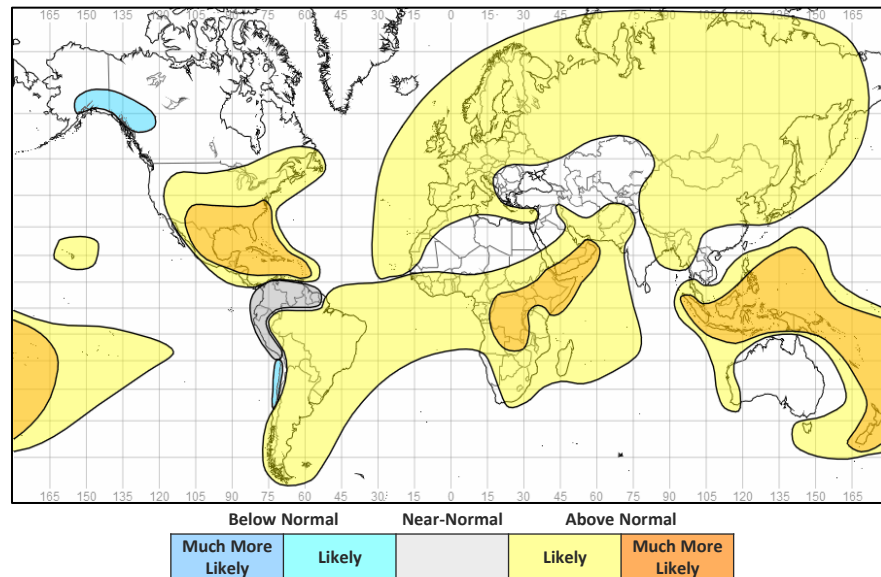
Global Outlook - Rainfall

Outlook:

El Niño-Southern Oscillation (ENSO) – Weak La Niña conditions are most likely over the next three months, followed by a return to ENSO-neutral in the northern hemisphere spring. The La Nina has yet to be formally declared as conditions have not yet been in place for a long enough period . Equatorial sea surface temperatures across the central and eastern Pacific are slightly below average. Atmospheric indicators, such as increased trade wind strength and dateline cloudiness, are now indicating that some weak ocean-atmosphere coupling may now be underway. A transition to La Niña would improve the predictability of global weather patterns on seasonal timescales, particularly in the tropics, though its influence may not be as strong as some La Niña events over recent years.

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 Diploe (IOD) – The IOD is now at neutral levels and is expected to remain so throughout this period. Negative-like IOD conditions were observed through much of October and November, however, this event was never officially declared by the Bureau of Meteorology (BoM), falling short by just one week of the necessary 7 consecutive weeks of an IOD index below -0.4°C.

3-Month Outlook January to March - Rainfall

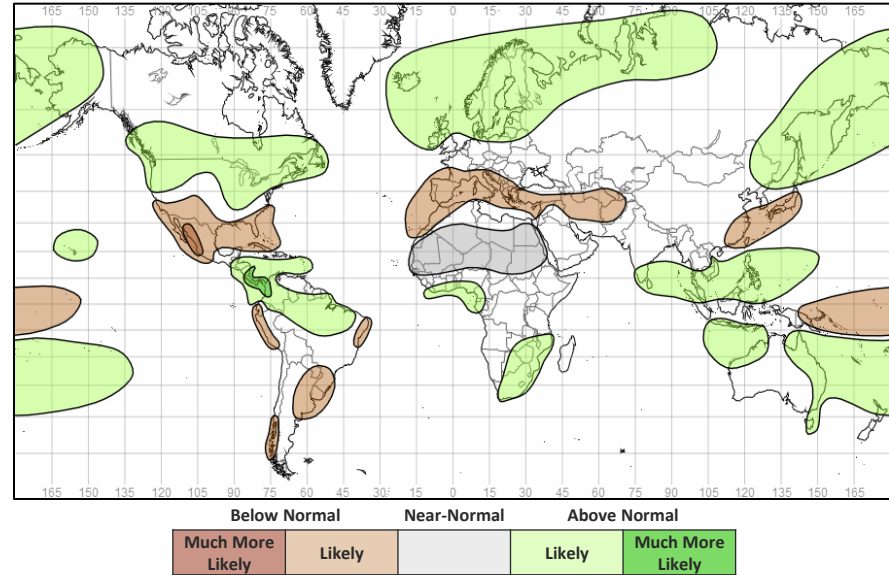| Below Normal		Near-Normal	Above Normal	
Much More Likely	Likely		Likely	Much More Likely

