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Global: Monthly Climate Outlook February to November

Issued: May 2020

Overview

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

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

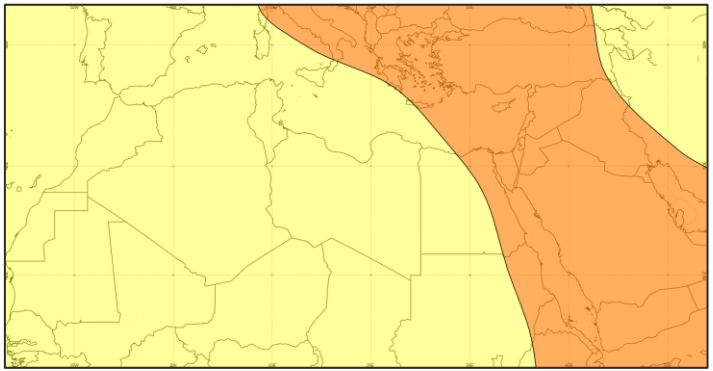
Global Seasonal Outlook – Temperature

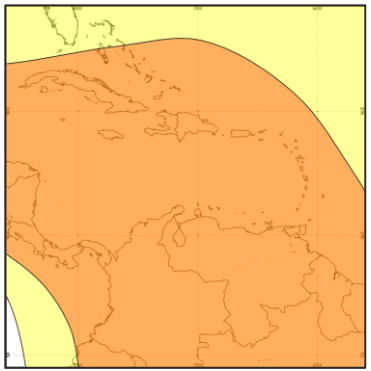
Global Seasonal Outlook – Rainfall

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

Current Status: Many countries around the world have experienced warmer than average conditions, although parts of the Middle East, southern Europe and northwest Africa have had near normal temperatures.

Outlook: There is an increase in the likelihood of warmer than normal conditions across the Middle East and North Africa, and the Caribbean, with the highest confidence in the Caribbean. This is consistent with the warming observed in the past decade.





3-Month Outlook June to August 2020 - Temperature

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

Left: Middle East and North Africa
Right: Caribbean region

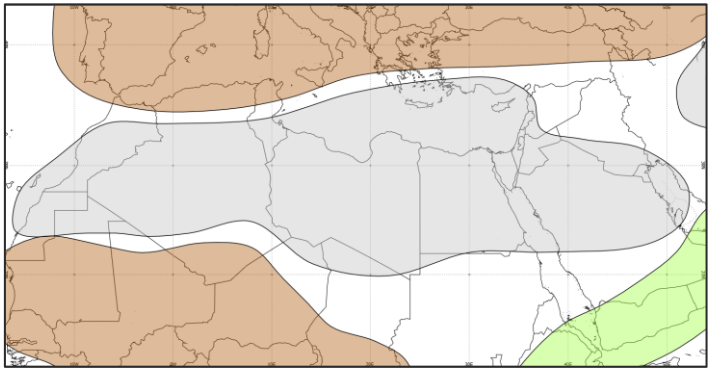
MENA, Caribbean and British Overseas Territories Current Status and Outlook - Rainfall

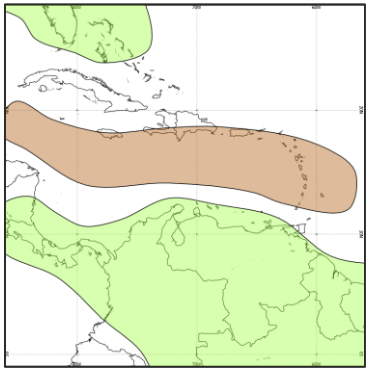
Current Status: Much of southern Europe and the Middle East have often been wetter than normal over the past few months. Meanwhile, many parts of the Caribbean have been drier than normal. Conditions have tended to wetter than average in the overseas territories in both the Indian and Pacific Oceans.

Outlook: In the Caribbean region, drier than normal conditions are more probable to the south and east of Hispaniola. Elsewhere, the outlook is more difficult to predict, with the likelihood of near, below, and above average rainfall more evenly balanced.

