Global: Monthly Climate Outlook
April to January

Issued: July 2022

Overview

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

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

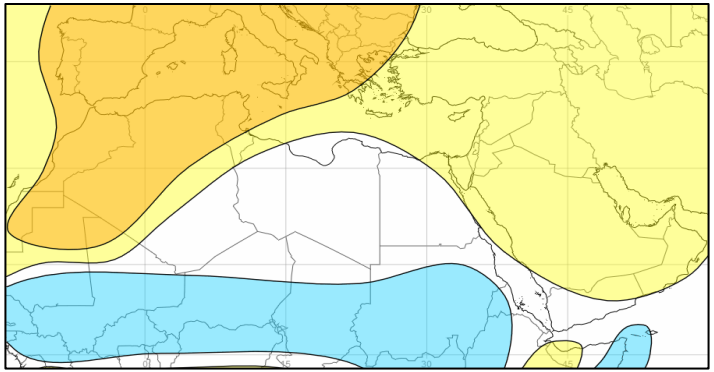
Global Seasonal Outlook – Temperature

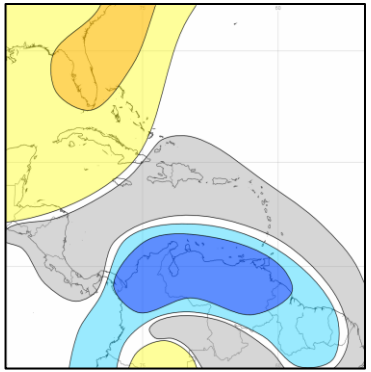
Global Seasonal Outlook – Rainfall

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

Current Status: Following a widely hot April, temperatures were mixed across the Middle East but generally ranged from normal to hot. During April to June, the majority of places across north Africa and the Caribbean were normal to hot. The British Overseas Territories in the Mediterranean and Indian Ocean were hot in June, and Territories in the Pacific Ocean remained cold during the last three months.

Outlook: Over the next three months temperatures are likely to be above normal, or much more likely to be above normal, across most of the Middle East and North Africa. A more active West African monsoon season, driven by La Niña, will likely result in below normal temperatures from Sierra Leone across to Sudan. In the Caribbean, below normal temperatures are also likely for Guyana, but near normal temperatures are likely for the eastern Caribbean and above normal temperatures likely in the western Caribbean. Above normal temperatures are likely in the Indian and Pacific Ocean British Overseas Territories.





3-Month Outlook August to October - Temperature

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

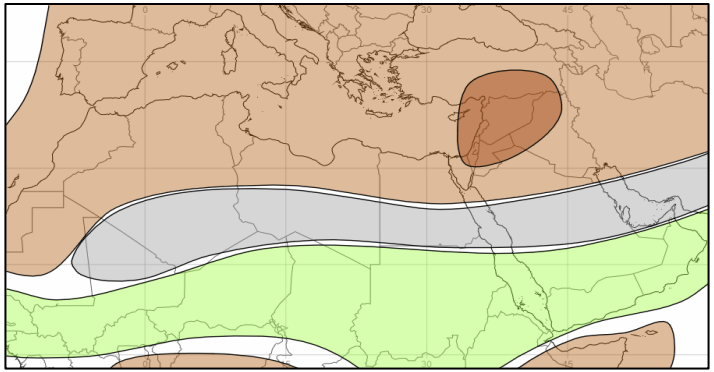
Left: Middle East and North Africa
Right: Caribbean region

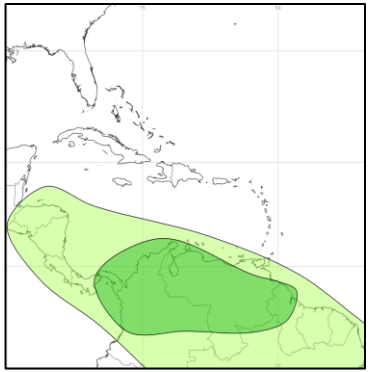
MENA, Caribbean and British Overseas Territories Current Status and Outlook - Rainfall

Current Status: Following a widely very dry April in the Levant, rainfall in May and June was normal, although climatologically very little rainfall occurs during this period. Over the last three months, the Caribbean generally has seen near-normal rainfall, apart from Haiti in April which was wet. British Overseas Territories have ranged from normal to very dry.

Outlook: Over the next three months below normal rainfall is likely across much of Europe and the MENA region and is much more likely for Syria and Levantine countries in particular. Above normal rainfall is likely from Sierra Leone and east to Yemen and Oman, in part due to La Nina conditions helping to drive a more active West African monsoon. Guyana is likely to have above normal rainfall, whilst below normal rainfall is likely for British Overseas Territories.

