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Asia: Monthly Climate Outlook December to September

Issued: March 2025

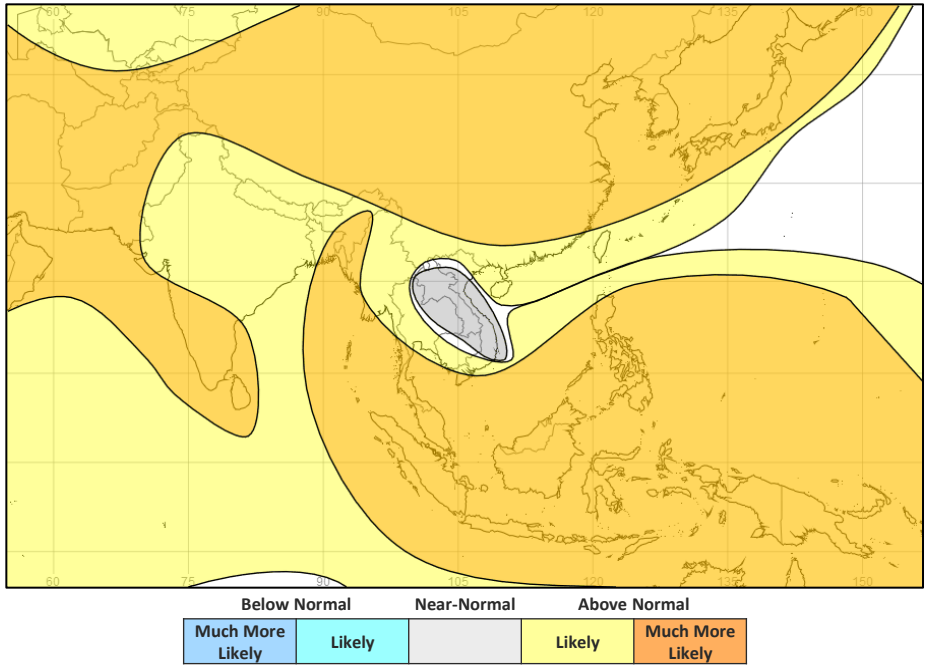
Overview

Asia Current Status and Outlook - Temperature

Current Status: Parts of Vietnam and Indonesia experienced below normal temperatures between December and February. Central Asia and western China also had below normal temperatures in December. Otherwise, above normal temperatures were experienced for most other areas.

Outlook: Warmer than normal conditions are likely or very likely over the next three months. This implies an increased risk compared to normal of heatwaves and heat related impacts including for South Asia ahead of the monsoon.

3-Month Outlook April to June - Temperature



Asia Current Status and Outlook - Rainfall

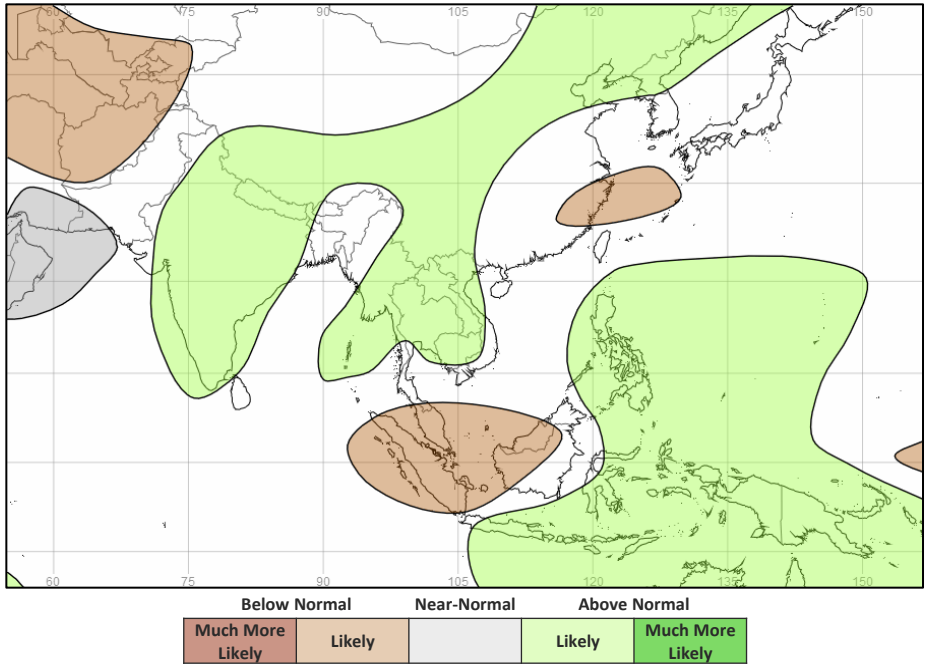
Current Status: Between December and February rainfall tends to be focused over the south of this region across maritime Southeast Asia. Conditions here were mixed but many areas experienced above normal rainfall.