For the Middle East, forecast confidence is generally low. That said, this region should be moving towards its driest part of the year with many places seeing little rainfall. West and south-western Yemen have recently been very wet, and wetter than normal conditions look likely for months 1-3. Drier than normal conditions are slightly more probable overall across Turkey. Across the rest of the Middle East, and most of North Africa near normal rainfall is most likely.

Tropical Cyclone outlook: Information can be found here.





3-Month Outlook June to August 2020 - Rainfall

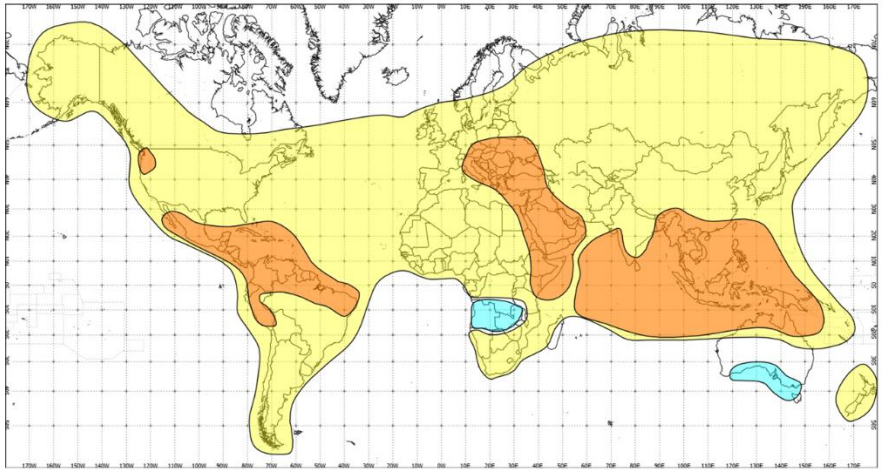
Below Normal		Near-Normal	Above Normal	
Very Likely	Likely		Likely	Very Likely

Left: Middle East and North Africa
Right: Caribbean region

Global Outlook - Temperature

Outlook: There is an increase in the likelihood of warmer than normal conditions across large parts of the world, with the highest confidence in tropical regions. This is consistent with the warming observed in the past decade.

3-Month Outlook June to August 2020 - Temperature



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

Global Outlook - Rainfall

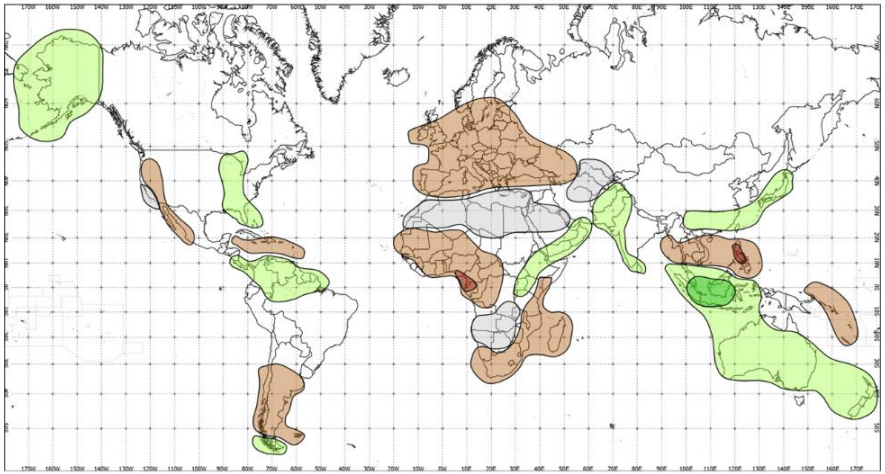
Outlook: Large-scale drivers of climate variability, such as the El Nino-Southern Oscillation (ENSO) and the Indian Ocean Dipole (IOD) are currently neutral. The implications of this is that predictability, compared to last year when there was a strong positive IOD event, will be lower.

Sea-surface temperatures (SSTs) have been falling in the tropical central and eastern Pacific. Further cooling is possible in the coming months and there is a very small chance of La Nina developing later in boreal summer or autumn. Even if a La Nina-type pattern develops, this is unlikely to have any significant influence on weather patterns during the next three months. The likelihood of La Nina developing by early autumn is currently estimated to be around 45%.

