Global: Monthly Climate Outlook January to October

Issued: April 2022

Overview

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

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

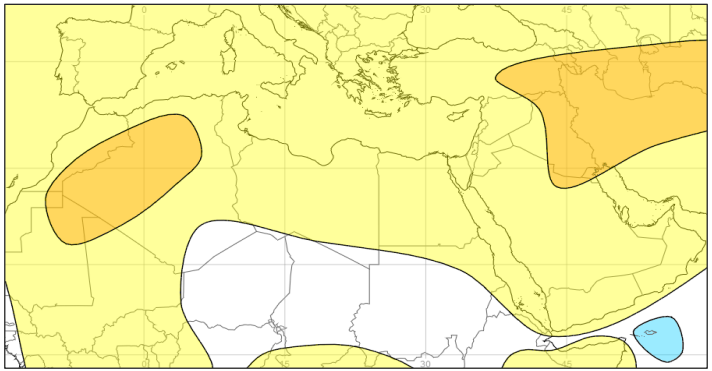
Global Seasonal Outlook – Temperature

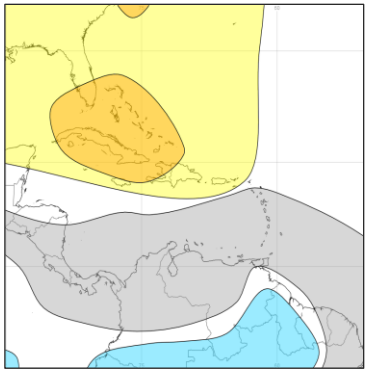
Global Seasonal Outlook – Rainfall

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

Current Status: Across much of the Middle East temperatures were near-normal during January and February and then below normal during MarchTemperatures across North Africa were generally near- or above normal, however, Morocco, Libya and Egypt experienced below normal temperatures in March. Temperatures were mostly above normal in the Caribbean region although Guyana experienced near-normal temperatures in March.

Outlook: Across the MENA region, warmer than normal conditions are likely for the next three months. Northern parts of the Caribbean region including Haiti are likely or very likely to be warmer than normal. In contrast, below or near- normal temperatures are likely for the Lesser Antilles and northern parts of South America, including Guyana.





3-Month Outlook May to July - Temperature

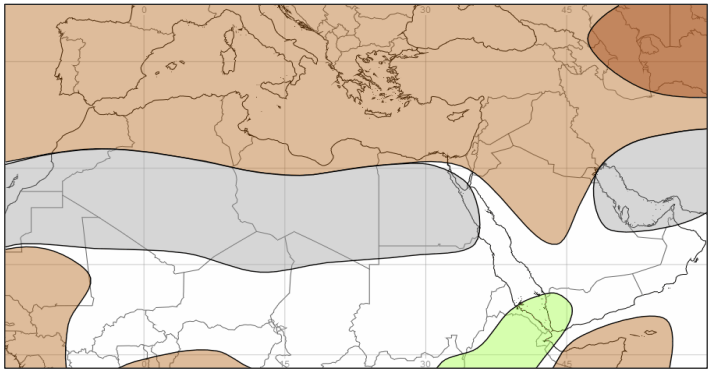
Below Normal		Near-Normal	Above Normal	
Much More Likely	Likely		Likely	Much More Likely

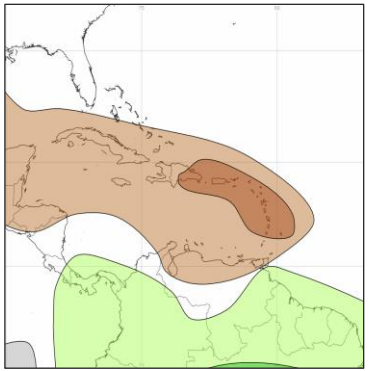
Left: Middle East and North Africa
Right: Caribbean region

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

Current Status: Winter tends to be the wettest part of the year for many parts of North Africa and the Middle East. Over the last three months rainfall was near- or above normal for much of the Middle East with a few exceptions including Iraq which was drier than normal in February and March. Conditions were mixed over North Africa with most northern areas wet or very wet during March. Across the Caribbean rainfall has been near or below normal throughout.

