

Global: Monthly Climate Outlook September to June

Issued: December 2023

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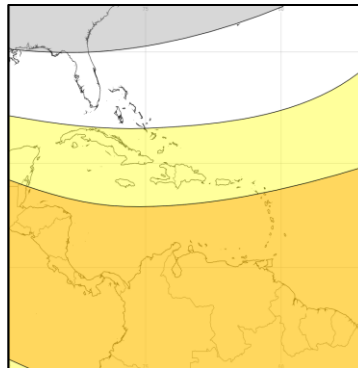
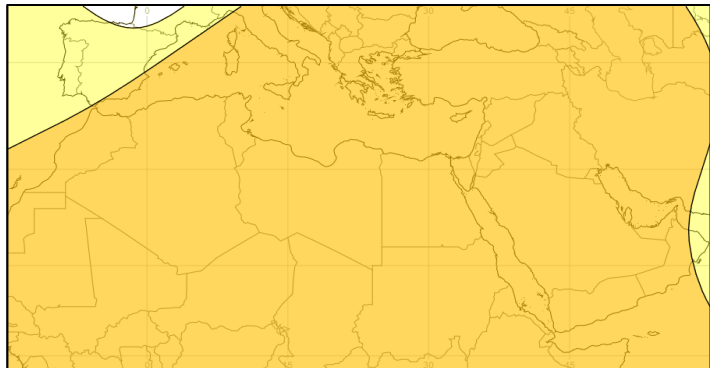
MENA, Caribbean and British Overseas Territories Current Status and Outlook - Temperature

Current Status:

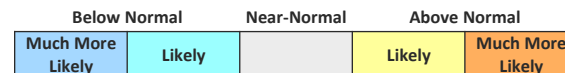
Across the MENA region, the Caribbean and the British Overseas Territories temperatures were warm or hot over the last three months. The exception to this has been the British Overseas Territories in the central Pacific which have been cool or cold.

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. Again, the exception to this is the British Overseas Territories in the central Pacific which are likely to be colder than normal.



3-Month Outlook January to March - Temperature



Left: Middle East and North Africa

Right: Caribbean region

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

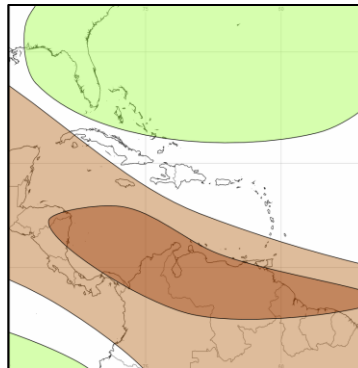
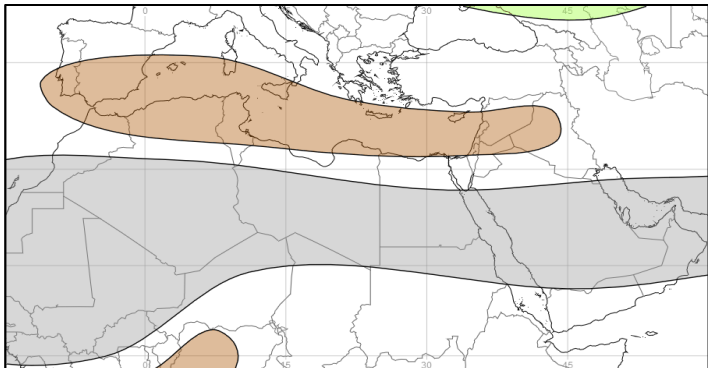
Current Status:

Across most of the Middle East, rainfall was near-normal over the last three months, exceptions being parts of Turkey and Syria which were wet in November. In North Africa, the Caribbean and British Overseas Territories it was near-normal in September, and dry in October and November.

Outlook:

Over the next three months, in many parts of the Middle East, it is likely to be drier than normal. North Africa is mainly likely to be near-normal, with some northern parts likely to be drier than normal. In the Caribbean, it is likely to be wetter than normal in the north and drier than normal in the south.

Tropical Cyclone outlook: The 2023 Atlantic hurricane season ended at the end of November. The latest forecast, issued 01 August 2023, suggested a more active than usual North Atlantic tropical storm seasonal in 2023 - 19 named storms predicted (1991-2020 long-term average – 14), 9 hurricanes (long-term average – 7) and 6 major hurricanes (long-term average – 3). The full forecast can be found [here](#). The 2023 Atlantic hurricane season was the fourth-most active season on record with 20 named storms forming, 7 of which were hurricanes with three of these classified as major hurricanes.