Very broadly, La Nina tends to lead to wetter than normal conditions across land areas in the tropics.

Meanwhile, in the Indian Ocean, there is increasing evidence in model output that a negative IOD pattern could develop later in the boreal summer. Predictions of the behavior of the IOD tend to have lower skill than those of ENSO; therefore, the increased likelihood of negative IOD developing shown in long-range forecasting systems carries low confidence. The negative IOD phase tends to increase the likelihood of wetter than normal conditions across Indonesia, Papua New Guinea and Australia and has been linked to poor performance of the East African Short Rains season (October to December).

3-Month Outlook June to August 2020 - Rainfall



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

For months 1-3, despite the lack of clear drivers of climate variability, models are in fairly good agreement in predicting a slight increase in the likelihood of wetter than normal conditions across central Asia and drier than normal conditions across parts of southeast Asia; however there is an increased likelihood of wetter than normal conditions across parts of Malaysia and much of Indonesia. Meanwhile, large swathes of Africa are more likely to experience drier than normal conditions.

Current Status

Current Status maps

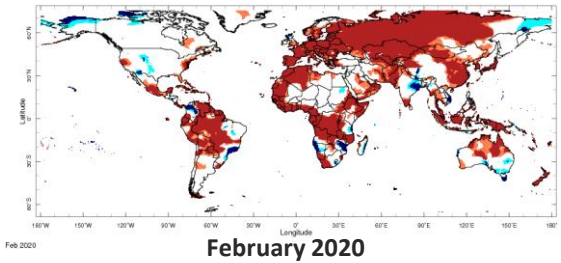
MENA – Middle East

MENA – North Africa

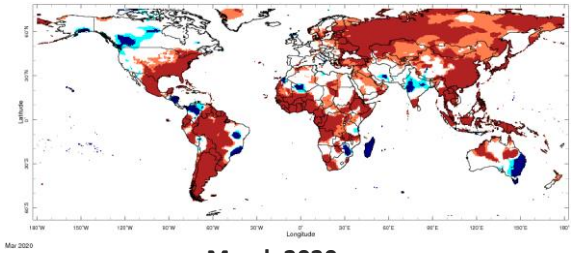
Caribbean

British Overseas Territories

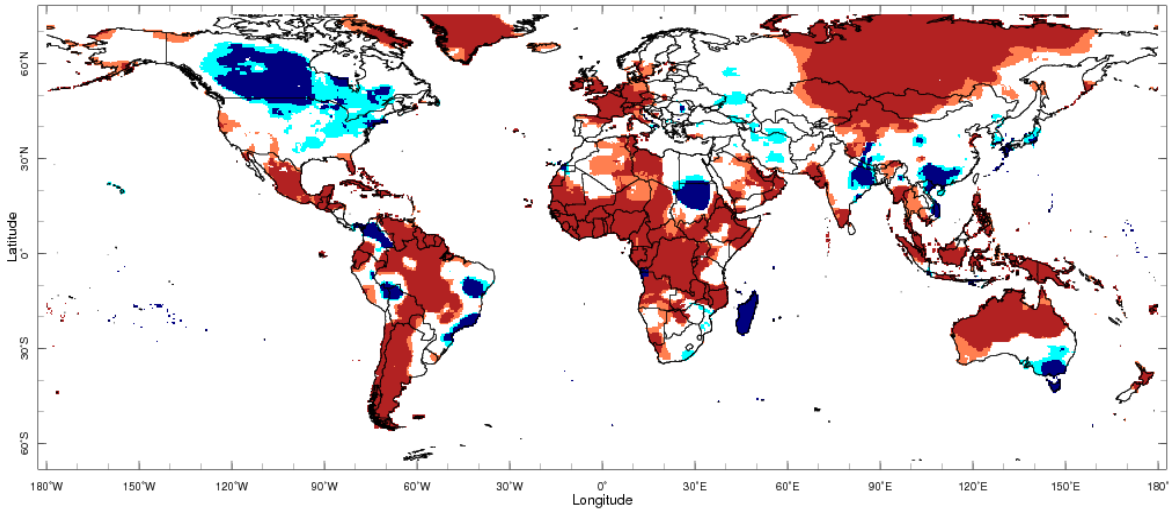
Current Status – Temperature percentiles



