

Asia: Monthly Climate Outlook May to February

Issued: August 2022

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Overview

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Asia Current Status and Outlook - Temperature

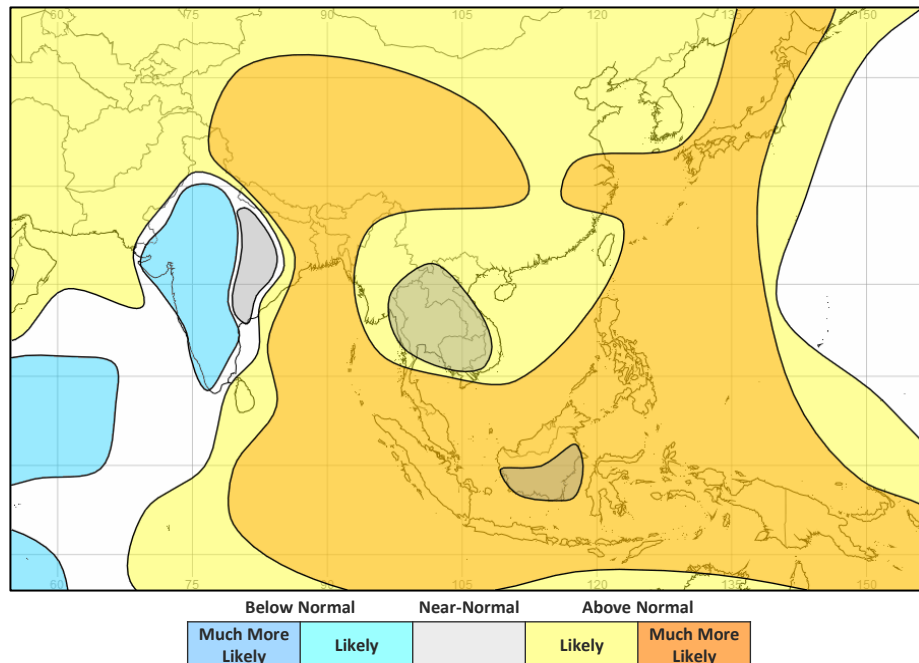
Current Status:

Most of the region has experienced warm to hot conditions over the last three months. However, parts of Southeast Asia and the Indian Subcontinent have experienced cold conditions at times.

Outlook:

Consistent with La Niña conditions, many areas are much more likely to experience above normal temperatures over the next three months. Western parts of India are likely to be colder than normal.

3-Month Outlook September to November - Temperature



Asia Current Status and Outlook - Rainfall

Current Status:

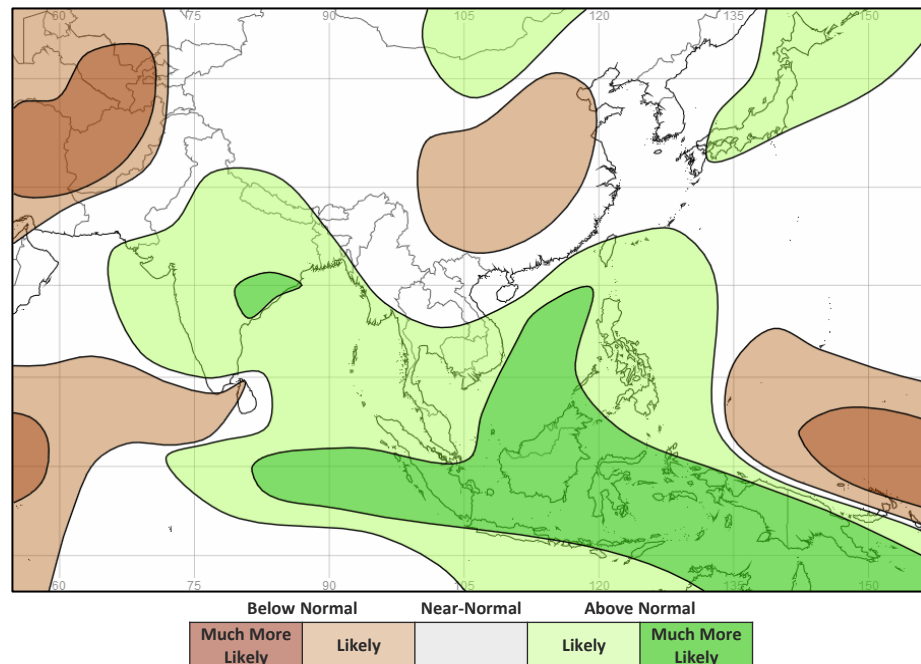
Central Asia saw a normal May and June, although during these months some parts climatologically experience very little rainfall. Over the last three months Southern Asia has generally been more mixed, ranging from normal to very wet. Parts of Southeast Asia have been wet in May, and again in July. In Papua New Guinea after a dry May, June was normal, whilst July was mixed. Pakistan has experienced very wet conditions in June and July.