Central Asia also tends to experience an increase in precipitation during December to February. Here conditions were dry in December. Dry conditions continued during January and February for Kyrgyzstan. Northeast Afghanistan was wet during February.

Outlook: Wetter than normal likely across India, Nepal as well as for parts of China and Southeast Asia. Drier than normal is likely across parts of southeast China and western Indonesia. Drier than normal is likely for Central Asia, including Afghanistan, ahead of the transition to the dry season here.

Tropical cyclones – Across the North Indian ocean, activity tends to peak during May and June before another increase in activity later in the year – associated with the advance and retreat of the South Asian monsoon. Skilful prediction of activity across the basin on seasonal timescales tends to be limited. Tropical cyclones can form throughout the year in Northwest Pacific basin though activity tends to peak between May and October. Near normal activity is likely through this period.

3-Month Outlook April to June - Rainfall

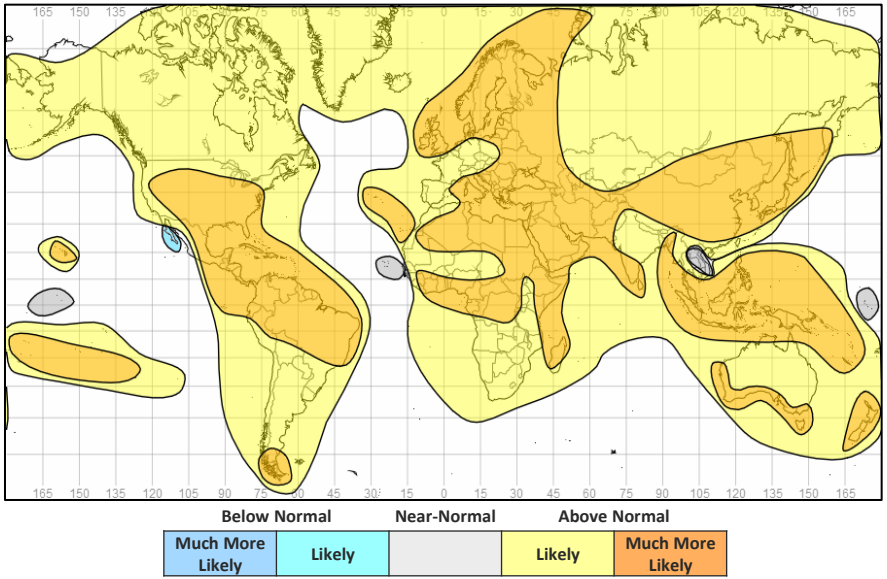


Global Outlook - Temperature

Outlook: The recent La Niña event has come to an end with ENSO returning to neutral. ENSO is very likely to remain neutral during the coming months.

Consistent with a warming climate, nearly all land areas are likely or very likely to experience warmer than normal conditions through the next three months.