February 2020



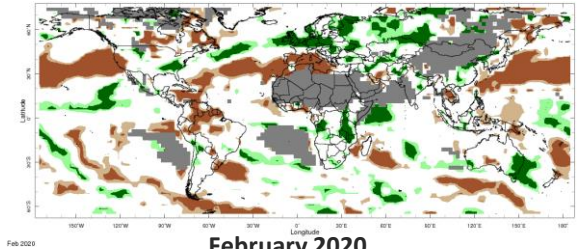
March 2020



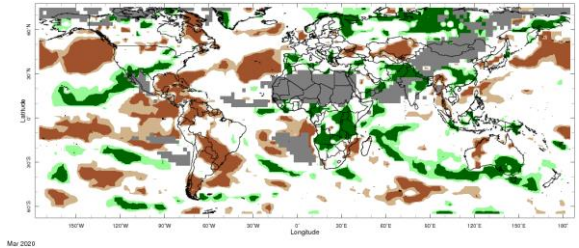
April 2020

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.

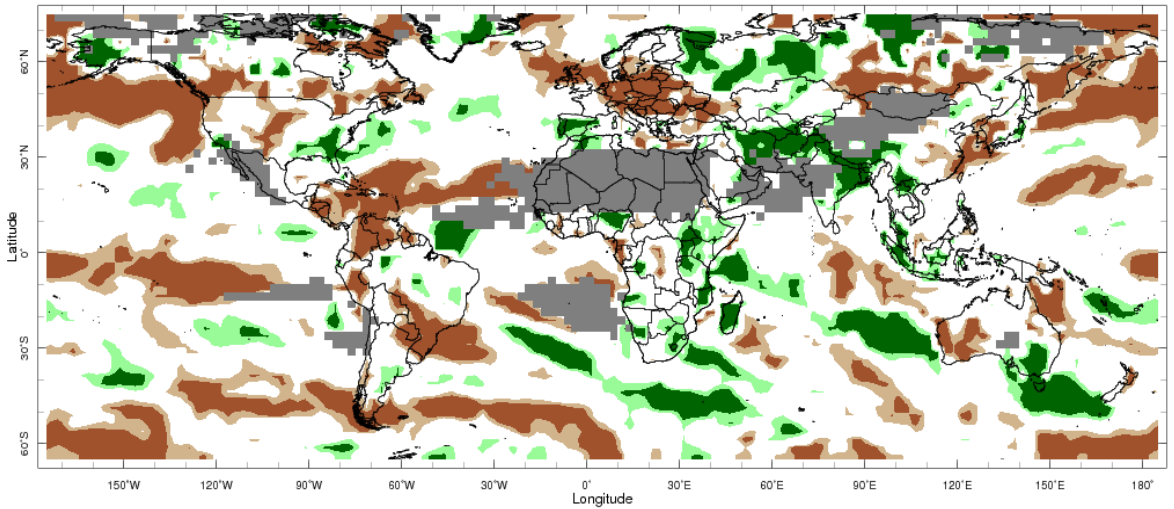
Current Status – Precipitation percentiles



February 2020



March 2020



April 2020

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		
	February	March	April	February	March	April
Turkey	Normal	Warm	Normal	Wet	Normal^	Normal
Palestine	Normal	Warm	Normal	Normal	Wet	Normal
Lebanon	Normal	Warm	Normal	Normal	Wet	Normal
Jordan	Normal	Warm	Normal	Normal	Very Wet	Normal
Syria	Normal	Warm	Normal	Normal	Wet^	Normal
Iraq	Normal	Warm	Normal	Wet	Normal^^	Normal
Yemen	Warm	Normal	Normal	Normal*	Very Wet	Wet

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^: In March, southeast Turkey was Very Wet.
Note^^: In March, northern Iraq and northern Syria were Very Wet.