Outlook:

Over the next three months, above normal rainfall is much more likely across Indonesia and Papua New Guinea, due to La Niña and the negative Indian Ocean Dipole. Above normal rainfall is also likely across much of Southeastern and southern Asia.

In Central Asia, below normal rainfall is likely, especially for Afghanistan and Tajikistan.

3-Month Outlook September to November - Rainfall



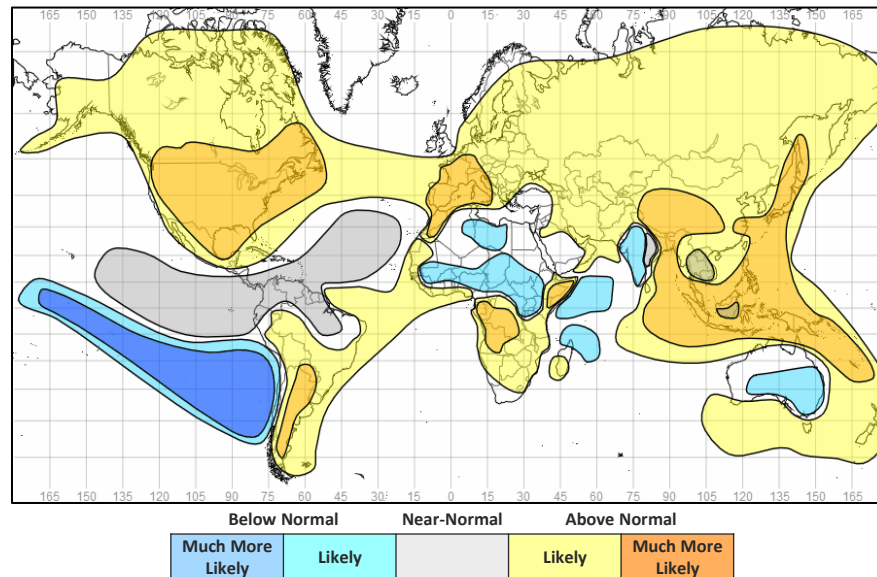
Global Outlook - Temperature

Outlook:

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

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

3-Month Outlook September to November - Temperature



Global Outlook - Rainfall

Outlook:

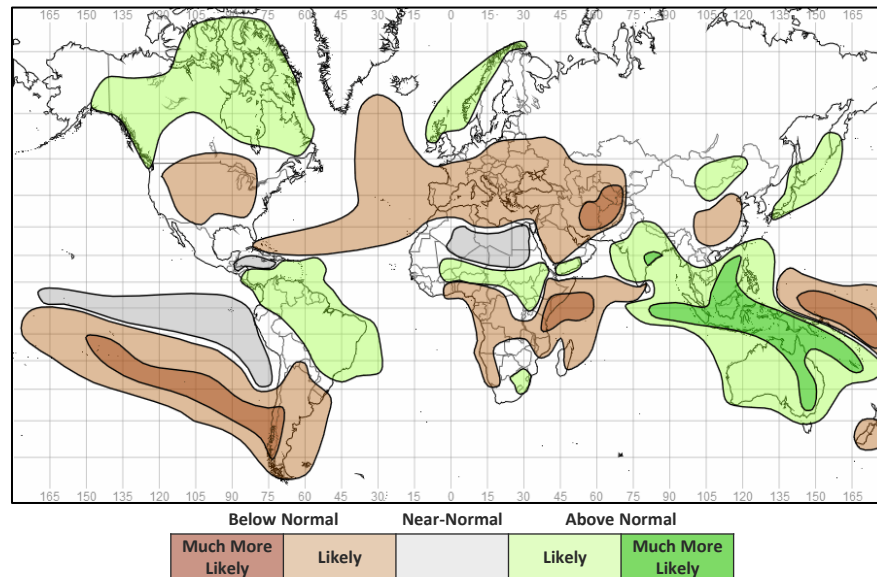
El Niño-Southern Oscillation (ENSO) – La Niña event continues in the tropical Pacific Ocean. Both oceanic and atmospheric indicators have changed little over the past month.

