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Global: Monthly Climate Outlook September to June

Issued: December 2021

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Overview

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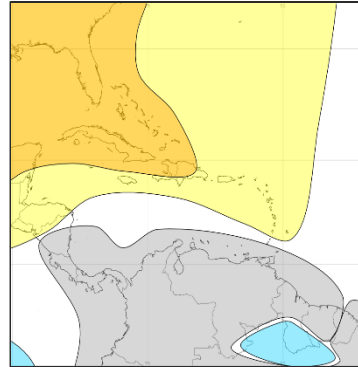
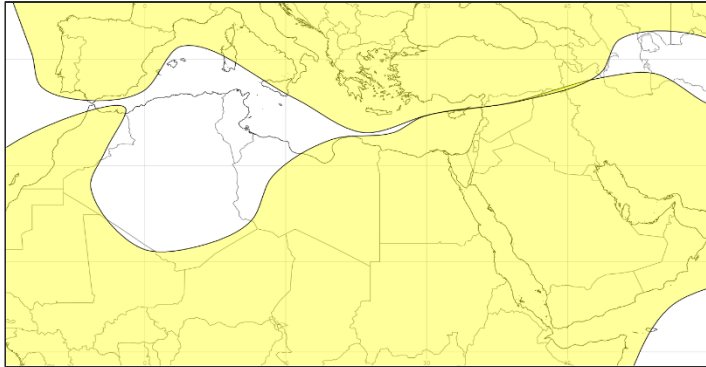
MENA, Caribbean and British Overseas Territories Current Status and Outlook - Temperature

Current Status:

Across the Middle East and North Africa, during September and October, temperature conditions were mixed. However, with the exception of western parts of North Africa where coastal countries were cold, widely hot conditions were observed during November. The Caribbean region was generally warm over the last 3 months.

Outlook:

For the next three months, temperatures are likely to be warmer than normal for the Middle East, much of North Africa, and the Caribbean - except for Guyana.



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

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

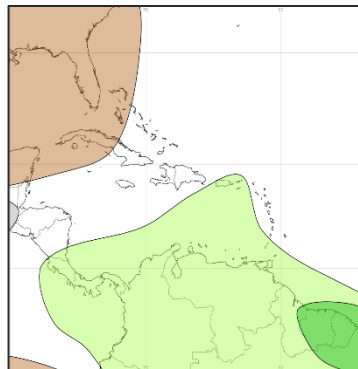
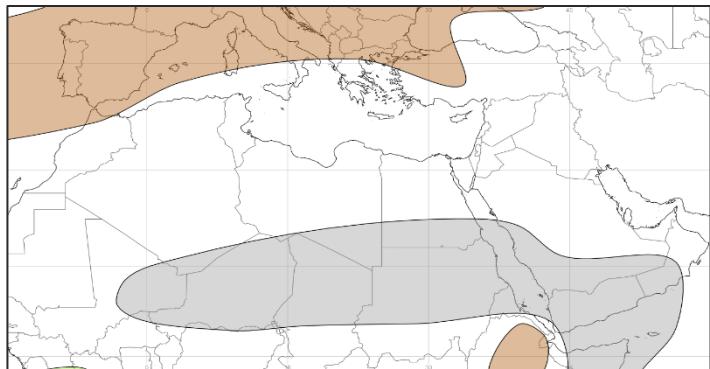
Current Status:

November tends to be the beginning of the wetter season for North Africa and the northern parts of the Middle East; however, some areas have experienced drier than normal conditions.

During September to November, much of the Caribbean region was drier than normal although Haiti and Guyana experienced normal or above normal rainfall.

Outlook:

Parts of the Caribbean region are likely to be wetter than normal.



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

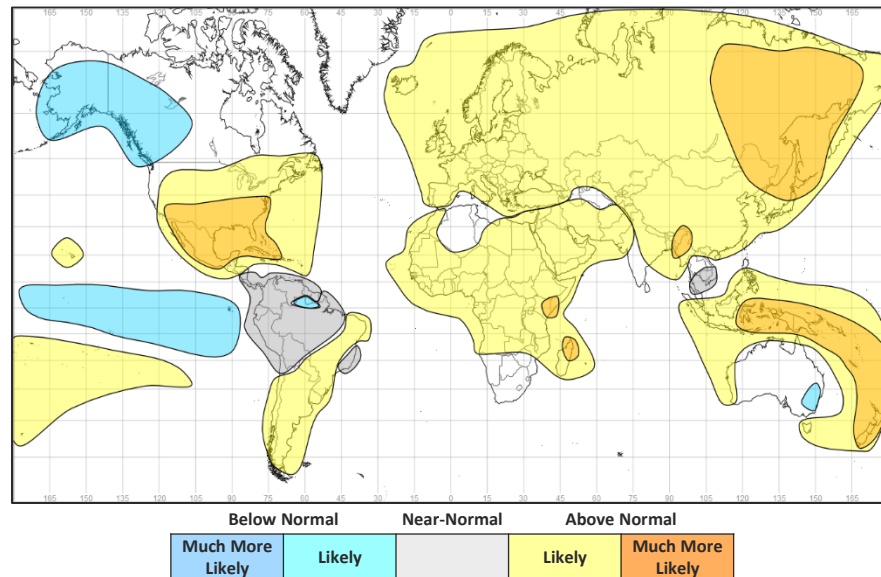
Global Outlook - Temperature

Outlook:

A moderate La Niña event will be the main driver of temperature and rainfall anomalies across the tropics over the next 3 months. La Niña's influence will also extend further north and south (see also the precipitation section).

Consistent with long-term climate change, many parts of the globe are likely to see above normal temperatures over the next three months. However, one of the key characteristics of La Niña is a cooling of the surface seawaters of the central and eastern tropical Pacific Ocean. This means near or below normal temperatures are likely for northern South America, parts of mainland Southeast Asia, southeast Australia and northwest North America.

3-Month Outlook January to March - Temperature



Global Outlook - Rainfall

Outlook:

El Niño-Southern Oscillation (ENSO) – A moderate La Niña is ongoing in the tropical Pacific with its influence expected to persist throughout the next three months. It is uncertain how long the current La Niña state will continue, but there are signals that it may end during the austral autumn (March-April-May).

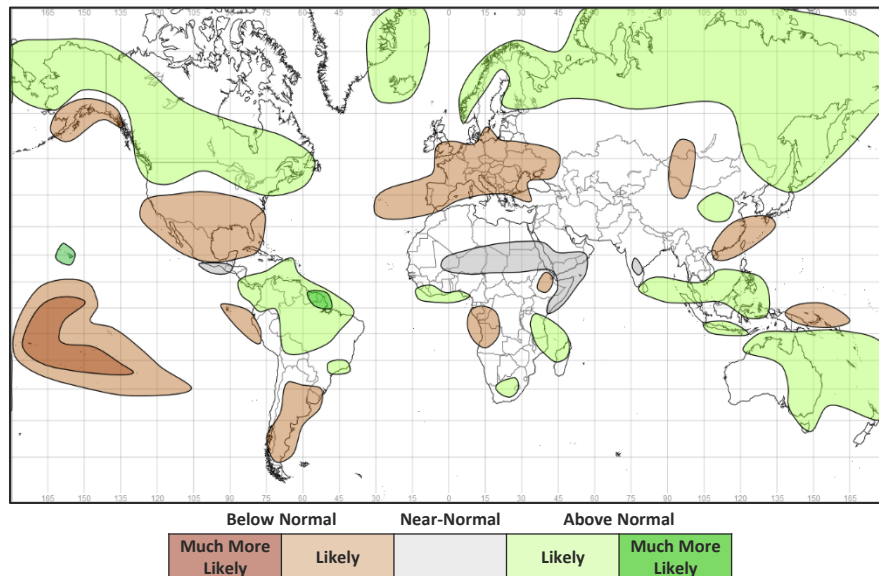
With a couple of notable exceptions (including East Africa) La Niña, very broadly speaking, tends to increase the likelihood of wetter than normal conditions across many land areas of the tropics. More information on typical impacts can be found at

<https://www.metoffice.gov.uk/research/climate/seasonal-to-decadal/gpc-outlooks/el-nino-la-nina/enso-impacts>

For the next three months, the outlook for North America and Eurasia is also broadly consistent with the typical influence of La Niña, with northern parts of both continents likely to see wetter than normal conditions. Parts of East Africa, Mexico, the south of the USA, western and southern Europe and parts of southern Eurasia are likely to be drier than normal.

Indian Ocean Dipole (IOD) – The IOD returned to a neutral state during early November and is expected to remain neutral throughout January to March and will have little effect on global climate during this period.