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

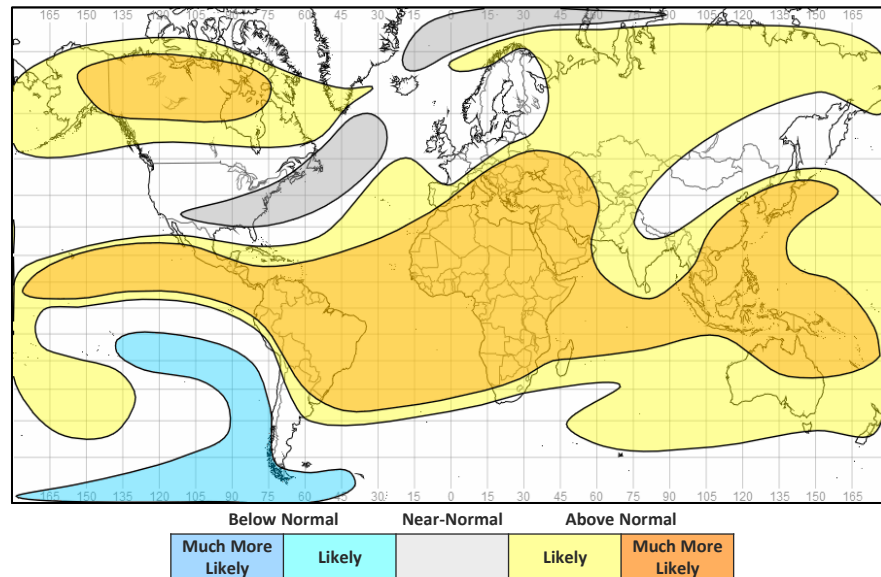
Right: Caribbean region

Global Outlook - Temperature

Outlook:

With the backdrop of a warming climate and the current El Niño event, most land areas are likely or much more likely to be warmer than normal over the next few months. Exceptions to this include the southern tip of South America, which is likely to be colder than normal, and parts of North America which are likely to be near-normal.

3-Month Outlook January to March - Temperature



Global Outlook - Rainfall

Outlook:

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

Seasonal prediction models indicate this El Niño event is likely to continue the Northern Hemisphere winter with a transition to ENSO Neutral becoming more likely during April-June 2024 (60% chance).

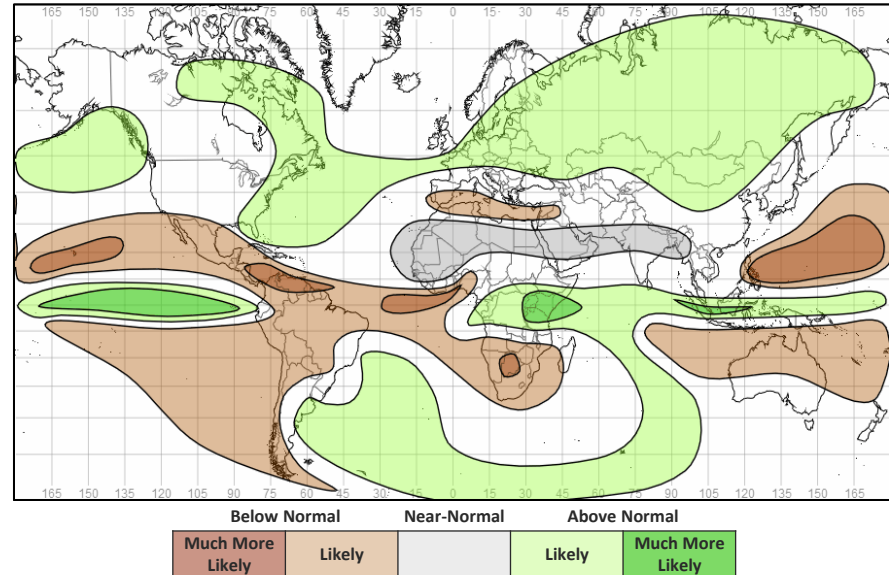
El Niño impacts regional weather patterns around the world, leading to some regions experiencing wetter than normal conditions and other regions drier than normal conditions. During El Niño, temperatures around the globe are likely or much more likely to be higher than normal, and this is reflected in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

Indian Ocean Dipole (IOD) – The positive Indian Ocean Dipole event remains active but is steadily weakening.

Seasonal prediction systems currently suggest that this event will return to neutral conditions early in 2024

This will reinforce the influence of El Niño, further increasing the likelihood of drought across Southeast Asia (especially Indonesia) and Australia, with above normal rainfall across East Africa, increasing the risk of floods.