The latest [ENSO outlook](#) issued by NOAA (22nd August) states that La Niña is active, with an 86% chance that it will continue through the northern hemisphere autumn, and 60% chance that La Niña will last into the northern hemisphere winter. These probabilities have increased since last month, largely due to observed cooling in the tropical Pacific.

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

Indian Ocean Dipole (IOD) – The IOD index is negative and is expected to remain so into next year. When concurrent with a La Niña, a negative IOD can increase the effects of a La Niña, enhancing wetter than normal conditions in parts of Australia and Asia, and drier than normal conditions in East Africa - of particular concern given the current drought conditions in the Horn of Africa.

3-Month Outlook September to November - Rainfall



Current Status

[Current Status maps](#)

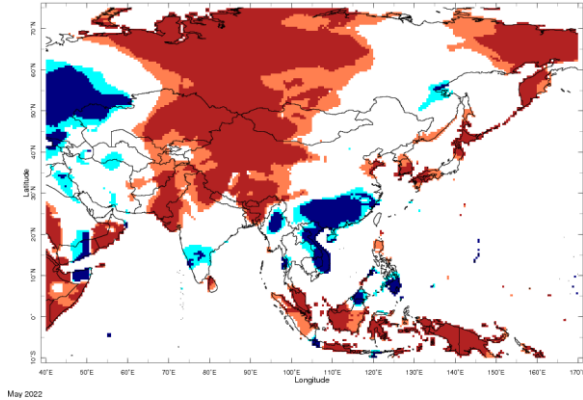
[Central Asia](#)

[Southern Asia](#)

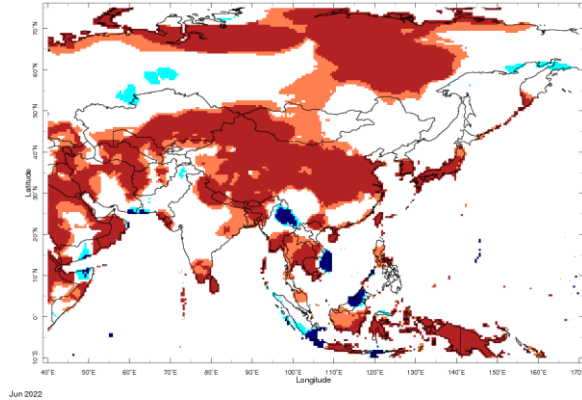
[Southeast Asian Peninsula](#)

[Southeastern Asia / Indonesia](#)

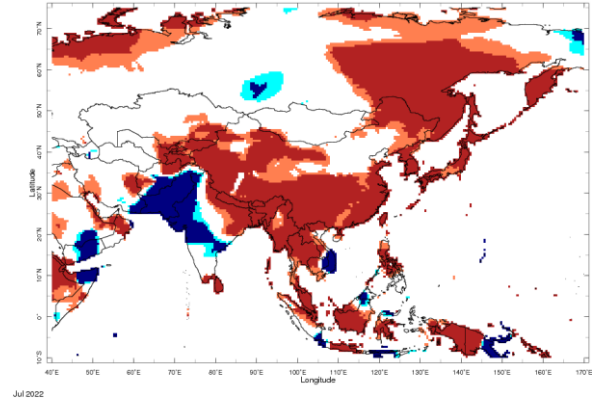
Current Status – Temperature percentiles