Tropical Cyclone outlook: The Atlantic Tropical Cyclone season has commenced with three named storms so far this season, compared to the five named storms to this point in the season last year. Activity typically increases significantly in August and September, giving a greater chance of tropical cyclone impacts in the Caribbean. The latest forecast predicts an above normal number of named storms occurring, and for storms which do form are likely to be more intense and longer lasting than normal overall. The full forecast is available here.





3-Month Outlook August to October - Rainfall

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

Left: Middle East and North Africa
Right: Caribbean region

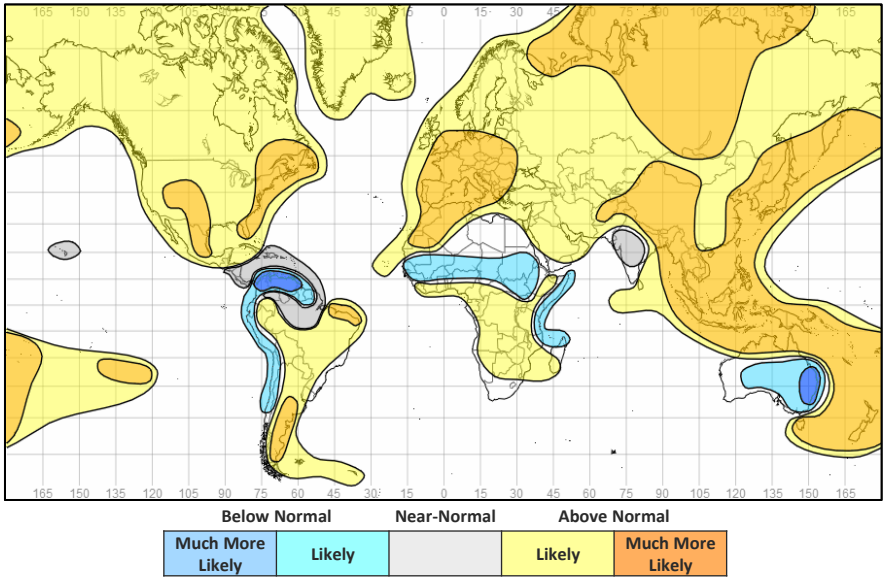
Global Outlook - Temperature

Outlook:

La Niña is likely to persist into the Northern hemisphere autumn. More details can be found in the precipitation section.

Consistent with background global warming, many parts of the globe are likely to be warmer than normal in the next three months. However, consistent with La Niña, parts of Australia, northern and western South America, the Indian sub-continent, the Sahel region in Africa and parts of southern Africa are likely to be colder than normal.

3-Month Outlook August to October - Temperature



Global Outlook - Rainfall

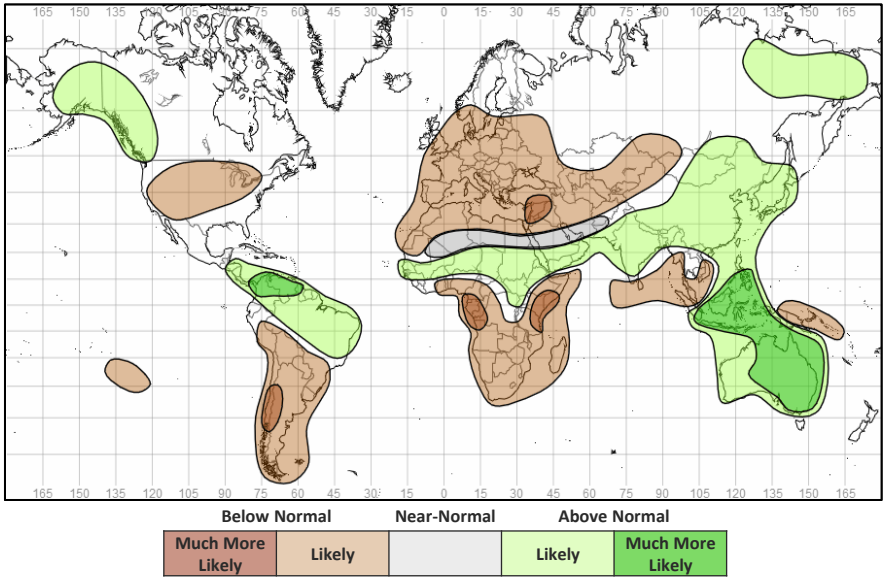
Outlook:
El Niño-Southern Oscillation (ENSO) – The 2021-22 La Niña event continues in the tropical Pacific Ocean. Both oceanic and atmospheric indicators have changed little over the past month.