Outlook: Over the next three months, drier than normal conditions are likely across much of the Caribbean region, North Africa and the Middle East, whereas wetter than normal conditions are likely for Eritrea and western Yemen as well as parts of northern South America including Guyana.





3-Month Outlook May to July - Rainfall

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

Left: Middle East and North Africa
Right: Caribbean region

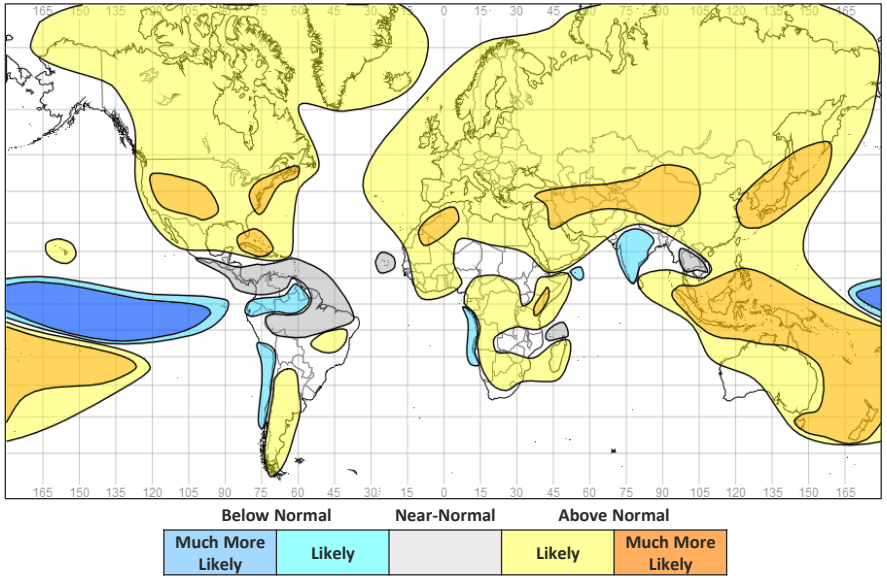
Global Outlook - Temperature

Outlook:

La Niña is ongoing across the tropical Pacific, persisting longer than anticipated over recent months. Predictions still indicate that ENSO will return to a neutral state during the late northern hemisphere spring or early summer. Even with La Niña expected to weaken, it will still be an important driver of temperature anomalies across the tropics over the next few months.

As is typical due to climate change, many parts of the globe are likely to see above normal temperatures. However, there are some notable exceptions. Consistent with La Niña, near- or below normal temperatures are likely for some northern and western parts of South America, India and parts of Southeast Asia.

3-Month Outlook May to July - Temperature



Global Outlook - Rainfall

Outlook:

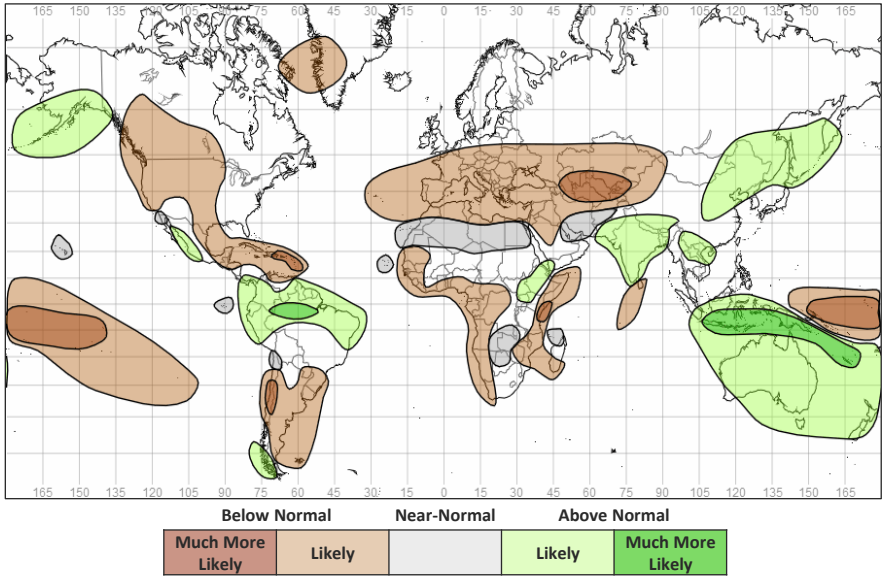
El Niño-Southern Oscillation (ENSO) – La Niña persists with sea surface temperatures and atmospheric conditions across the Pacific basin indicative of a weak ongoing event, though recent changes in sea surface temperatures suggest La Niña is weakening. Predictions still indicate that ENSO will return to a neutral state during the late northern hemisphere spring or early summer. La Niña is expected to remain an important driver of rainfall patterns in the tropics over the next three months though at this time of year its influence at higher latitudes in the northern hemisphere tends to wane.

