

Asia: Monthly Climate Outlook

April to January

Issued: July 2021

[Overview](#)

[Current Status](#)

[Outlooks](#)

[Annex 1 – Supplemental Information](#)

Overview

[Asia Current Status and Outlook – Temperature](#)

[Asia Current Status and Outlook – Rainfall](#)

[Global Outlook – Temperature](#)

[Global Outlook – Rainfall](#)

Asia Current Status and Outlook - Temperature

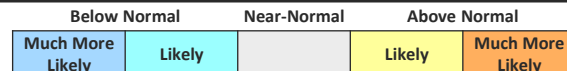
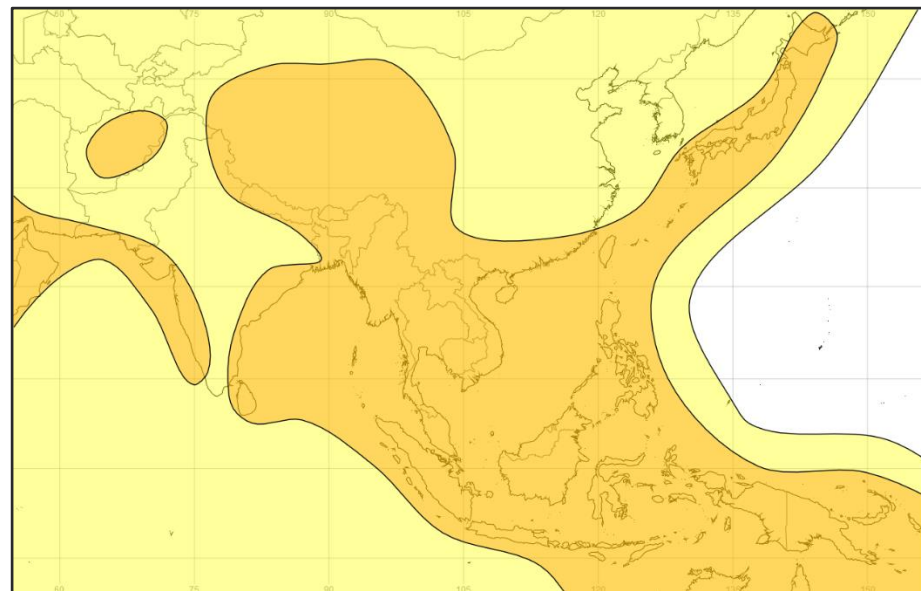
Current Status:

Most of the region has seen above normal temperatures over the past 2-3 months, although with the establishment of the South Asian Monsoon temperatures have been mixed across India and Pakistan, and cold across Nepal.

Outlook:

For the next three months, temperatures are likely or much more likely to be above normal across much of the region. Forest fires, as well as impacts on health from prolonged heat and poor air quality are more likely during warmer than likely temperatures, though these may be mitigated by monsoon rains.

3-Month Outlook August to October - Temperature



Asia Current Status and Outlook - Rainfall

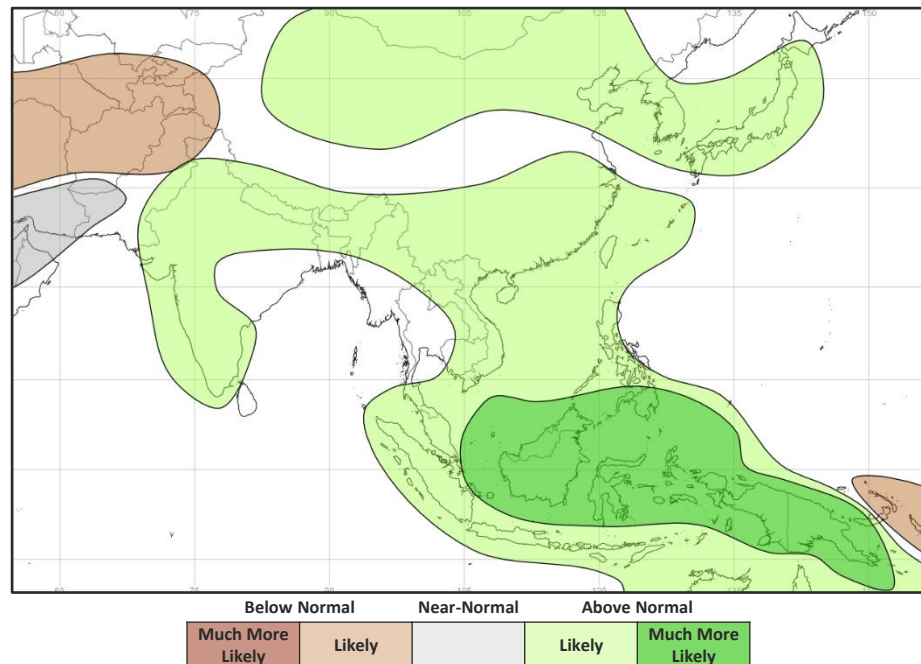
Current Status:

Central Asia has been drier than normal overall for the last three months. The Asian Summer Monsoon established through June (in line with climatology), bringing near-normal rainfall to India and wet or very wet conditions across Bangladesh and Nepal.

Outlook:

For the next three months, the active negative IOD (see Global section) makes above normal rainfall much more likely across Indonesia, and likely across much of the rest of Asia. Central Asia is likely to remain drier than normal.

3-Month Outlook August to October - Rainfall



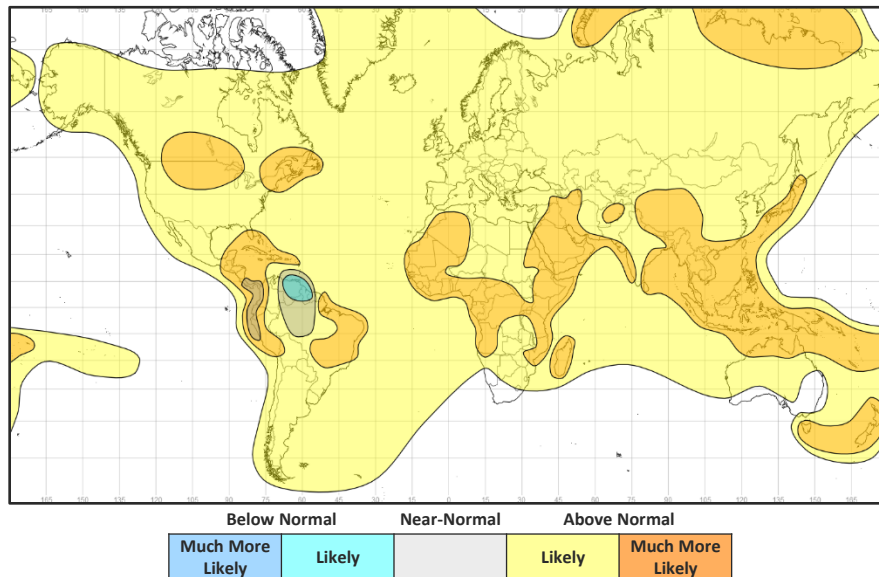
Global Outlook - Temperature

Outlook:

Whilst the El-Nino Southern Oscillation (ENSO) remains neutral and will have little impact on global weather patterns, the recent development and establishment of a negative Indian Ocean Dipole (IOD) improves forecast predictability for areas around the Indian Ocean Basin. NOAA CPC forecast a 66% chance of a return to La Niña in the period November to January. Should this develop, confidence in forecasts for the boreal (Northern Hemisphere) winter should increase.

For the next three months, above normal temperatures are likely across much of the world's land areas, which is consistent with our current warming climate. The strongest exception to warm conditions is in northern South America, where increased rainfall means it is likely to be cooler than normal.