The latest ENSO outlook issued by NOAA (27th June) states that although La Niña is likely to continue, the odds decrease into the late Northern Hemisphere summer (60% chance in July-September 2022) before slightly increasing during the Northern Hemisphere autumn and early winter 2022 (62-66% chance).

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

Indian Ocean Dipole (IOD) – The IOD index has been close to or exceeded negative IOD thresholds for the past 6 weeks. It is highly likely that the technical definition for a negative IOD year will be met soon. When concurrent with a La Nina, a negative IOD can increase the effects of a La Nina, increasing the likelihood of wetter than normal conditions in parts of Australia and Asia, and drier than normal conditions in East Africa - of particular concern given the current drought conditions in the Horn of Africa.

3-Month Outlook August to October - Rainfall



Current Status

Current Status maps

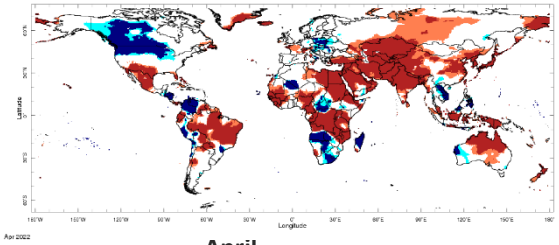
MENA – Middle East

MENA – North Africa

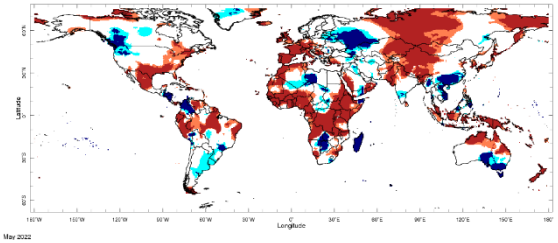
Caribbean

British Overseas Territories

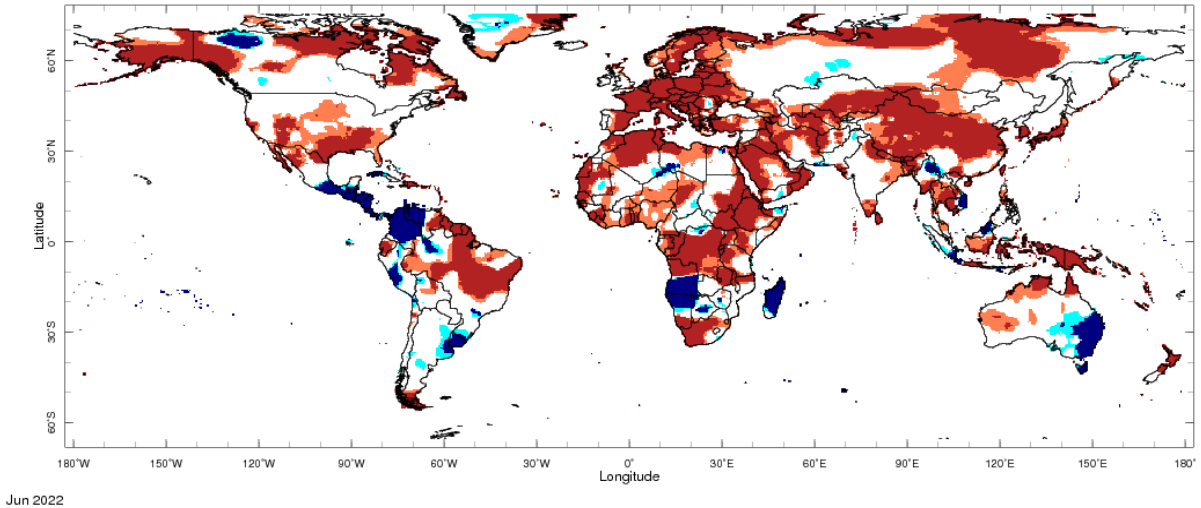
Current Status – Temperature percentiles



April



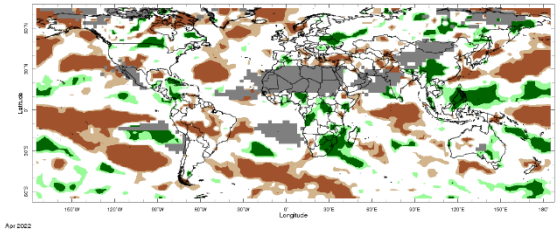
May



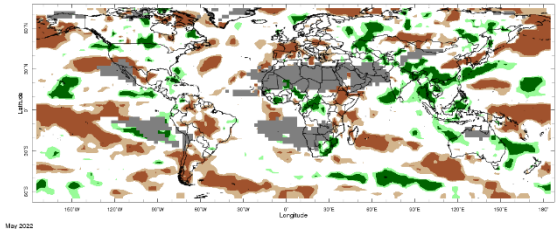
June

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.

