Global: Monthly Climate Outlook
August to May

Issued: November 2020

Overview

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

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

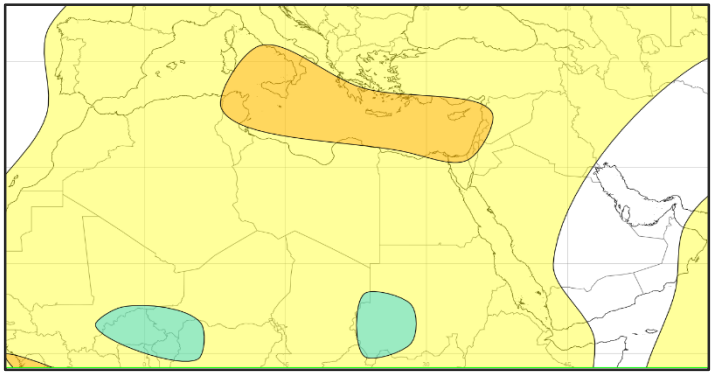
Global Seasonal Outlook – Temperature

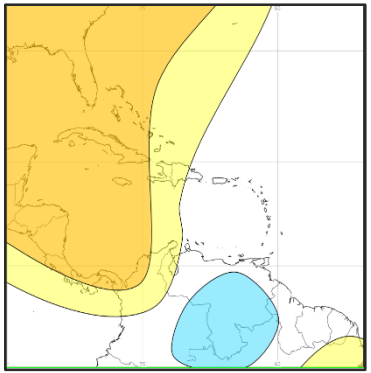
Global Seasonal Outlook – Rainfall

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

Current Status: Conditions have been warmer than normal across the Middle East and large parts of North Africa over the last three months. Similarly for the Caribbean, where temperatures have been widely been much warmer than normal.

Outlook: Temperatures are likely to continue to be above normal during the next 3-6 months, the main exception to this is likely to be over parts of northern South America, where colder than normal conditions are likely – this is consistent with impacts from the ongoing La Niña event.





3-Month Outlook December to February - Temperature

Below Normal		Near-Normal	Above Normal	
Very Likely	Likely		Likely	Very Likely

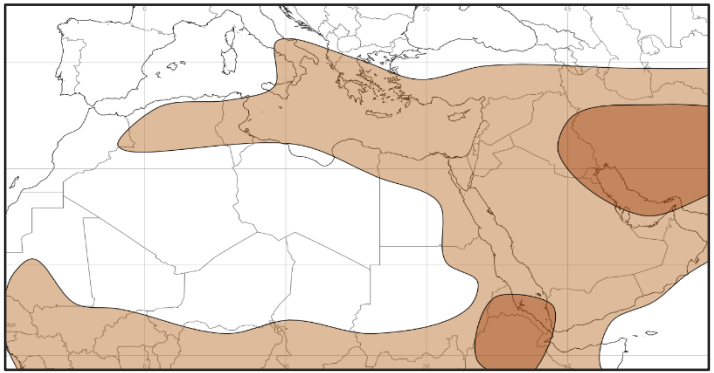
Left: Middle East and North Africa
Right: Caribbean region

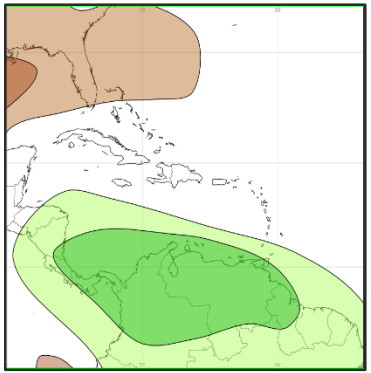
MENA, Caribbean and British Overseas Territories Current Status and Outlook - Rainfall

Current Status: Over the last three months, rainfall has generally been near-normal to dry over the Middle East and North Africa, although most of this area usually sees less than 10mm per month during August to October. Across Turkey, rainfall has been near-normal or dry. Rainfall in the Caribbean has been near-normal overall, although October was wetter than normal.

Outlook: Below normal rainfall is likely across the Middle East and North Africa during the next 3-6 months. Above normal rainfall, likely highly influenced by the ongoing La Niña event in the tropical Pacific, is very likely over northern South America, and likely over the southern Caribbean.