Current Status

Current Status – Temperature percentiles
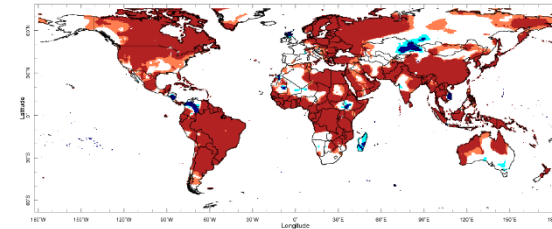
September

October

November

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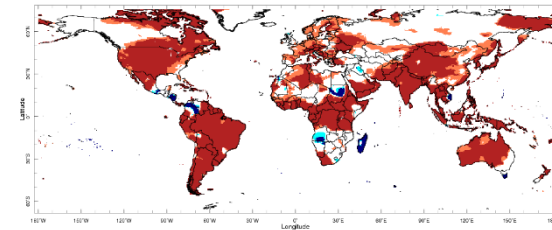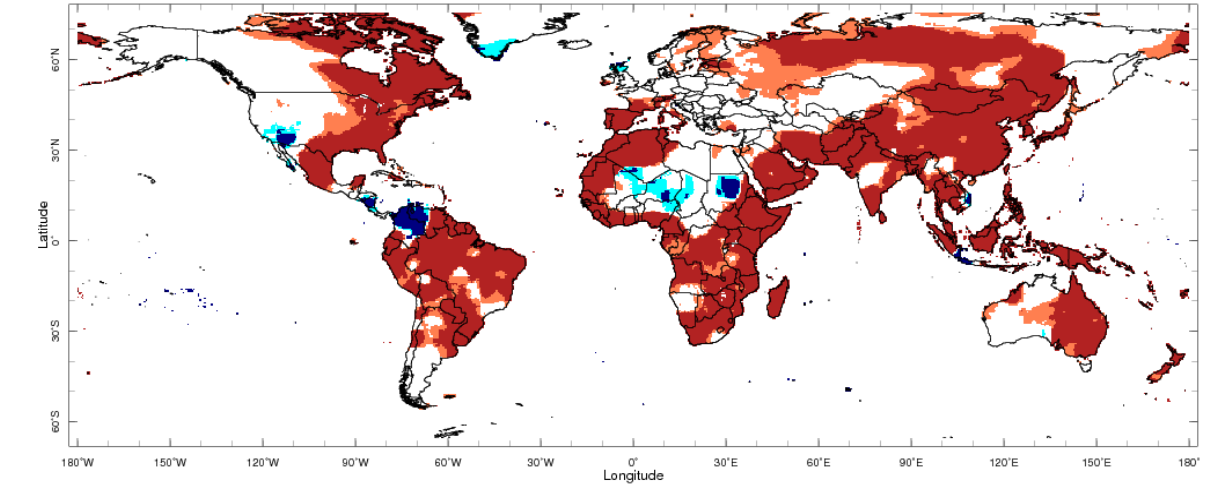
Notes: The percentiles shown in the map indicate a ranking of temperature, with the 0th percentile being the coolest and the 100th percentile being the warmest in the 1981-2010 climatology. Orange and red shading represent values above the 80th (Warm) and 90th (Hot) percentile, respectively; regions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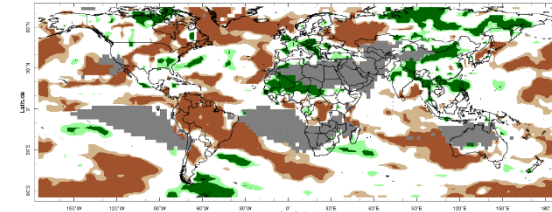
September