3-Month Outlook August to October - Temperature



Global Outlook - Rainfall

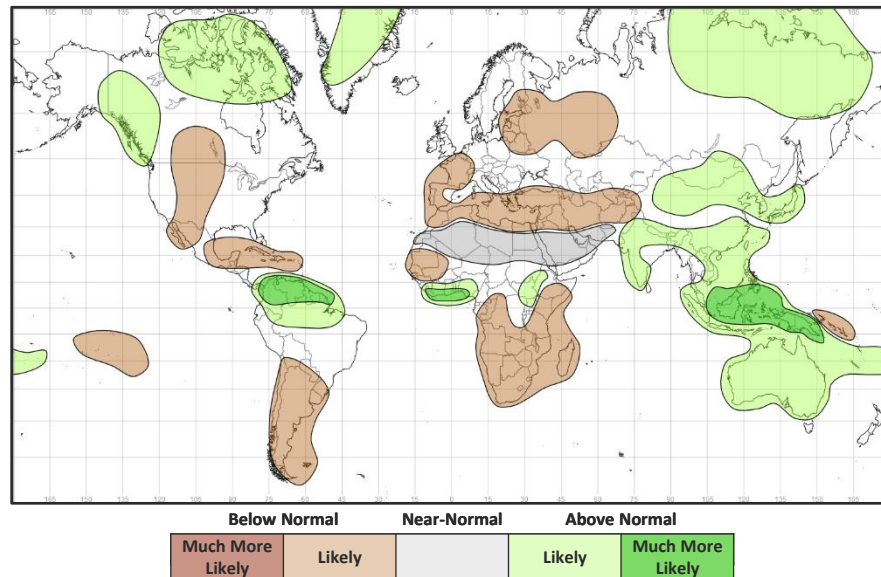
Outlook:

Over the next three months, with ENSO neutral, the IOD will be the dominant global driver of rainfall patterns – though this influence is mainly limited to countries around the Indian Ocean Basin. Above normal rainfall is much more likely for northern Australasia in particular, and the Indian Summer Monsoon is likely to be more active than usual. Much of Southern Africa is likely to be drier than normal, with reduced rainfall as the seasonal rains return southwards.

Warmer than normal sea-surface temperatures (SST) adjacent to the Gulf of Guinea coastline result in above normal rainfall being likely, at the expense of some of the areas further north. These areas, which would usually see their peak rainfall over the next month or two due to the West African Monsoon, are likely to be drier than normal. The south-shifted Intertropical Convergence Zone (ITCZ) resulting from this SST pattern is expected to be the driver for above normal rainfall being much more likely across northern South America.

Rainfall across southern parts of south America, and large tracts of southern Europe, is likely to be below normal, along with the Caribbean and parts of Mexico and the USA. Above normal precipitation is likely for some high-latitude parts of the Northern Hemisphere.

3-Month Outlook August to October - Rainfall



Current Status

[Current Status maps](#)

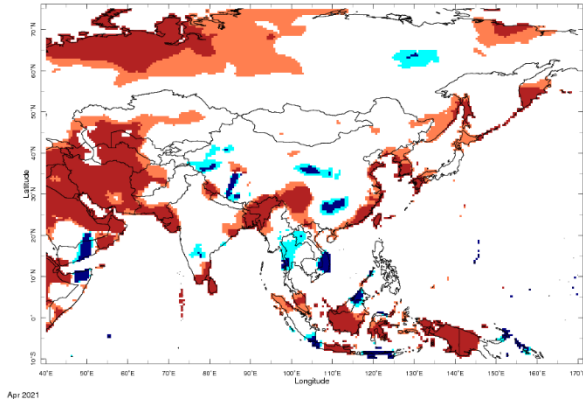
[Central Asia](#)

[Southern Asia](#)

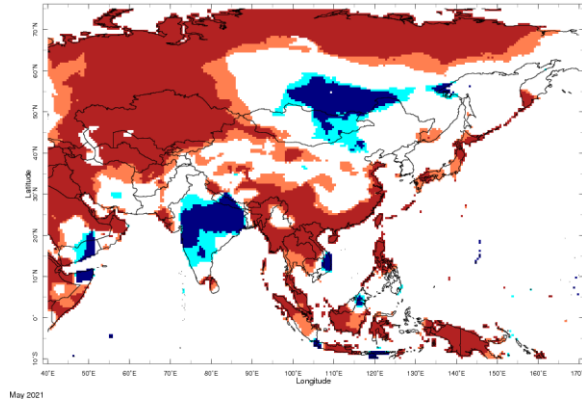
[Southeast Asian Peninsula](#)

[Southeastern Asia / Indonesia](#)

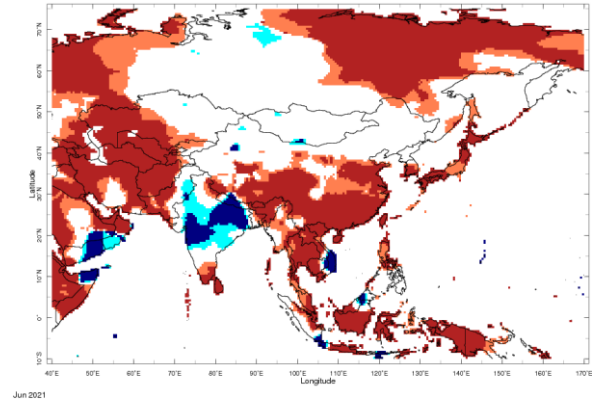
Current Status – Temperature percentiles