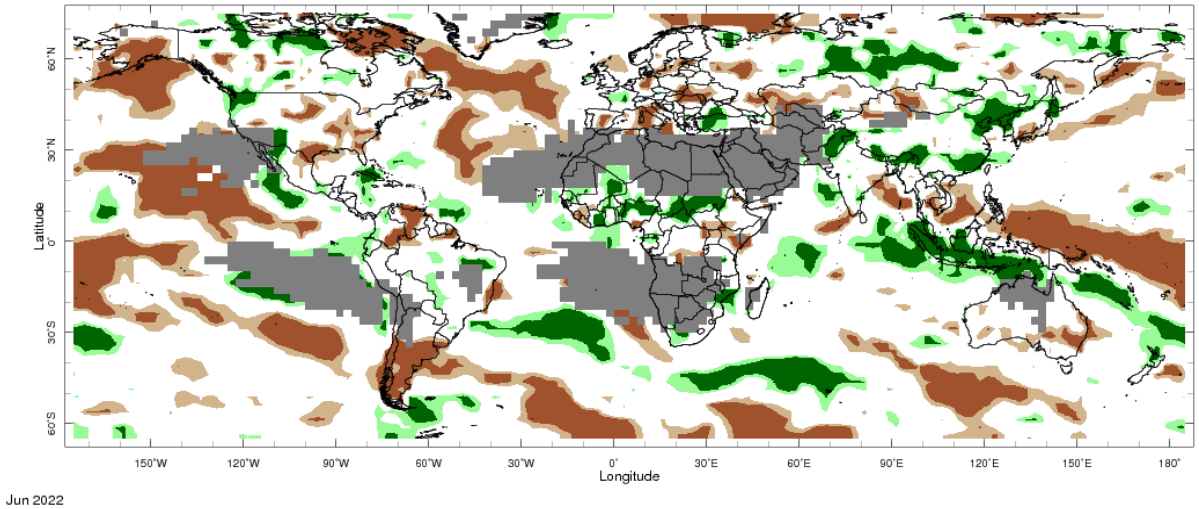
Current Status – Precipitation percentiles



April



May



June

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		
	April	May	June	April	May	June
Turkey	Hot	Mixed (1)	Mixed (3)	Very Dry	Mixed	Mixed (5)
Palestine	Hot	Hot	Warm	Very Dry	Normal*	Normal*
Lebanon	Hot	Hot	Normal	Very Dry	Normal*	Normal*
Jordan	Hot	Normal	Hot	Very Dry	Normal*	Normal*
Syria	Hot	Normal	Normal	Normal	Normal*	Normal*
Iraq	Hot	Cool	Hot	Normal	Normal*	Normal*
Yemen	Normal	Mixed (2)	Mixed (4)	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: Cold in far east, warm in far west, normal elsewhere
(2) Note: Hot in the far west, cold in the east, normal elsewhere
(3) Note: Hot in west, and far east. Normal elsewhere.
(4) Note: Large variations in the populated areas. Largely normal overall.
(5) Note: Very Wet in west, normal in east.

Current Status – MENA – North Africa

	Current Status: Temperature			Current Status: Rainfall		
	April	May	June	April	May	June
Mauritania	Warm	Warm	Mixed (4)	Normal*	Normal*	Normal*
Morocco	Normal	Hot	Mixed (5)	Normal	Normal	Normal*
Algeria	Normal	Mixed (1)	Mixed (5)	Mixed (3)	Normal*	Normal*
Tunisia	Normal	Hot	Hot	Normal	Normal*	Normal*
Libya	Hot	Mixed (2)	Mixed (6)	Normal*	Normal*	Normal*
Egypt	Hot	Normal	Normal	Normal*	Normal*	Normal*
Eritrea	Hot	Hot	Hot	Normal	Very Dry	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: Hot in the north, cool in the south, normal elsewhere
(2) Note: Cold in the southwest, normal elsewhere
(3) Note: Wet or very wet in north, normal elsewhere
(4) Note: Hot in north and west.
(5) Note: Hot in north. Normal in south.
(6) Note: Large variations across the country