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

For the next three months, wetter than normal conditions are likely across much of south and southeast Asia and Australasia as well as equatorial South America. Drier than normal conditions are likely across large swathes of North America, southern South America, Europe and parts of Africa.

Indian Ocean Dipole (IOD) –The IOD is currently neutral. Seasonal forecast systems are consistent in suggesting a negative IOD is likely to form during the boreal summer. This would influence rainfall patterns around the Indian Ocean basin and more widely. However, it should be noted skilful prediction of the IOD is limited at this time of year so forecasts of a negative phase need to be treated with caution.

3-Month Outlook May to July - Rainfall



Current Status

Current Status maps

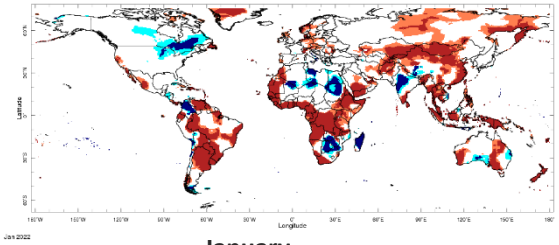
MENA – Middle East

MENA – North Africa

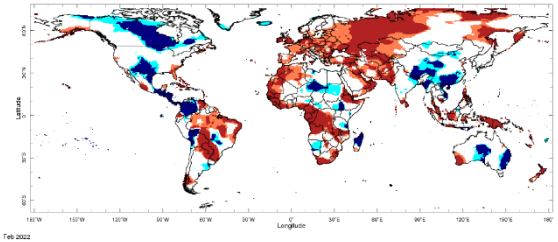
Caribbean

British Overseas Territories

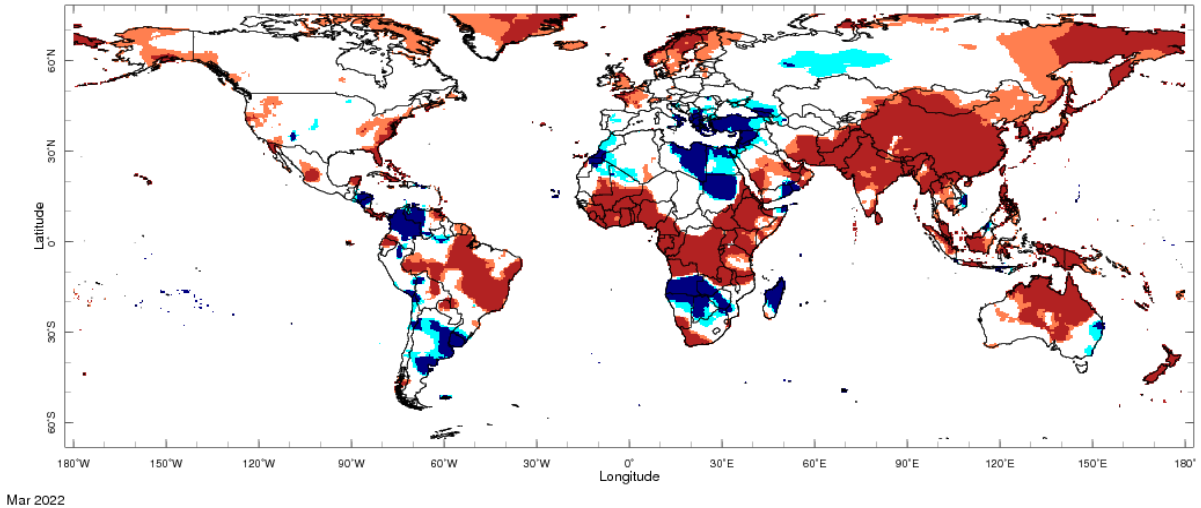
Current Status – Temperature percentiles