April



May

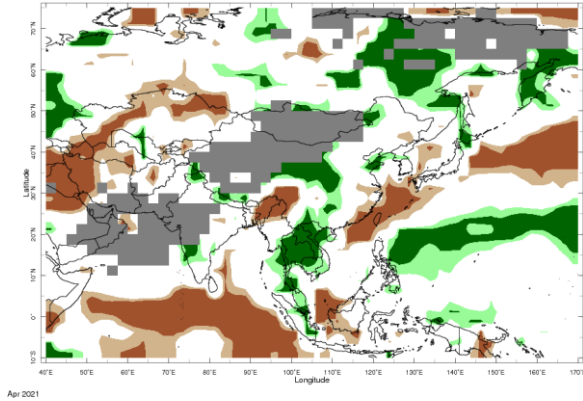


June

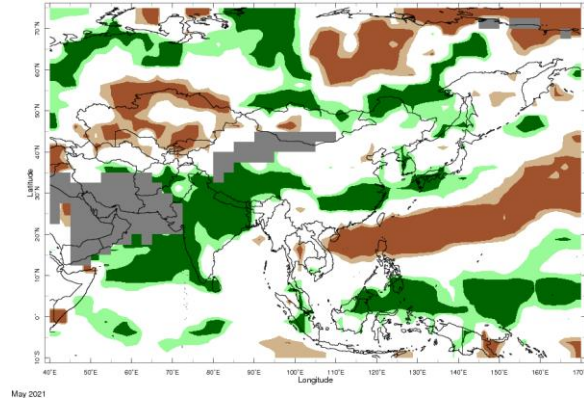


Notes: The percentiles shown in the map indicate a ranking of temperature, with the 0th percentile being the coolest and the 100th percentile being the warmest in the 1981-2010 climatology. Orange and red shading represent values above the 80th (Warm) and 90th (Hot) percentile, respectively; regions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

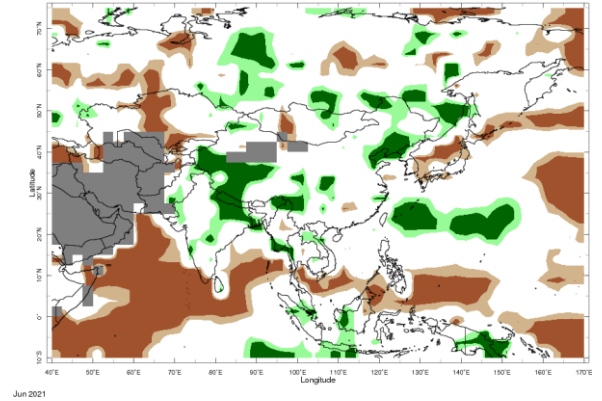
Current Status – Precipitation percentiles



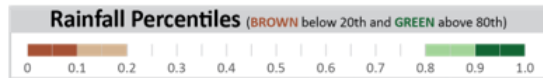
April



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 – Central Asia

Current Status: Temperature

	April	May	June
Afghanistan	Hot (1)	Warm	Hot
Tajikistan	Normal	Warm	Hot
Kyrgyzstan	Normal	Hot	Warm

Current Status: Rainfall

	April	May	June
	Normal	Mixed (2)	Very Dry*
	Normal	Normal	Normal
	Normal	Dry	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: Near Normal for parts of the north and east, but overall Hot
(2) Note: Normal* in the south, Very Wet in parts of the northeast

Current Status – Southern Asia

Current Status: Temperature

	April	May	June
Pakistan	Normal (1)	Normal	Mixed (2)
India	Normal (1)	Cold	Mixed (3)
Nepal	Normal	Cold	Cold
Bangladesh	Hot	Hot	Warm

Current Status: Rainfall

	April	May	June
	Normal	Mixed (4)	Mixed (5)
	Normal	Very Wet	Normal
	Wet	Very Wet	Very Wet
	Normal	Normal	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:

- (1) Note:** Hot in coastal regions
- (2) Note:** Hot in the west, Normal in the east.
- (3) Note:** Hot in extreme south. Cool to Cold for many central regions.
- (4) Note:** Normal* in the south, Wet in the north.
- (5) Note:** Normal* in the west, wet in the east.