Tropical Cyclone outlook: Information can be found here.





3-Month Outlook December to February - Rainfall

Below Normal		Near-Normal	Above Normal	
Very Likely	Likely		Likely	Very Likely

Left: Middle East and North Africa
Right: Caribbean region

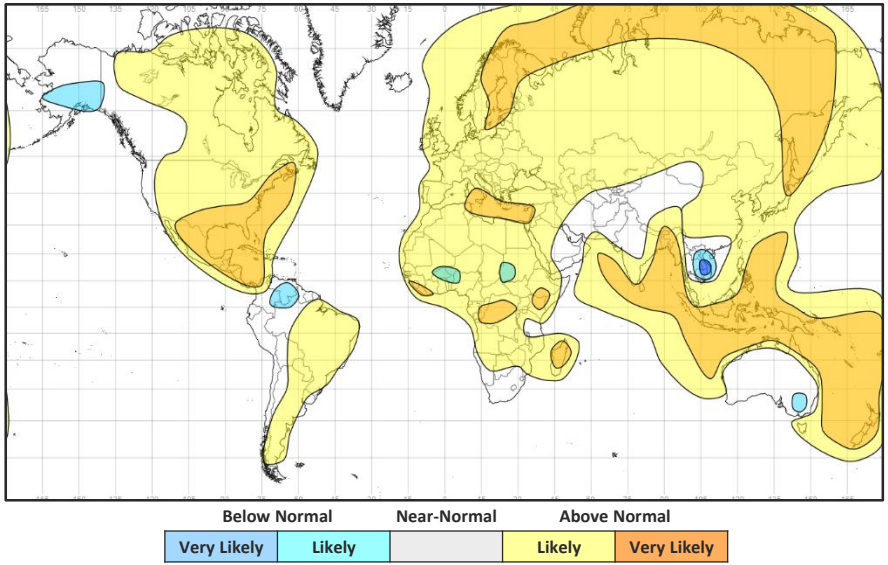
Global Outlook - Temperature

Outlook: For the next three months, consistent with the warming climate over the past decade (the anomalies forecast are with respect to the 1981-2010 climate) most of the globe is likely to experience warmer than normal conditions.

The most significant deviations from this are in areas where La Niña has a strong influence. This is evident across south-east Asia where colder than normal conditions are expected across parts of Indochina and the South China Sea. Conversely warmer than normal conditions are very likely across Indonesia, Malaysia, the Philippines, and across the Bay of Bengal and much of the Indian Ocean where Sea Surface Temperatures (SSTs) are above normal.

Also warmer-than-normal conditions are very likely across the parts of Central America, southern and eastern USA and much of the Caribbean. Over large parts of the Arctic, where sea ice and snow cover are currently below normal levels, warmer than normal conditions are very likely.

3-Month Outlook December to February - Temperature



Global Outlook - Rainfall

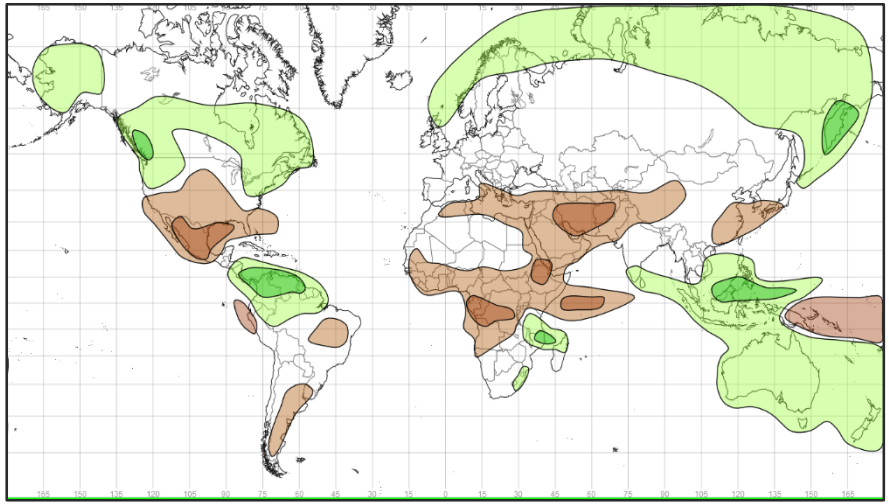
Outlook: Like predicted temperature variation, the rainfall patterns over the next 3-6 months are expected to be strongly influenced by the ongoing mature La Niña event across the tropical Pacific.