May



June

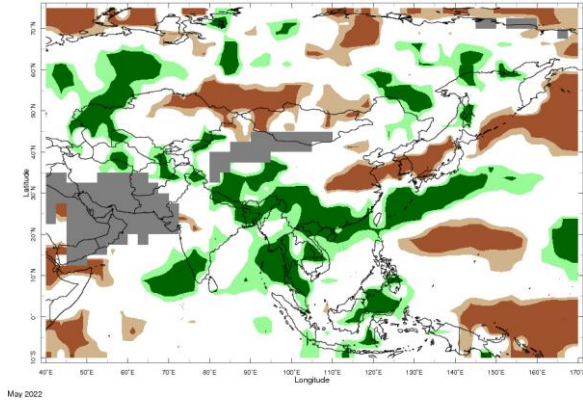


July

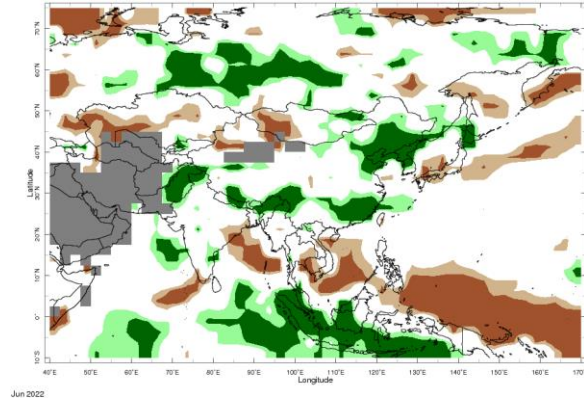


Notes: The percentiles shown in the map indicate a ranking of temperature, with the 0th percentile being the coolest and the 100th percentile being the warmest in the 1981-2010 climatology. Orange and red shading represent values above the 80th (Warm) and 90th (Hot) percentile, respectively; regions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

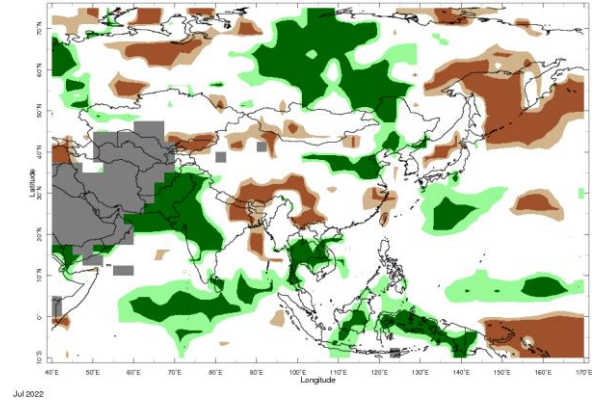
Current Status – Precipitation percentiles



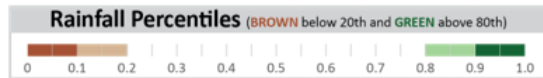
May



June



July



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		
	May	June	July
Afghanistan	Warm	Mixed (1)	Mixed (2)
Tajikistan	Warm	Normal	Hot
Kyrgyzstan	Warm	Warm	Hot

	Current Status: Rainfall		
	May	June	July
Afghanistan	Mixed (3)	Normal*	Normal*
Tajikistan	Mixed (4)	Normal	Normal
Kyrgyzstan	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:

- (1) Note:** Hot in the west, more variable in the east.
- (2) Note:** Cold in the east, variable elsewhere.
- (3) Note:** Wet in the north, normal elsewhere.
- (4) Note:** Wet in the west, normal elsewhere.