3-Month Outlook January to March - Rainfall



Current Status

[Current Status maps](#)

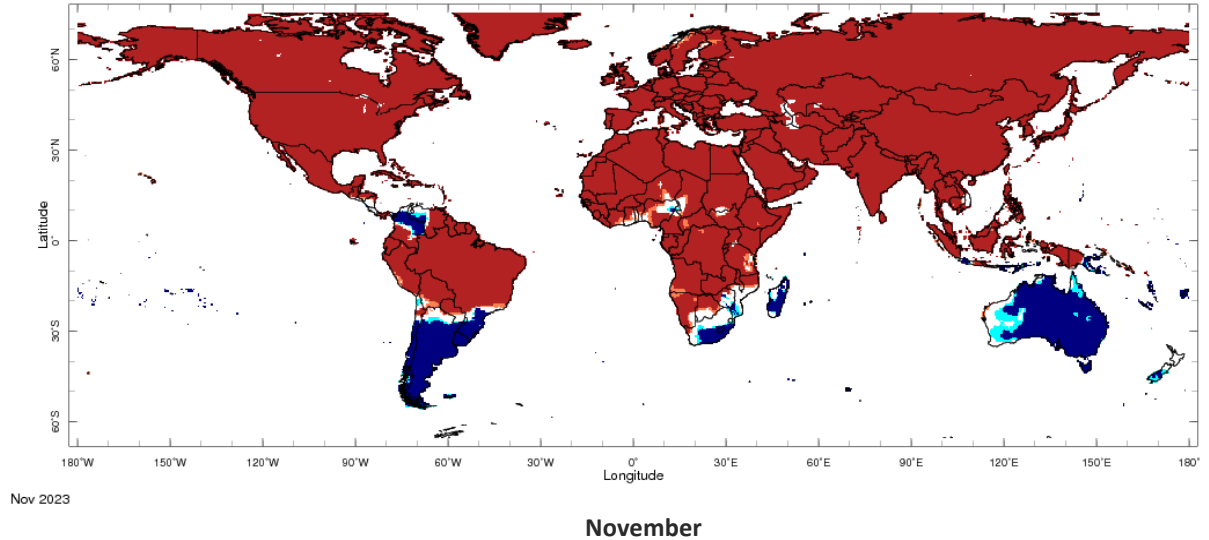
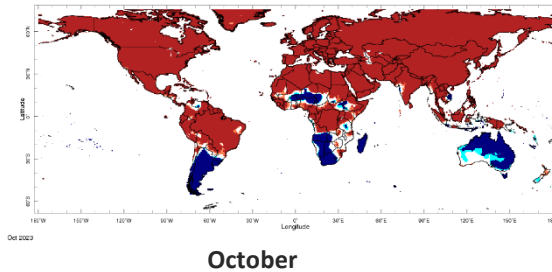
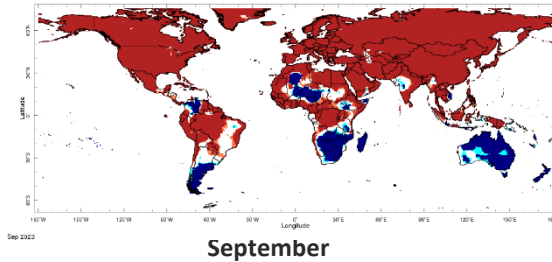
[MENA – Middle East](#)

[MENA – North Africa](#)

[Caribbean](#)

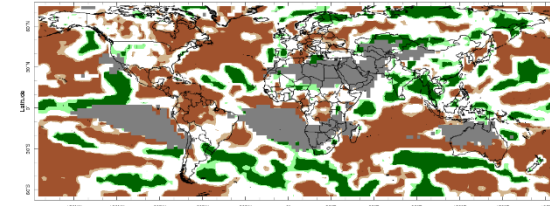
[British Overseas Territories](#)

Current Status – Temperature percentiles

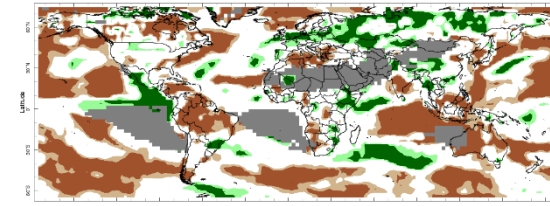


Notes: The percentiles shown in the map indicate a ranking of temperature, with the 0th percentile being the coolest and the 100th percentile being the warmest in the 1981-2010 climatology. Orange and red shading represent values above the 80th (Warm) and 90th (Hot) percentile, respectively; regions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

