

Asia: Monthly Climate Outlook July to April

Issued: October 2021

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Overview

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Asia Current Status and Outlook - Temperature

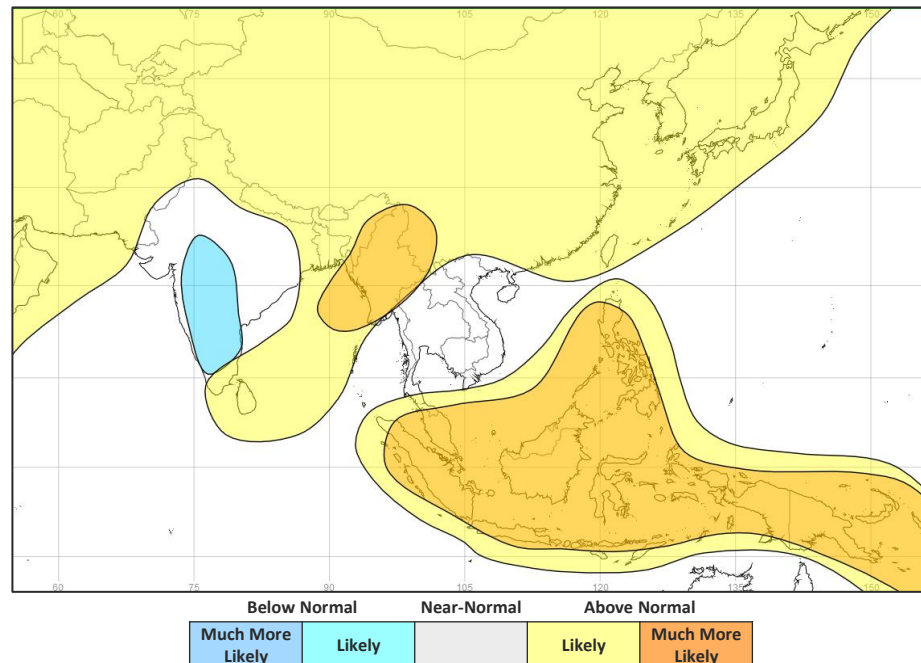
Current Status:

Over the last three months, most places were warm or hot; there were some large variations across China, Myanmar and Vietnam. Parts of Vietnam experienced colder than normal conditions in July and August.

Outlook:

For the next three months, it is likely to be warmer than normal across large parts of the continent. The main exceptions to this is the Indian subcontinent and parts of Indochina where it is likely to be near-normal or colder than normal.

3-Month Outlook November to January - Temperature



Asia Current Status and Outlook - Rainfall

Current Status:

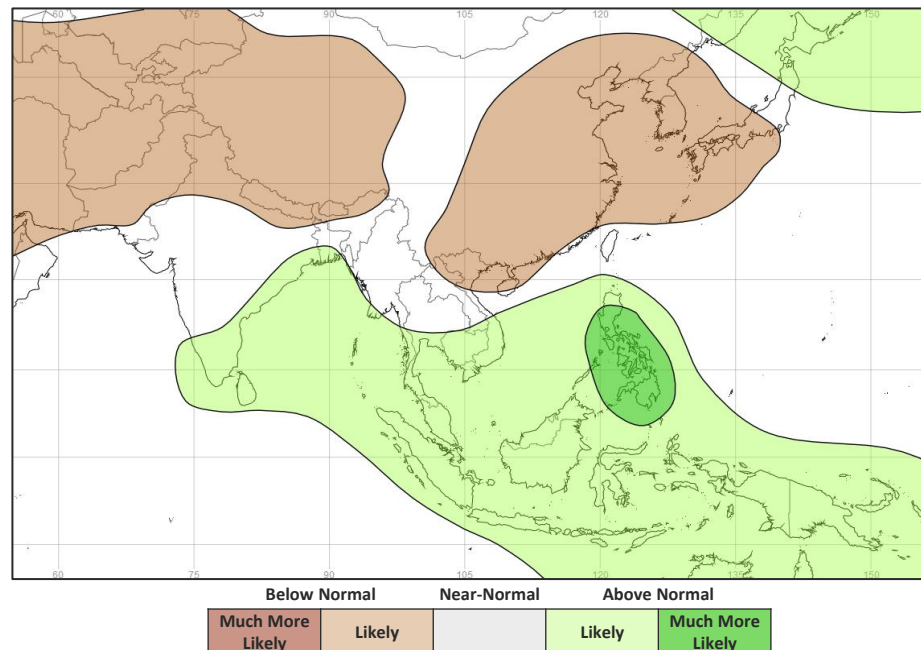
Over the last three months, normal conditions were observed in Central Asia, except for Afghanistan where it was Very Wet in the far east. The South West Asia monsoon has been particularly active over the last three months especially across Nepal and Bangladesh, whilst in India the monsoon activity was more mixed. Wet to Very Wet conditions were experienced across Myanmar and parts of China, and Indonesia.

Outlook:

Over the next three months, consistent with La Niña, the Philippines, parts of Indonesia, and southern Indochina are likely or much more likely to be wetter than normal. Wetter than normal conditions are also more probable across Sri Lanka and eastern India.