Current Status – Caribbean

	Current Status: Temperature			Current Status: Rainfall		
	April	May	June	April	May	June
Caribbean Region	Normal	Mixed (1)	Mixed (2)	Normal	Mixed (1)	Mixed (3)
Haiti	Normal	Hot	Hot	Wet	Normal	Normal
Guyana	Warm	Normal	Warm	Normal	Normal	Normal

Notes:

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

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

Additional Information:

(1) Note: Large variations across the region
(2) Note: Ranging from cold in west to hot in east.
(3) Note: Ranging from very wet in west to normal in east.

Current Status – British Overseas Territories

	Current Status: Temperature		
	April	May	June
Southern Europe	Normal (1)	Hot	Hot
Central Indian Ocean	Cold	Mixed (2)	Hot
Central Pacific	Cold	Cold	Cold

Current Status: Rainfall		
April	May	June
Mixed (1)	Very Dry	Normal*
Normal	Mixed (2)	Dry
Very 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: Hot across Cyprus
(2) 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: March to August – MENA – Middle East (1)

		Forecast summary		
		August	August to October	November to January
Turkey	*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 drier than normal	Likely to be drier than normal
Palestine	*Temperature*	Much more likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Likely to be near-normal	Much more likely to be drier than normal	Likely to be drier than normal
Lebanon	*Temperature*	Much more likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Likely to be near-normal	Much more likely to be drier than normal	Likely to be drier than normal
Jordan	*Temperature*	Much more likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Likely to be near-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 – MENA – Middle East (2)

		Forecast summary		
		August	August to October	November to January
Syria	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Likely to be near-normal	Much more likely to be drier than normal	Likely to be drier than normal
Iraq	*Temperature*	Much more 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	Likely to be drier than normal
Yemen	*Temperature*	Likely to be colder than normal	Climatological odds	Likely to be warmer than normal
	Rainfall	Likely to be wetter than normal	Likely to be wetter than 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(1)

		Forecast summary		
		August	August to October	November to January
Mauritania	*Temperature*	Likely to be warmer than normal in the north; Climatological odds in the south	**Much more likely to be warmer than normal** in the extreme north; Likely to be colder than normal in the far south	Likely to be warmer than normal
	Rainfall	Climatological odds	Likely to be drier than normal in the north; and Likely to be wetter than normal in the south	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 drier than normal	Likely to be drier than normal	Climatological odds
Algeria	*Temperature*	Likely to be warmer than normal	**Much more likely to be warmer than normal** in the north; Climatological odds in the south	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*	**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

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		
		August	August to October	November to January
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 drier than normal in the north; Likely to be near-normal in the south	Likely to be near-normal
Egypt	*Temperature*	Much more likely to be warmer than normal	Climatological odds	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 near-normal
Eritrea	*Temperature*	Likely to be colder than normal	Climatological odds	Likely to be warmer than normal
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal	Climatological odds

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

Outlook: March to August – Caribbean

		Forecast summary		
		August	August to October	November to January
Caribbean Region	*Temperature*	Likely to be near-normal	Likely to be warmer than normal in the west; Likely to be near-normal in the east	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Likely to be wetter than normal
Haiti	*Temperature*	Likely to be near-normal	Likely to be near-normal	Climatological odds
	Rainfall	Likely to be near-normal	Climatological odds	Likely to be wetter than normal
Guyana	*Temperature*	Likely to be near-normal	Likely to be colder than 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		
		August	August to October	November to January
Southern Europe	*Temperature*	**Much more likely to be warmer than normal**	**Much more likely to be warmer than normal** in the west; and **Likely to be warmer than normal** in the east	Likely to be warmer than normal
	Rainfall	**Likely to be near-normal**	**Likely to be drier than normal**	Climatological odds in the east; Likely to be drier than normal in the west
Central Indian Ocean	*Temperature*	**Likely to be warmer than normal**	**Likely to be warmer than normal**	Climatological odds
	Rainfall	Climatological odds	**Likely to be drier than normal**	Likely to be drier than normal
Central Pacific	*Temperature*	**Much more likely to be warmer than normal**	**Much more likely to be warmer than normal**	Climatological odds
	Rainfall	**Likely to be drier than normal**	**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.

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)

Enquiries

Email: internationaldevelopment@metoffice.gov.uk

Web: https://www.metoffice.gov.uk/services/government/international-development