January



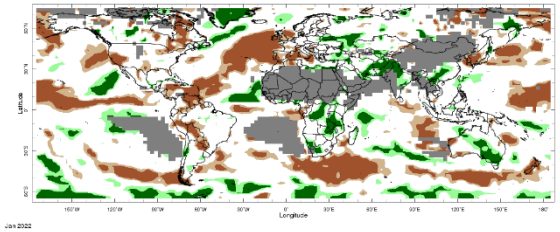
February



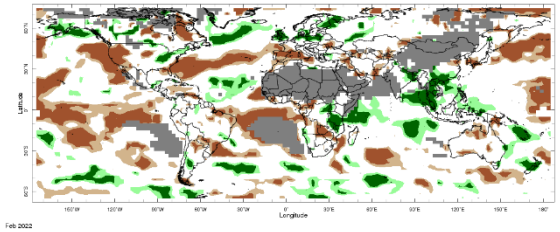
March

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.

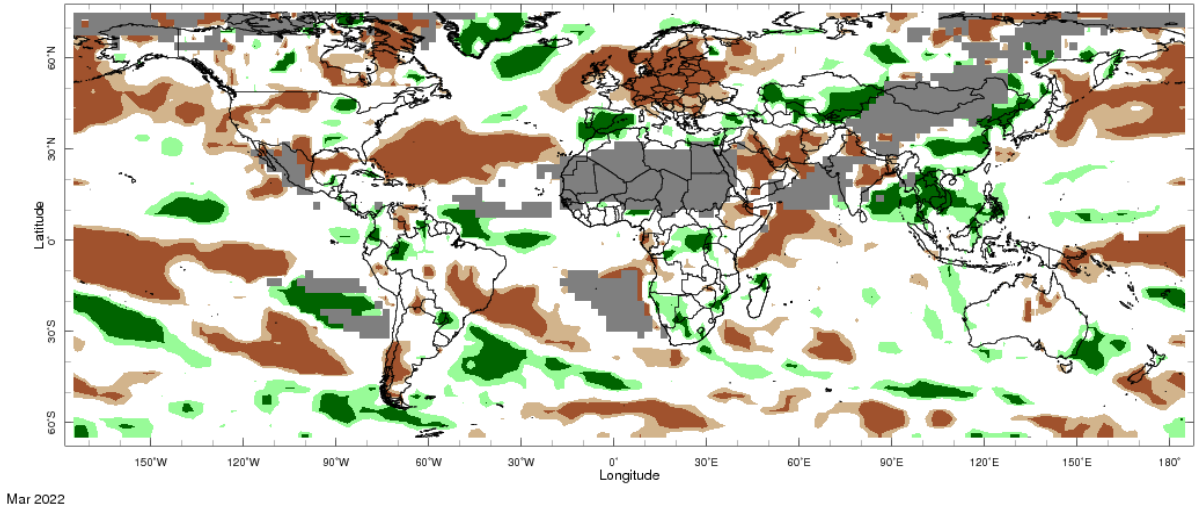
Current Status – Precipitation percentiles



January



February



March

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		
	January	February	March	January	February	March
Turkey	Normal	Warm	Cold	Wet	Mixed (3)	Mixed (6)
Palestine	Normal	Normal	Cold	Wet	Normal	Normal
Lebanon	Normal	Normal	Cold	Normal	Normal	Wet
Jordan	Normal	Normal	Cold	Normal	Normal	Normal
Syria	Normal	Mixed (1)	Cold	Normal	Mixed (4)	Wet
Iraq	Normal	Hot	Normal	Mixed (2)	Very Dry	Dry
Yemen	Hot	Warm	Mixed (5)	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 northeast, normal elsewhere
(2) Note: Wet in the north, normal in the south
(3) Note: Large variations across the country
(4) Note: Dry in the northeast, normal elsewhere
(5) Note: Cold in the east, hot in the far southwest, normal elsewhere
(6) Note: Wet in the east, normal elsewhere