Current Status – Southeast Asian Peninsula

Current Status: Temperature

	April	May	June
China	Normal (1)	Normal (1)	Hot (3)
Myanmar	Normal	Hot	Warm
Vietnam	Mixed (2)	Mixed (2)	Mixed (4)

Current Status: Rainfall

	April	May	June
	Mixed (5)	Mixed (5)	Normal
	Normal (6)	Normal	Normal
	Wet	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 along the east coast and across Tibet
- (2) Note:** Hot in the north, Cold in the south
- (3) Note:** Hot in the south, Normal in the north
- (4) Note:** Hot north and south, Cold central parts.
- (5) Note:** Large variations across the country
- (6) Note:** Dry in the north

Current Status – Southeastern Asia / Indonesia

	Current Status: Temperature			Current Status: Rainfall		
	April	May	June	April	May	June
Indonesia	Mixed (1)	Mixed (1)	Hot	Normal	Mixed (2)	Normal
Papua New Guinea	Hot	Hot	Hot	Dry	Dry	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:

(1) Note: Large variations across the country

(2) Note: Highly variable, all areas normal or wet/very wet

Outlooks

Outlooks – Notes for use

Central Asia

Southern Asia

Southeast Asian Peninsula

Southeastern Asia / Indonesia

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: August to January – Central Asia

		Forecast summary		
		August	August to October	November to January
Afghanistan	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	Likely to be drier than normal
Tajikistan	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
Kyrgyzstan	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Climatological odds	Climatological odds	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: August to January – Southern Asia

		Forecast summary		
		August	August to October	November to January
Pakistan	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Likely to be wetter than normal in the far south, elsewhere Climatological odds.	Climatological odds
India	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Climatological odds
	Rainfall	Likely to be wetter than normal in some areas, elsewhere Climatological odds.	Likely to be wetter than normal	Climatological odds
Nepal	Temperature	Likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Likely to be wetter than normal	Climatological odds
Bangladesh	Temperature	Likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Likely to be wetter than normal	Climatological odds

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Outlook: August to January – SE Asian Peninsula

		Forecast summary		
		August	August to October	November to January
China	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 in the south.	Likely to be wetter than normal	Climatological odds
Myanmar	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	Climatological odds	Climatological odds
Vietnam	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 wetter than normal	Likely to be wetter than normal

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Outlook: August to January – SE Asia / Indonesia

		Forecast summary		
		August	August to October	November to January
Indonesia	Temperature	Much more likely to be warmer than normal	Much more likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Much more likely to be wetter than normal	Much more likely to be wetter than normal	Likely to be wetter than normal
Papua New Guinea	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	Much more likely to be wetter than normal	Likely to be wetter than normal

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Annex 1 – Supplemental Information

For further information

WMO Lead Centre for Long-Range Forecast Multi-Model Ensemble (LC-LRFMME)

<https://www.wmolc.org/>

International Research Institute for Climate and Society (IRI)

<http://iridl.ldeo.columbia.edu/maproom/>

NOAA El Niño technical info

<https://www.ncdc.noaa.gov/teleconnections/enso/indicators/sst.php>

Met Office

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

The South Asian Climate Outlook Forum (SASCOF) http://www.imdpune.gov.in/Clim_RCC_LRF/Index.html

Latest Output (Apr 2021) - <http://rcc.imdpune.gov.in/SASCOF17/concensus.html>

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 normal	When probability of upper tercile is 40-70%
Much more likely to be above normal	When probability of upper tercile > 70%
Climatological odds	When probabilities for all categories are roughly 33%

Global Producing Centres (GPC) forecasts used by WMO LC-LRFMME:

- GPC CPTC (INPE),
- GPC ECMWF,
- GPC Exeter (Met Office),
- GPC Melbourne (BOM),
- GPC Montreal (CMC),
- GPC Moscow (Hydromet Centre of Russia),
- GPC Offenbach (DWD),
- GPC Pretoria (SAWS),
- GPC Seoul (KMA),
- GPC Tokyo (JMA),
- GPC Toulouse (Meteo France),
- GPC Washington (NCEP)

Enquiries

Email: internationaldevelopment@metoffice.gov.uk

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