3-Month Outlook January to March - Rainfall



Current Status

[Current Status maps](#)

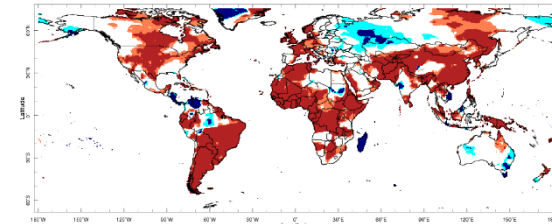
[MENA – Middle East](#)

[MENA – North Africa](#)

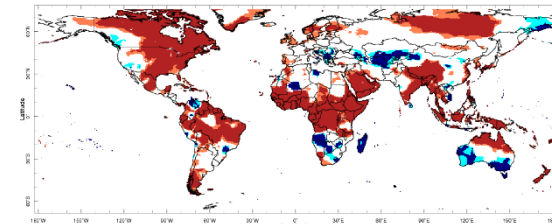
[Caribbean](#)

[British Overseas Territories](#)

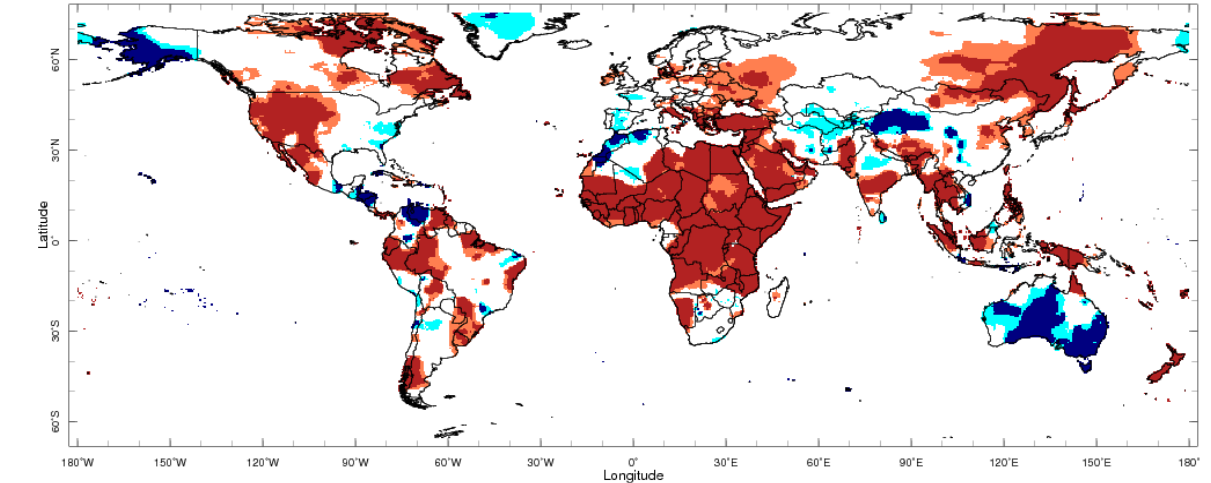
Current Status – Temperature percentiles



September



October



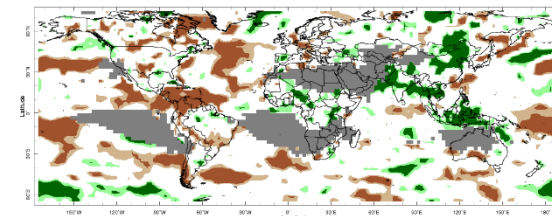
Nov 2021

November

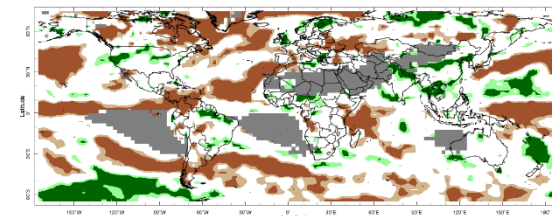


Notes: The percentiles shown in the map indicate a ranking of temperature, with the 0th percentile being the coolest and the 100th percentile being the warmest in the 1981-2010 climatology. Orange and red shading represent values above the 80th (Warm) and 90th (Hot) percentile, respectively; regions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

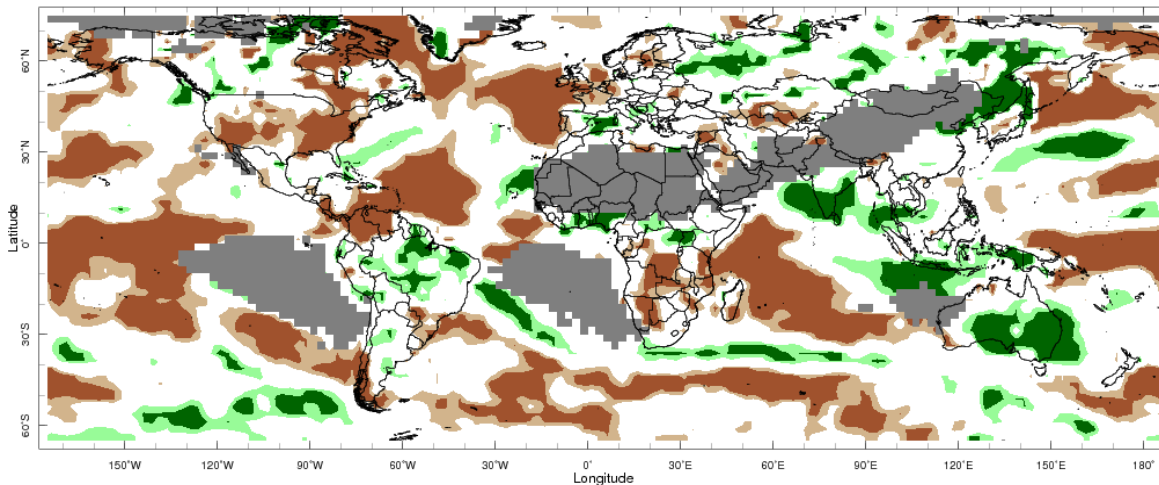
Current Status – Precipitation percentiles