October

November

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 |
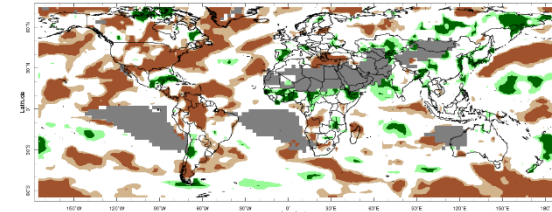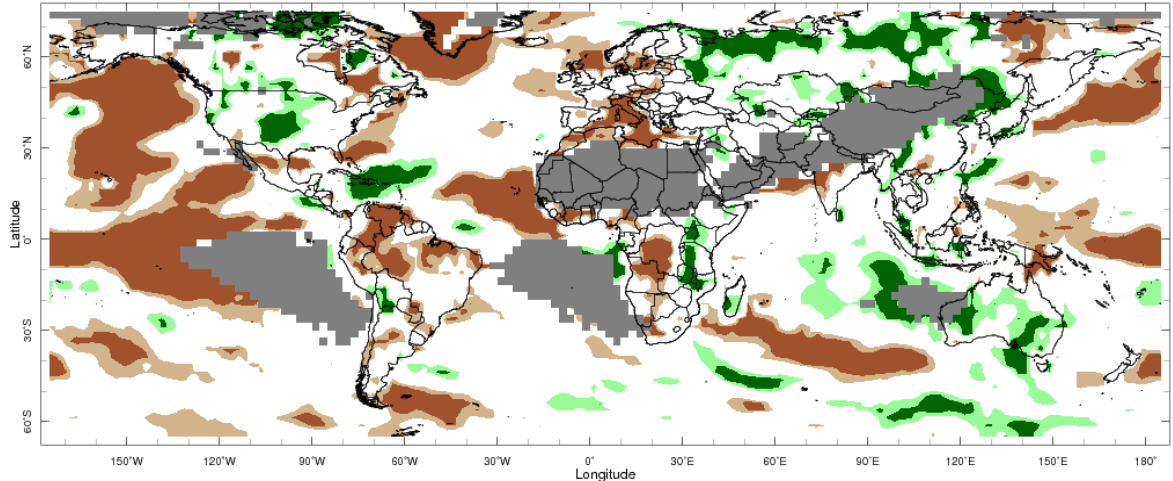
Notes: The percentiles shown in the map indicate a ranking of rainfall, with the 0th percentile being the driest and the 100th percentile being the wettest in the 1981-2010 climatology. Green and dark green shading represent values above the 80th (Wet) and 90th (Very Wet) percentile, respectively; regions 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		
	September	October	November		September	October	November
Turkey	Hot (1)	Normal (2)	Normal (2)		Wet	Mixed (4)	Normal
Palestine	Warm	Normal	Normal		Normal*	Normal*	Normal
Lebanon	Warm	Normal	Normal		Normal*	Dry	Normal
Jordan	Warm	Normal	Normal		Normal*	Normal*	Normal
Syria	Normal	Normal	Normal		Normal*	Dry	Wet
Iraq	Normal (3)	Cool	Normal (3)		Normal*	Normal*	Wet
Yemen	Warm	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: Normal in the east
(2) Note: Hot in the west
(3) Note: Hot in the east
(4) Note: Normal in the north and west, very dry in the south and west

Current Status – MENA – North Africa

Current Status: Temperature			
	September	**October**	**November**
Morocco	Normal	Normal	**Hot**
Algeria	Normal	Mixed (1)	Mixed (4)
Tunisia	**Warm**	**Hot**	**Hot**
Libya	**Hot (2)**	Mixed (3)	Mixed (3)
Egypt	**Hot**	Normal	Normal
Eritrea	**Hot**	**Hot**	**Hot**

Current Status: Rainfall			
	September	**October**	**November**
Morocco	Normal	Normal	**Dry**
Algeria	Normal	Normal	**Dry**
Tunisia	Normal	Normal	**Dry**
Libya	Normal*	Normal*	**Dry**
Egypt	Normal*	Normal*	Normal*
Eritrea	**Wet**	**Wet**	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: Normal in west, hot in east
(2) Note: Cool in northwest
(3) Note: Normal, but Hot in the west
(4) Note: Hot in the north, cool in the south

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Current Status – Caribbean and Central America

	Current Status: Temperature		
	September	**October**	**November**
Caribbean Region	Hot	Hot	Warm
Haiti	Hot	Hot	Normal
Guyana	Hot	Hot	Hot
Venezuela	Mixed (1)	Mixed (1)	Mixed (1)
Columbia	Cool	Mixed (5)	Mixed (6)

	Current Status: Rainfall		
	September	**October**	**November**
Caribbean Region	Dry	Mixed (2)	Very Wet (7)
Haiti	Dry	Normal	Very Wet
Guyana	Very Dry	Normal (4)	Dry
Venezuela	Very Dry	Very Dry	Very Dry
Columbia	Very Dry	Mixed (3)	Mixed (3)