The latest statement from the NOAA Climate Prediction Centre / NCEP states that *"La Niña is likely to continue through the Northern Hemisphere winter 2020-21 (~95% chance during January-March) and into spring 2021 (~65% chance during March-May)."* (Full statement 23/11/2019)

Confidence is highest in these rainfall shifts across the tropics, but the impacts of La Niña will be far reaching, and in general the expected rainfall anomalies align with typical La Niña events. Forecasts for the Indian Ocean Dipole (IOD) show that this will remain neutral in the coming months.

Over the next three months, rainfall is very likely to be above normal over the Philippines, northern Malaysia, across the South China Sea and north-west Pacific. Tropical cyclone activity is likely higher across the Philippine and South China Seas compared to areas further north. Above normal rainfall is also likely in parts of southern Africa, Mozambique Channel, the southern Caribbean Sea, the north of South America, large parts of northern North America, parts of Scandinavia, parts of Indonesia, and Australia. However, below normal rainfall is very likely over parts of Mexico and the southern States of the US, and parts of central Asia. Below normal rainfall is likely across much of central, eastern and parts of western and northern Africa, parts of southern South America, southern Europe, the Middle East and south-west Asia.

3-Month Outlook December to February - Rainfall



Current Status

Current Status maps

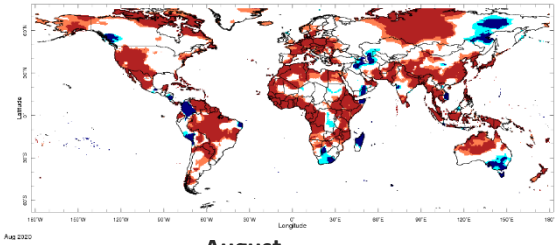
MENA – Middle East

MENA – North Africa

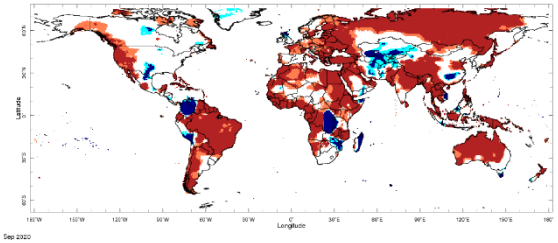
Caribbean

British Overseas Territories

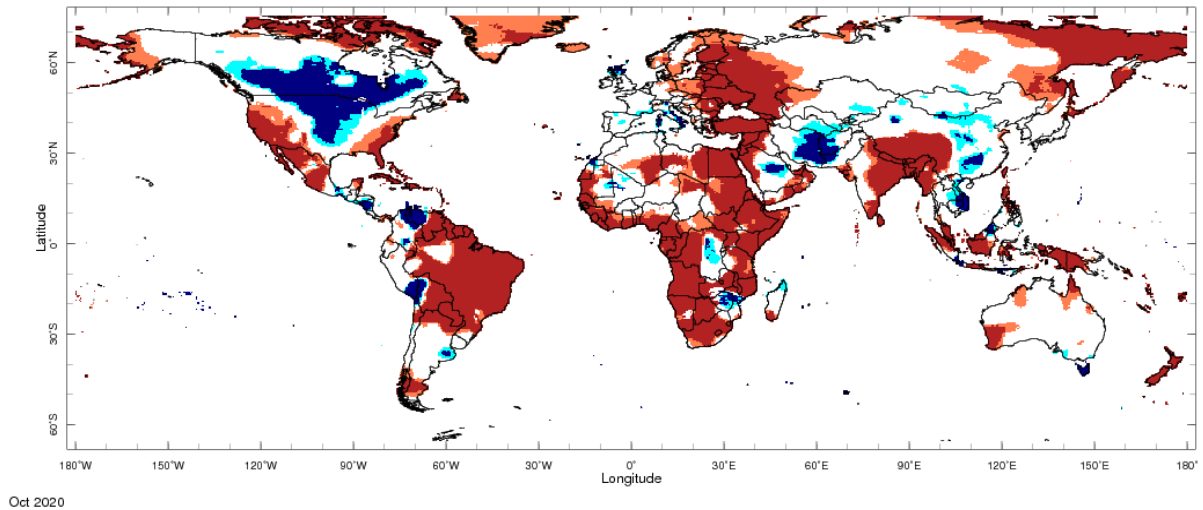
Current Status – Temperature percentiles