September



October



November

Nov 2021



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	Mixed (1)	Normal	Hot
Palestine	Normal	Normal	Hot
Lebanon	Normal	Normal	Hot
Jordan	Normal	Warm	Hot
Syria	Normal	Normal	Hot
Iraq	Normal	Mixed (2)	Warm
Yemen	Normal	Hot	Hot

Current Status: Rainfall

	September	October	November
	Normal	Dry	Normal
	Normal*	Normal	Normal
	Normal*	Normal*	Normal
	Normal*	Normal*	Normal
	Normal*	Normal*	Dry
	Normal*	Normal*	Dry
	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: Hot in the west

(2) Note: Hot in the south

Current Status – MENA – North Africa

Current Status: Temperature

	September	October	November
Mauritania	Hot	Hot	Hot
Morocco	Hot	Hot	Hot
Algeria	Hot	Normal (1)	Hot
Tunisia	Hot	Normal	Hot
Libya	Normal	Normal (2)	Hot
Egypt	Normal	Warm	Hot
Eritrea	Hot	Hot	Hot

Current Status: Rainfall

	September	October	November
	Normal	Normal	Normal*
	Normal	Very Dry	Normal
	Normal	Normal	Normal
	Very Dry	Mixed (3)	Normal
	Normal*	Normal	Mixed (5)
	Normal*	Normal	Mixed (6)
	Normal	Mixed (4)	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 cold in the south
- (2) **Note:** Very cold in the north
- (3) **Note:** Wet in the north; mixed elsewhere
- (4) **Note:** Wet in the south; normal elsewhere
- (5) **Note:** Dry in parts of the far north
- (6) **Note:** Very wet in parts of the far north

Current Status – Caribbean

Current Status: Temperature

	September	October	November
Caribbean Region	Warm	Warm	Warm
Haiti	Warm	Warm	Warm
Guyana	Normal	Hot	Normal (1)

Current Status: Rainfall

	September	October	November
Caribbean Region	Very Dry	Very Dry	Very Dry
Haiti	Normal	Normal	Normal
Guyana	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: Hot in far north

Current Status – British Overseas Territories

Current Status: Temperature

	September	October	November
Southern Europe	Hot	Mixed (1)	Hot
Central Indian Ocean	Hot	Warm	Normal
Central Pacific	Cold	Cold	Cold

Current Status: Rainfall

	September	October	November
Southern Europe	Normal	Normal	Normal
Central Indian Ocean	Dry	Dry	Very Dry
Central Pacific	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: Large regional variations apparent

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: January to June – MENA – Middle East (1)

		Forecast summary		
		January	January to March	April to June
Turkey	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
Palestine	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
Lebanon	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
Jordan	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: January to June – MENA – Middle East (2)

		Forecast summary		
		January	January to March	April to June
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

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Outlook: January to June – 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	Climatological odds	Climatological odds	Likely to be near-normal
Morocco	Temperature	Climatological odds	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Algeria	Temperature	Climatological odds	Climatological odds	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Tunisia	Temperature	Climatological odds	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: January to June – MENA – North Africa(2)

		Forecast summary		
		January	January to March	April to June
Libya	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
Egypt	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
Eritrea	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: January to June – Caribbean

		Forecast summary		
		January	January to March	April to June
Caribbean Region	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be near-normal
	Rainfall	Likely to be wetter than normal in the south east; Climatological odds elsewhere	Likely to be wetter than normal in the south east; Climatological odds elsewhere	Likely to be drier than normal
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	Climatological odds	Climatological odds	Climatological odds
Guyana	Temperature	Likely to be near-normal	Likely to be near-normal	Likely to be near-normal
	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: January to June – 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	Climatological odds	Climatological odds	Climatological odds
Central Indian Ocean	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 Pacific	Temperature	Likely to be colder than normal	Likely to be colder than normal	Likely to be colder than normal
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Likely to be drier than normal

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

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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.ncdc.noaa.gov/teleconnections/enso/indicators/sst.php>

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 near-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 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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