Current Status – MENA – North Africa

	Current Status: Temperature			Current Status: Rainfall		
	January	February	March	January	February	March
Mauritania	Hot	Hot	Mixed (5)	Normal*	Normal*	Normal*
Morocco	Mixed (1)	Hot	Cool	Dry	Dry	Mixed (6)
Algeria	Normal	Warm	Normal	Dry	Normal	Mixed (6)
Tunisia	Normal	Normal	Normal	Normal	Normal	Mixed (6)
Libya	Mixed (2)	Mixed (2)	Cold	Wet	Mixed (4)	Normal
Egypt	Mixed (3)	Normal	Cool	Wet	Normal	Mixed (6)
Eritrea	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: Hot in the southwest, normal the northeast
(2) Note: Cold in parts of the west, otherwise normal
(3) Note: Cold in the south, normal in the north
(4) Note: Wet in the north, normal elsewhere
(5) Note: Hot in the southeast, normal elsewhere
(6) Note: Wet or very wet in the north, normal elsewhere

Current Status – Caribbean

	Current Status: Temperature			Current Status: Rainfall		
	January	February	March	January	February	March
Caribbean Region	Hot	Warm	Warm	Very Dry	Dry	Dry
Haiti	Hot	Warm	Warm	Normal	Normal	Normal
Guyana	Hot	Hot	Normal	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:

Current Status – British Overseas Territories

	Current Status: Temperature			Current Status: Rainfall		
	January	February	March	January	February	March
Southern Europe	Normal	Warm	Cold	Normal	Mixed (1)	Wet
Central Indian Ocean	Normal	Normal	Normal	Normal	Normal	Normal
Central Pacific	Cold	Cold	Cold	Mixed (1)	Mixed (1)	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 variations across the regions

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: May to October – MENA – Middle East (1)

		Forecast summary		
		May	May to July	August to October
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	Likely to be drier than normal
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	Likely to be drier than normal	Likely to be drier than normal
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	Likely to be drier than normal	Likely to be drier than normal
Jordan	*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 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: May to October – MENA – Middle East (2)

		Forecast summary		
		May	May to July	August to October
Syria	*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	Likely to be drier than normal
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 drier than normal	Likely to be drier than normal	Likely to be drier than normal
Yemen	*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 drier than normal in the west; Likely to be near-normal in the east	Likely to be wetter than normal in the west; Climatological odds in the east	Likely to be wetter than normal in the west; Climatological odds in the east

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: May to October – MENA – North Africa(1)

		Forecast summary		
		May	May to July	August to October
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 drier than 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 in the north; Likely to be near-normal in the south	Likely to be drier than normal in the north; Likely to be near-normal in the south	Likely to be drier than normal
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 drier than normal in the north; Likely to be near-normal in the south	Likely to be drier than normal in the north; Likely to be near-normal in the south	Likely to be drier than normal
Tunisia	*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	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: May to October – MENA – North Africa(2)

		Forecast summary		
		May	May to July	August to October
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 drier than normal in the north; Likely to be near-normal in the south	Likely to be drier than normal
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	Likely to be drier than normal in the far north; elsewhere Likely to be near-normal	Likely to be drier than normal
Eritrea	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Likely to be drier 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: May to October – Caribbean

		Forecast summary		
		May	May to July	August to October
Caribbean Region	*Temperature*	**Much more likely to be warmer than normal** in the northwest; **Likely to be near-normal** in the southeast	**Much more likely to be warmer than normal** in the northwest; **Likely to be near-normal** in the southeast	Likely to be warmer than normal
	Rainfall	**Likely to be drier than normal**	**Much more likely to be drier than normal**	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 drier than normal**	**Likely to be drier than normal**	Climatological odds
Guyana	*Temperature*	**Likely to be near-normal**	**Likely to be colder than normal**	Likely to be near-normal
	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: May to October – British Overseas Territories

		Forecast summary		
		May	May to July	August to October
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	Likely to be drier than normal
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	Likely to be drier than normal
Central Pacific	*Temperature*	Much more likely to be colder than normal	Much more likely to be colder than normal	Much more 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.

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 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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