Current Status – Southern Asia

Current Status: Temperature

	May	June	July
Pakistan	Hot	Normal	Cold
India	Mixed (1)	Mixed (3)	Mixed (4)
Nepal	Mixed (2)	Hot	Hot
Bangladesh	Hot	Hot	Hot
Sri Lanka	Hot	Hot	Hot

Current Status: Rainfall

	May	June	July
	Mixed (5)	Very Wet	Very Wet
	Mixed (6)	Normal	Mixed (8)
	Very Wet	Wet	Dry
	Very Wet	Mixed (7)	Dry
	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 the far northeast and northwest, normal elsewhere.
- (2) Note:** Hot in the far west and far east, normal elsewhere.
- (3) Note:** Normal overall. Locally warm or hot.
- (4) Note:** Cold in the northwest, hot in the northeast, variable elsewhere.
- (5) Note:** Wet in the far north. Normal elsewhere.
- (6) Note:** Wet in the far north and far south. Normal elsewhere.
- (7) Note:** Wet in the far north. Normal elsewhere.
- (8) Note:** Dry in the east and wet in the west and north. Normal elsewhere.

Current Status – Southeast Asian Peninsula

Current Status: Temperature

	May	June	July
China	Mixed (1)	Hot	Hot
Myanmar	Cold	Mixed (2)	Hot
Vietnam	Cold	Mixed (3)	Mixed (3)

Current Status: Rainfall

	May	June	July
China	Mixed (4)	Normal (5)	Normal (5)
Myanmar	Wet	Normal	Very Wet
Vietnam	Wet	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 for much of the west, very cold in the southeast, normal elsewhere.
- (2) Note:** Large variation across the country.
- (3) Note:** Large variation, from cold in south, to hot in extreme north.
- (4) Note:** Most regions normal, but very wet across southern areas, and dry in the north-east.
- (5) Note:** Large variation across the country.

Current Status – Southeastern Asia / Indonesia

	Current Status: Temperature			Current Status: Rainfall		
	May	June	July	May	June	July
Indonesia	Hot	Hot (1)	Hot	Normal	Wet	Mixed (2)
Papua New Guinea	Hot	Hot	Hot	Dry	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: Parts of Sumatra and Java normal, and cold in places.

(2) Note: Large variations across the country.

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: September to February – Central Asia

		Forecast summary		
		September	September to November	December to February
Afghanistan	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	Much more likely to be drier than normal	Climatological odds
Tajikistan	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
Kyrgyzstan	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	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: September to February – Southern Asia (1)

		Forecast summary		
		September	September to November	December to February
Pakistan	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	Climatological odds	Climatological odds
India	Temperature	Likely to be colder than normal for much of the east and south. Likely to be warmer than normal or Much more likely to be warmer than normal in the far west	Likely to be colder than normal for much of the east and south. Likely to be warmer than normal or Much more likely to be warmer than normal in the far west	Likely to be colder than normal for much of the east and south. Likely to be warmer than normal or Much more likely to be warmer than normal in the far west
	Rainfall	Likely to be wetter than normal	Likely to be wetter than normal	Climatological odds
Nepal	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	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: September to February – Southern Asia (2)

		Forecast summary		
		September	September to November	December to February
Bangladesh	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	Likely to be drier than normal
Sri Lanka	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be warmer than normal
	Rainfall	Climatological odds	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: September to February – SE Asian Peninsula

		Forecast summary		
		September	September to November	December to February
China	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 drier than normal in the south and east; Climatological odds elsewhere
Myanmar	Temperature	Likely to be warmer than normal	Likely to be warmer than normal	Likely to be colder than normal
	Rainfall	Likely to be wetter than normal in the south; Climatological odds elsewhere	Likely to be wetter than normal in the south; Climatological odds elsewhere	Climatological odds
Vietnam	Temperature	Likely to be warmer than normal	Likely to be near-normal	Likely to be colder than normal
	Rainfall	Likely to be wetter than normal in the south; Climatological odds elsewhere	Likely to be wetter than normal in the south; Climatological odds elsewhere	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: September to February – SE Asia / Indonesia

		Forecast summary		
		September	September to November	December to February
Indonesia	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 wetter than normal	Much more likely to be wetter than normal	Much more 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	Much more likely to be wetter than normal	Much more likely to be wetter than normal	Climatological odds

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

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 (September 2021) - https://imdpune.gov.in/Climate_Outlook_Statement_OND2021_SASCOF20_30_SEP_2021.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 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

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