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 the east and cool or cold in the west
(2) Note: Very wet in Cuba, dry for much of the Lesser Antilles, else normal.
(3) Note: Normal in the west, dry or very dry in the east
(4) Note: Dry in the south
(5) Note: Normal, but hot in the west and cool in the east
(6) Note: Cold in the north, hot in the south
(7) Note: Normal Windward Islands

Current Status – British Overseas Territories

	Current Status: Temperature			Current Status: Rainfall		
	September	October	November	September	October	November
Southern Europe	Mixed (1)	Normal	Mixed (2)	Normal	Mixed (3)	Normal
Central Indian Ocean	Normal	Normal	Normal	Normal	Normal	Wet
Central Pacific	Normal	Normal	Cold	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: Normal in Gibraltar, hot in Cyprus
(2) Note: Hot in Gibraltar, normal in Cyprus
(3) Note: Very wet in Gibraltar, very dry in Cyprus

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		
		January	January to March	April to June
Turkey	*Temperature*	Likely to be warmer than normal	Climatological odds	Likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Likely to be drier than normal in the south, Climatological odds in the north	Climatological odds
Palestine	*Temperature*	Likely to be warmer than normal	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*	Likely to be warmer than normal	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*	Likely to be warmer than normal	Climatological odds	Likely to be warmer than normal
	Rainfall	Climatological odds	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		
		January	January to March	April to June
Syria	*Temperature*	Likely to be warmer than normal	Climatological odds	Likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Climatological odds in the southeast, Likely to be drier than normal elsewhere	Climatological odds
Iraq	*Temperature*	Likely to be warmer than normal	Climatological odds	Likely to be warmer than normal
	Rainfall	Climatological odds	Likely to be drier than normal in the north, Climatological odds elsewhere	Climatological odds
Yemen	*Temperature*	Likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be near-normal	Climatological odds	Climatological odds

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		
		January	January to March	April to June
Mauritania	*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
Morocco	*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	Climatological odds
Algeria	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal in the north, Climatological odds elsewhere	Likely to be warmer than normal
	Rainfall	Likely to be near-normal	Likely to be drier than normal in the north, Likely to be near-normal in the south	Climatological odds
Tunisia	*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

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		
		January	January to March	April to June
Libya	*Temperature*	**Likely to be warmer than normal**	Climatological odds	Likely to be warmer than normal
	Rainfall	**Likely to be near-normal**	**Likely to be near-normal**	Climatological odds
Egypt	*Temperature*	**Likely to be warmer than normal**	Climatological odds	Likely to be warmer than normal
	Rainfall	**Likely to be near-normal**	**Likely to be near-normal**	Climatological odds
Eritrea	*Temperature*	**Much more likely to be warmer than normal**	**Likely to be warmer than normal**	Likely to be warmer than normal
	Rainfall	**Likely to be 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 and Central America (1)

		Forecast summary		
		January	January to March	April to June
Caribbean Region	*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 drier than normal** across the Lesser Antilles, Likely to be drier than normal in Turks and Caicos, Climatological odds elsewhere	Climatological odds
Haiti	*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**	Climatological odds	Climatological odds
Guyana	*Temperature*	**Much more likely to be warmer than normal**	Likely to be near-normal	Climatological odds
	Rainfall	Climatological odds	**Likely to be wetter than normal** in the south, Climatological odds elsewhere	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: March to August – Caribbean and Central America (2)

		Forecast summary		
		January	January to March	April to June
Venezuela	*Temperature*	**Much more likely to be warmer than normal**	Likely to be near-normal	Climatological odds
	Rainfall	Climatological odds	**Likely to be wetter than normal** in the south, Climatological odds elsewhere	Likely to be wetter than normal
Columbia	*Temperature*	**Likely to be warmer than normal**	Likely to be near-normal	Climatological odds
	Rainfall	**Likely to be wetter than normal**	**Likely to be wetter 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: March to August – British Overseas Territories

		Forecast summary		
		January	January to March	April to June
Southern Europe	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Climatological odds
Central Indian Ocean	*Temperature*	Much more likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Central Pacific	*Temperature*	Likely to be near-normal	Likely to be warmer than normal	Climatological odds
	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.

Outlooks

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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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