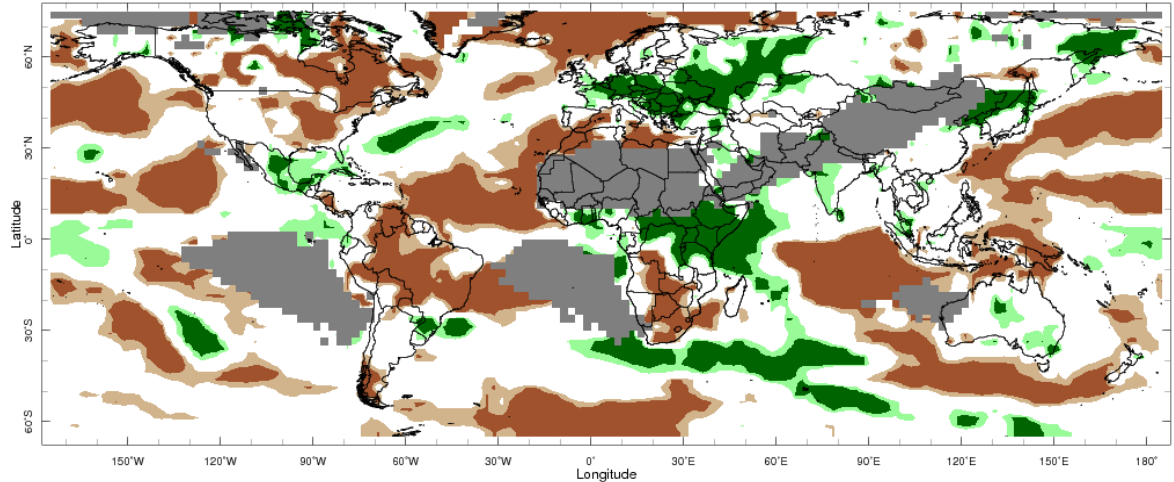
Current Status – Precipitation percentiles



September



October



November



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

	September	October	November
Turkey	Hot	Hot	Hot
Palestine	Hot	Hot	Hot
Lebanon	Hot	Hot	Hot
Jordan	Hot	Hot	Hot
Syria	Hot	Hot	Hot
Iraq	Hot	Hot	Hot
Yemen	Hot	Hot	Hot

Current Status: Rainfall

September	October	November
Normal	Mixed (1)	Wet (2)
Normal*	Normal*	Normal
Normal*	Normal*	Normal
Normal*	Normal*	Normal
Normal*	Normal	Wet (3)
Normal*	Normal*	Normal
Normal*	Normal*	Normal*

Notes:

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

<http://iridl.ldeo.columbia.edu/maproom/>.

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

Additional Information:

(1) Note: Very Dry in the west, normal in the east

(2) Note: Normal in central regions

(3) Note: Normal in the west

Current Status – MENA – North Africa

Current Status: Temperature

	September	October	November
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

September	October	November
Mixed (1)	Very Dry	Normal*
Normal	Normal	Very Dry
Mixed (2)	Mixed (2)	Normal (3)
Very Dry	Very Dry	Normal
Normal*	Very Dry	Very Dry
Normal*	Normal*	Normal*
Very Dry	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: Wet in the northeast, dry in southeast, normal elsewhere

(2) Note: Very dry in the northeast

(3) Note: Very dry in the west

Current Status – Caribbean

	Current Status: Temperature		
	September	October	November
Caribbean Region	Hot	Hot	Hot
Haiti	Hot	Hot	Hot
Guyana	Hot	Hot	Hot

	Current Status: Rainfall		
	September	October	November
Caribbean Region	Very Dry	Mixed (1)	Normal (2)
Haiti	Dry	Normal	Normal
Guyana	Very Dry	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.

Current Status – British Overseas Territories

	Current Status: Temperature		
	September	October	November
Southern Europe	Hot	Hot	Hot
Central Indian Ocean	Hot	Hot	Hot
Central Pacific	Cool	Cool	Cold

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

Notes:

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

<http://iridl.ldeo.columbia.edu/maproom/>.

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

Additional Information:

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		
		January	January to March	April to June
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		
		January	January to March	April to June
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(2)

		Forecast summary		
		January	January to March	April to June
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

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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	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 – Caribbean

		Forecast summary		
		January	January to March	April to June
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		
		January	January to March	April to June
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
	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
	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
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Likely to be drier than normal

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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 CPTC (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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