3-Month Outlook April to June - Temperature



Global Outlook - Rainfall

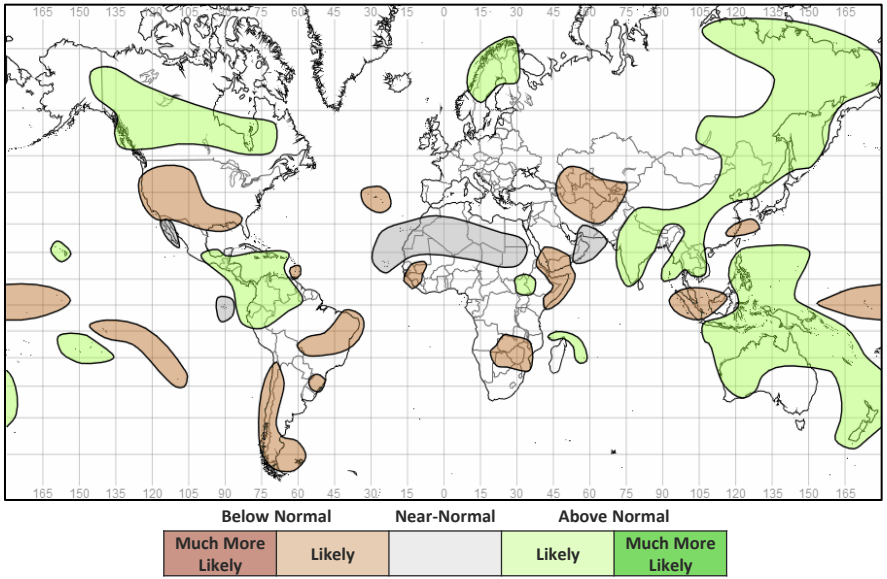
Outlook:

El Niño-Southern Oscillation (ENSO) – Sea surface temperatures in the tropical Pacific have warmed over recent weeks indicative of the end of the recent La Niña event. A very weak La Niña pattern still exists and will still have some impacts on tropical rainfall patterns early in this period though its influence as a global driver of weather patterns is diminishing. Forecasts for ENSO suggest a neutral state is very likely through to the end of the northern hemisphere summer.

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 Diploe (IOD) – The IOD is currently neutral and therefore will provide limited predictive values over the coming months. Forecasts for the IOD suggest it will most likely remain neutral for the next 3 months.

3-Month Outlook April to June - Rainfall



Current Status

Current Status maps

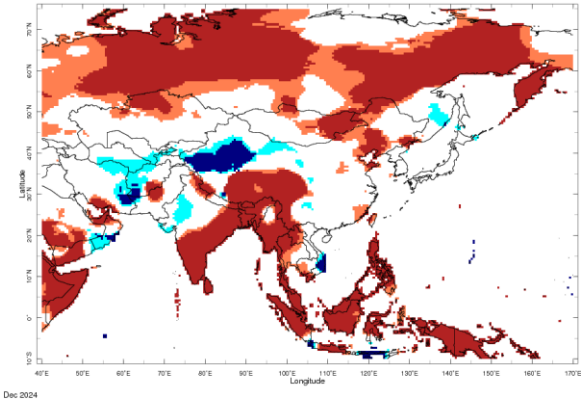
Central Asia

Southern Asia

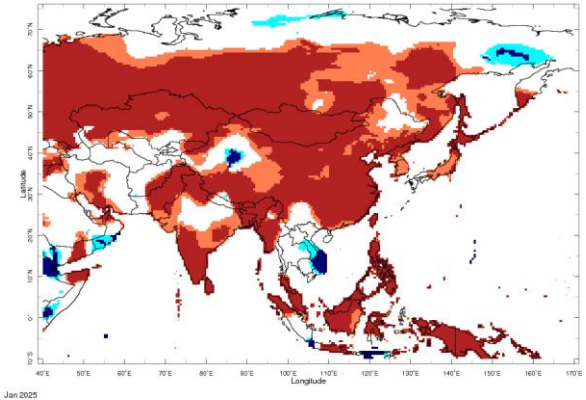
Southeast Asian Peninsula

Southeastern Asia / Indonesia

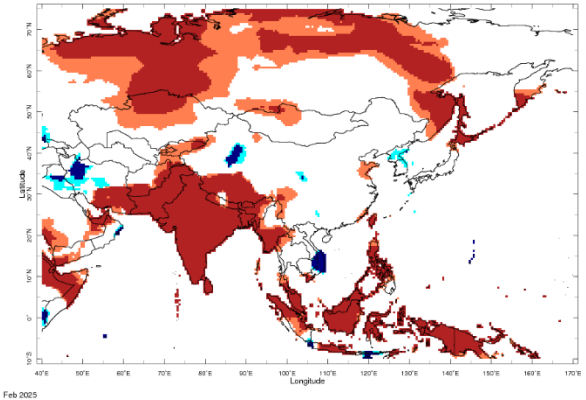
Current Status – Temperature percentiles