August



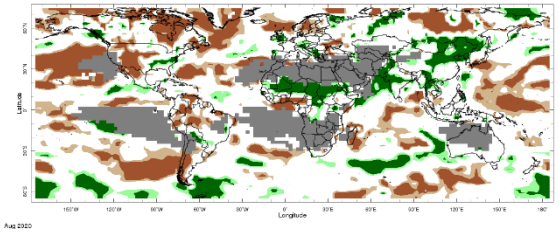
September



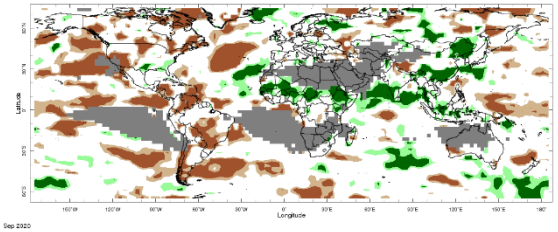
October

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.

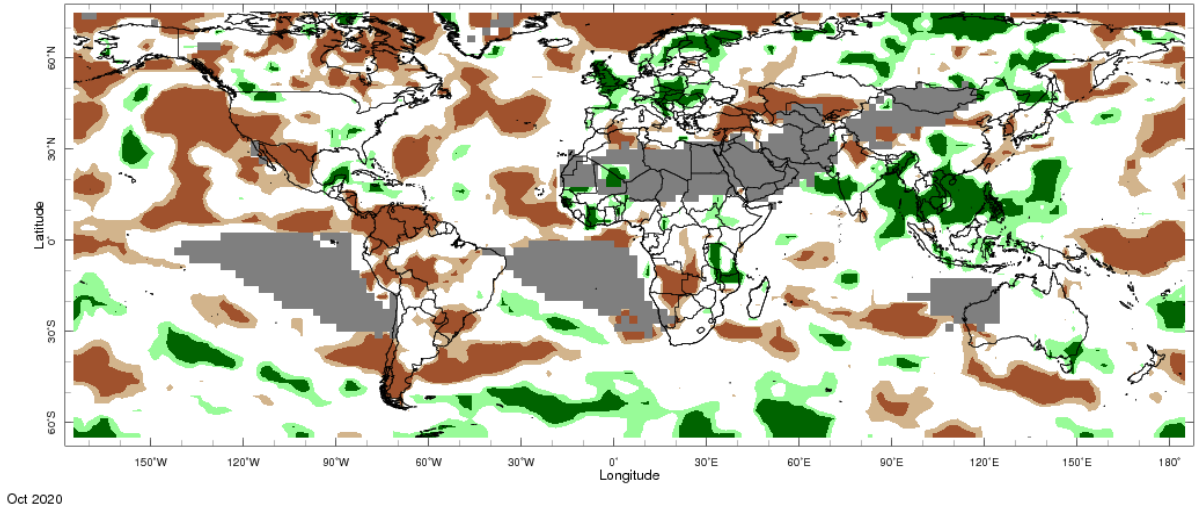
Current Status – Precipitation percentiles



August



September



Oct 2020

October

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		
	August	September	October	August	September	October
Turkey	Warm	Normal	Hot	Normal	Dry	Dry
Palestine	Normal	Hot	Hot	Normal	Normal	Dry
Lebanon	Normal	Hot	Hot	Normal	Normal	Dry
Jordan	Normal	Hot	Hot	Normal	Normal	Dry
Syria	Normal	Hot	Hot	Normal	Normal	Normal
Iraq	Normal	Normal^	Normal	Normal	Normal^^	Normal
Yemen	Cool	Normal	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:

^Note: Temperatures highly variable across the country August/September.
^^Note: Wet in the north-west during September

Current Status – MENA – North Africa

	Current Status: Temperature			Current Status: Rainfall		
	August	September	October	August	September	October
Mauritania	Warm	Warm	Normal ^	Wet	Very Wet	Normal
Morocco	Hot	Hot	Normal	Normal*	Normal*	Normal
Algeria	Hot	Warm	Hot ^^	Normal*	Normal*	Dry
Tunisia	Hot	Normal	Normal	Normal*	Wet	Normal
Libya	Warm	Warm	Hot	Normal*	Normal*	Normal*
Egypt	Warm	Hot	Hot	Normal*	Normal*	Normal*
Eritrea	Hot	Hot	Hot	Very Wet	Very Wet	Normal*

Notes:

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

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

Additional Information:

^Note: Warm in the south.
^^Note: Temperatures normal along the coast.