Current Status – MENA – North Africa

	Current Status: Temperature			Current Status: Rainfall		
	February	March	April	February	March	April
Mauritania	Hot^	Hot	Warm	Normal*	Normal*	Normal
Morocco	Hot	Normal	Normal	Very Dry	Wet	Wet
Algeria	Hot	Warm	Normal	Very Dry	Normal	Wet
Tunisia	Warm	Normal	Normal	Very Dry	Wet	Normal
Libya	Warm	Warm	Normal	Very Dry*	Normal*	Normal
Egypt	Normal	Normal	Normal	Normal*	Normal*	Normal
Eritrea	Hot	Hot	Hot	Normal	Normal	Dry

Notes:

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

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

Additional Information:

^Note: In March northern Mauritania was Cool

Current Status – Caribbean

	Current Status: Temperature		
	February	March	April
Caribbean Region	Hot	Warm	Hot
Haiti	Hot	Normal	Hot
Guyana	Hot	Hot	Hot

	Current Status: Rainfall		
	February	March	April
Caribbean Region	Normal	Normal	Dry
Haiti	Dry	Normal	Very Dry
Guyana	Very Dry	Dry	Very Dry

Notes:

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

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

Additional Information:

Current Status – British Overseas Territories

	Current Status: Temperature			Current Status: Rainfall		
	February	March	April	February	March	April
Southern Europe	Hot	Normal	Normal	Very Dry	Very Wet	Wet
Central Indian Ocean	Cold	Cold	Cold	Normal	Wet	Wet
Central Pacific	Normal	Normal	Warm	Dry	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:

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

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

		Forecast summary		
		June	June to August	September to November
Syria	*Temperature*	Likely to be warmer than normal	**Much more likely to be warmer than normal**	Climatological odds – see note
	Rainfall	Likely to be near-normal	Climatological odds – see note	Likely to be drier than normal
Iraq	*Temperature*	Likely to be warmer than normal	**Much more likely to be warmer than normal**	Climatological odds – see note
	Rainfall	Likely to be near-normal	Climatological odds – see note	Likely to be drier than normal
Yemen	*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 – see note	Likely to be wetter 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: June to November – MENA – North Africa(1)

		Forecast summary		
		June	June to August	September to November
Mauritania	*Temperature*	Likely to be warmer than normal	**Much more likely to be warmer than normal**	Likely to be warmer than normal
	Rainfall	Likely to be near-normal	Likely to be drier than normal	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	Likely to be near-normal	Likely to be near-normal	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	Likely to be near-normal	Likely to be near-normal	Climatological odds – see note
Tunisia	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds – see note
	Rainfall	Likely to be near-normal	Likely to be near-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: June to November – MENA – North Africa(2)

		Forecast summary		
		June	June to August	September to November
Libya	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds – see note
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds – see note
Egypt	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds – see note
	Rainfall	Likely to be near-normal	Likely to be near-normal	Climatological odds – see note
Eritrea	*Temperature*	Much more likely to be warmer than normal	Likely to be warmer than normal	Climatological odds – see note
	Rainfall	Likely to be drier 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: June to November – Caribbean

		Forecast summary		
		June	June to August	September to November
Caribbean Region	*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** to the south and east of Hispaniola. Climatological odds elsewhere – see note	**Likely to be drier than normal** to the south and east of Hispaniola. Climatological odds elsewhere – see note	Climatological odds – see note
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 – see note	Climatological odds – see note	Climatological odds – see note
Guyana	*Temperature*	**Much more likely to be warmer than normal**	**Much more likely to be warmer than normal**	Likely to be warmer than normal
	Rainfall	**Likely to be wetter than normal**	**Likely to be wetter 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: June to November – British Overseas Territories

		Forecast summary		
		June	June to August	September to November
Southern Europe	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds – see note
	Rainfall	Likely to be near-normal	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 wetter than normal	Likely to be wetter than normal	Climatological odds – see note
Central Pacific	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds – see note
	Rainfall	Climatological odds – see note	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 June to November period:

Near to slightly above average activity is the most probable outcome, with storms perhaps preferentially affecting the Gulf of Mexico where there are currently above-average SSTs.

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)

Enquiries

Email: internationaldevelopment@metoffice.gov.uk

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