December



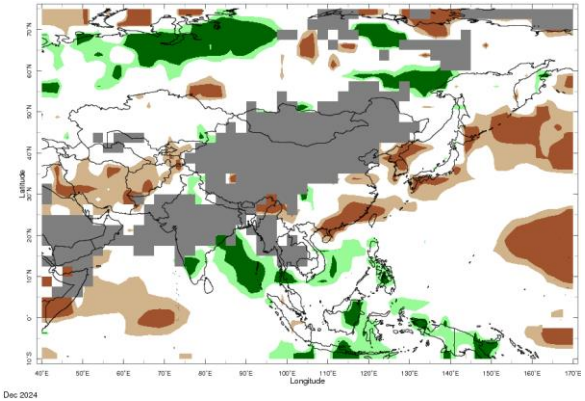
January



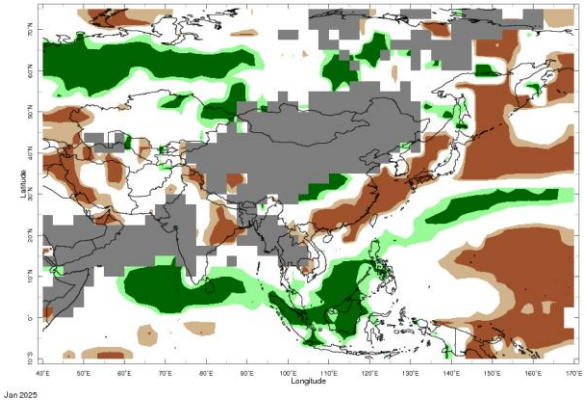
February

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.

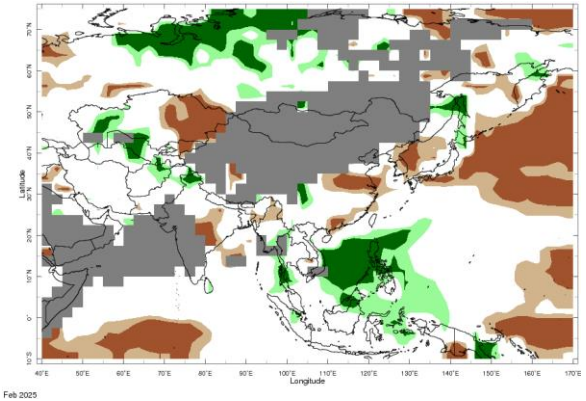
Current Status – Precipitation percentiles



December



January



February

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			Current Status: Rainfall		
	December	January	February	December	January	February
Afghanistan	Mixed (1)	Normal (2)	Normal (2)	Dry	Normal	Mixed (4)
Tajikistan	Normal	Normal	Warm	Dry	Normal	Normal
Kyrgyzstan	Normal	Normal (3)	Warm	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:

(1) Note: Mainly normal, but cool or cold in the west and hot in parts of the south
(2) Note: Hot in the far east
(3) Note: Hot in the east
(4) Note: Wet in the northeast, else normal

Current Status – Southern Asia

	Current Status: Temperature			Current Status: Rainfall		
	December	January	February	December	January	February
Pakistan	Normal (1)	Hot	Hot	Normal*	Normal	Normal
India	Mixed (2)	Hot	Hot	Normal* (4)	Normal (5)	Normal (5)
Nepal	Mixed (3)	Mixed (6)	Hot	Normal*	Normal	Normal
Bangladesh	Hot	Hot	Hot	Normal*	Normal*	Normal
Sri Lanka	Hot	Warm	Hot	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:

(1) Note: Normal, but hot in parts of the west
(2) Note: Hot in the south and east, normal or cool in the northwest
(3) Note: Normal in the west, hot in the east
(4) Note: Normal* but very wet in parts of the south and east
(5) Note: Dry or very dry in parts of the east
(6) Note: Mainly Normal, hot in the east, and far west

Current Status – Southeast Asian Peninsula

	Current Status: Temperature			Current Status: Rainfall		
	December	January	February	December	January	February
China	Mixed (4)	Hot	Normal	Mixed (2)	Mixed (2)	Mixed (2)
Myanmar	Hot	Hot (5)	Hot	Mixed (3)	Normal*	Mixed (6)
Vietnam	Mixed (1)	Mixed (1)	Mixed (1)	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 the south, normal elsewhere
(2) Note: Normal, but very dry in the southeast
(3) Note: Normal*, but very dry in parts of the north
(4) Note: Normal, but hot in the south and cold in parts of the west
(5) Note: Cool in the far south
(6) Note: Wet or very wet in parts of the south, else normal