Current Status – Caribbean

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

Current Status: Rainfall		
August	September	October
Normal	Dry	Wet
Normal	Normal	Normal
Normal	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:

Current Status – British Overseas Territories

	Current Status: Temperature			Current Status: Rainfall		
	August	September	October	August	September	October
Southern Europe	Hot	Hot	Hot ^	Wet	Normal	Very Wet ^
Central Indian Ocean	Normal	Normal	Normal	Dry	Dry	Dry
Central Pacific	Normal	Normal	Normal	Dry	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:
^Note: Temperatures and rainfall highly variable across the country in October, hottest and wettest in the south-east.

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

		Forecast summary		
		December	December to February	March to May
Turkey	*Temperature*	Likely to be warmer than normal	Climatological odds - see note	Likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Climatological odds - see note
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	Climatological odds - see note
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	Climatological odds - see note
Jordan	*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 - see note

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: December to May – MENA – Middle East (2)

		Forecast summary		
		December	December to February	March to May
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	Climatological odds - see note
Iraq	*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 - see note
Yemen	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Likely to be wetter than normal	Climatological odds - see note	Climatological odds - see note

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

		Forecast summary		
		December	December to February	March to May
Mauritania	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds - see note	Climatological odds - see note	Climatological odds - see note
Morocco	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds - see note	Climatological odds - see note	Climatological odds - see note
Algeria	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds - see note	Climatological odds - see note	Climatological odds - see note
Tunisia	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds - see note	Climatological odds - see note	Climatological odds - see note

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: December to May – MENA – North Africa(2)

		Forecast summary		
		December	December to February	March to May
Libya	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds - see note
	Rainfall	Climatological odds - see note	Climatological odds - see note	Climatological odds - see note
Egypt	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds - see note
	Rainfall	Climatological odds - see note	Climatological odds - see note	Climatological odds - see note
Eritrea	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds - see note
	Rainfall	Likely to be drier than normal	**Much more likely to be drier than normal**	Climatological odds - see note

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: December to May – Caribbean

		Forecast summary		
		December	December to February	March to May
Caribbean Region	*Temperature*	Likely to be warmer than normal	Cuba, Haiti and Jamaica **much more likely to be warmer than normal,** elsewhere Climatological odds - see note	Likely to be warmer than normal
	Rainfall	Climatological odds - see note	Likely to be wetter than normal	Climatological odds - see note
Haiti	*Temperature*	**Much more likely to be warmer than normal**	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds - see note	Climatological odds - see note	Climatological odds - see note
Guyana	*Temperature*	Climatological odds - see note	Climatological odds - see note	Likely to be colder than normal
	Rainfall	Likely to be wetter than normal	**Much more 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: December to May – British Overseas Territories

		Forecast summary		
		December	December to February	March to May
Southern Europe	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds - see note	Likely to be drier than normal	Climatological odds - see note
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 drier than normal	Likely to be drier than normal	Climatological odds - see note
Central Pacific	*Temperature*	Much more likely to be colder than normal	Much more likely to be colder than normal	Likely to be warmer than normal
	Rainfall	Much more likely to be drier than normal	Much more likely to be drier than normal	Climatological odds - see note

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

Tropical Storm Outlook for the North Atlantic Ocean basin

Tropical storm seasonal forecast for the December to May period:

The North Atlantic tropical Storm Season ended on the 30th October, however there is a low probability for tropical storms into December. This increased risk primarily from higher than normal sea surface temperatures, but any system is not expected to be significant, and across the Tropical Atlantic.

More information, and the full forecast can be found at https://www.metoffice.gov.uk/research/weather/tropical-cyclones/seasonal/northatlantic2020

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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