Current Status – Southeastern Asia / Indonesia

	Current Status: Temperature			Current Status: Rainfall		
	December	January	February	December	January	February
Indonesia	Mixed (1)	Mixed (1)	Mixed (1)	Mixed (2)	Mixed (4)	Normal
Papua New Guinea	Hot	Hot	Hot	Wet (3)	Very Dry	Mixed (5)
Timor-Leste	Cool	Hot	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: Large variations; many areas hot
(2) Note: Mainly normal but wet or very wet for many southern and eastern parts
(3) Note: Very wet in the east
(4) Note: Wet or very wet in the northwest, else normal
(5) Note: Normal or dry in the west, very wet in the east

Outlooks

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: April to September – Central Asia

		Forecast summary		
		April	April to June	July to September
Afghanistan	*Temperature*	Likely to be warmer than normal	**Much more likely to be warmer than normal**	Much more likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Likely to be near-normal
Tajikistan	*Temperature*	Likely to be warmer than normal	**Much more likely to be warmer than normal**	Much more likely to be warmer than normal
	Rainfall	Likely to be drier than normal	Likely to be drier than normal	Likely to be drier than normal
Kyrgyzstan	*Temperature*	Likely to be warmer than normal	**Much more likely to be warmer than normal**	Much more likely to be warmer than normal
	Rainfall	Climatological odds	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: April to September – Southern Asia (1)

		Forecast summary		
		April	April to June	July to September
Pakistan	*Temperature*	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
India	*Temperature*	Likely to be warmer than normal	Likely to be warmer than normal north, **Much more likely to be warmer than normal** south	Climatological odds
	Rainfall	Likely to be wetter than normal far south, else Climatological odds	Likely to be wetter than normal	Likely to be wetter than normal
Nepal	*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	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: April to September – Southern Asia (2)

		Forecast summary		
		April	April to June	July to September
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	Climatological odds	Likely to be wetter than normal
Sri Lanka	*Temperature*	**Much more likely to be warmer than normal**	**Much more likely to be warmer than normal**	Much more likely to be warmer than normal
	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: April to September – SE Asian Peninsula

		Forecast summary		
		April	April to June	July to September
China	*Temperature*	Likely to be warmer than normal	**Much more likely to be warmer than normal**	Much more likely to be warmer than normal
	Rainfall	Climatological odds	Likely to be wetter than normal in the northeast and south, Likely to be drier than normal in the southeast, else Climatological odds	Climatological odds
Myanmar	*Temperature*	**Much more likely to be warmer than normal**	Likely to be warmer than normal	Much more likely to be warmer than normal
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal	Climatological odds
Vietnam	*Temperature*	Likely to be near-normal south, Likely to be warmer than normal north	Likely to be near-normal south, Likely to be warmer than normal north	Much more likely to be warmer than normal
	Rainfall	Likely to be wetter than normal	Climatological odds	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: April to September – SE Asia / Indonesia

		Forecast summary		
		April	April to June	July to September
Indonesia	*Temperature*	**Much more likely to be warmer than normal**	**Much more likely to be warmer than normal**	Much more likely to be warmer than normal
	Rainfall	**Likely to be drier than normal** west, **Likely to be wetter than normal** east	**Likely to be drier than normal** west, **Likely to be wetter than normal** east	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**	Much more likely to be warmer than normal
	Rainfall	**Likely to be wetter than normal**	**Likely to be wetter than normal**	Likely to be wetter than normal
Timor-Leste	*Temperature*	**Much more likely to be warmer than normal**	**Much more likely to be warmer than normal**	Much more likely to be warmer than normal
	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.

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.ncei.noaa.gov/access/monitoring/enso/

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

Climate Outlook Fora (WMO Factsheet), including:

The South Asian Climate Outlook Forum (SASCOF) http://www.imdpune.gov.in/Clim_RCC_LRF/Index.html
Latest Output (September 2022) - http://sahfhydromet.rimes.int/wp-content/uploads/2022/10/Enhanced-SCOS-SASCOF-23-JJAS.pdf

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 near-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 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