Southern and eastern China likely to drier than normal, along with southwest Japan, the Korean Peninsula and large parts of central Asia, including Pakistan and Afghanistan.

3-Month Outlook November to January - Rainfall



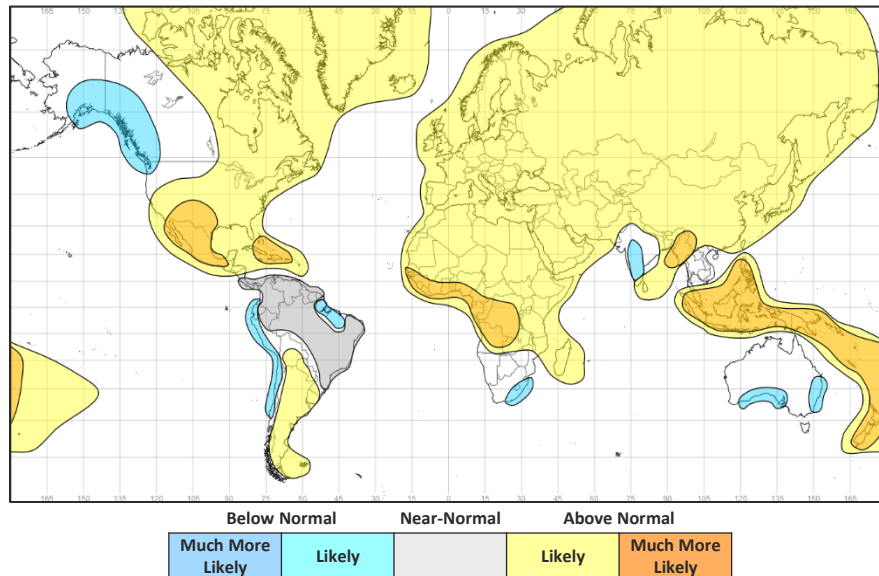
Global Outlook - Temperature

Outlook:

The current La Niña event, which is likely to persist into the spring, will strongly influence global temperature variations in the coming months. Many parts of the globe are likely to see warmer than normal conditions through the next three months.

However, consistent with the effects of La Niña, parts of Australia, southern Africa, the northern half of South America, parts of Canada and northern USA are more likely to be colder than normal.

3-Month Outlook November to January - Temperature



Global Outlook - Rainfall

Outlook:

“El Niño-Southern Oscillation (ENSO): Sea surface temperature patterns in the Pacific Ocean indicate a weak La Niña event is now occurring, with linked changes in atmospheric patterns also observed. These conditions are likely to continue into early 2022.

Many tropical land areas are likely to experience above-normal rainfall in November to January, especially Indonesia / Malaysia and northern / eastern Australia.

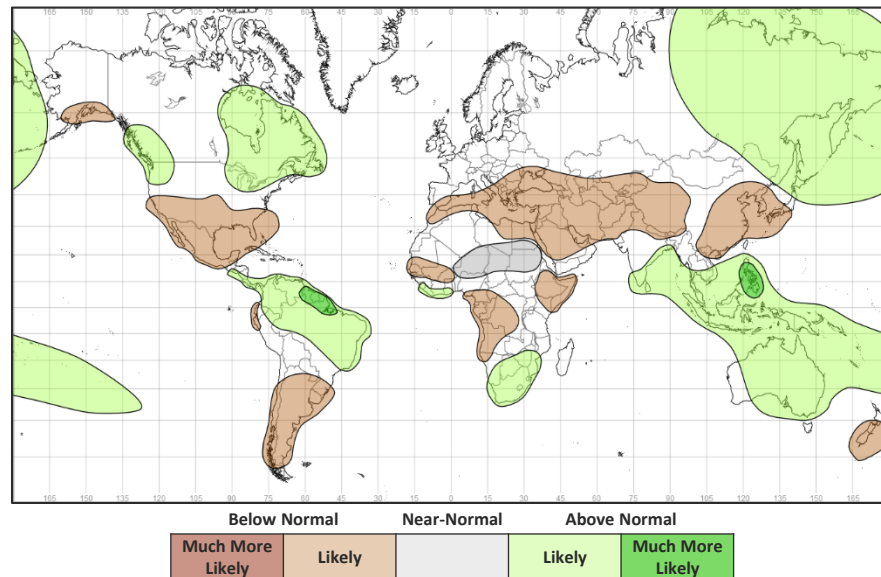
Seasonal forecast models are not consistently predicting typical La Nina seasonal anomalies beyond early 2022 and this is reflected in the 3-6 month outlook for many regions; the next Climate Outlooks issued in November will provide an update.

More information on typical impacts can be found [here](#)

Indian Ocean Dipole (IOD) – A weak negative Indian Ocean Dipole (IOD) event is occurring in the Indian Ocean. This is expected to weaken rapidly in November, quickly limiting its effect on global weather patterns.

Until the IOD completely fades, the remaining negative signal increases the chance of wetter than normal conditions across Malaysia, Indonesia and much of southern and eastern Australia. Meanwhile, East Africa and southern parts of the Arabian Peninsula have an increased chance of drier than normal conditions.

3-Month Outlook November to January - Rainfall



Current Status

[Current Status maps](#)

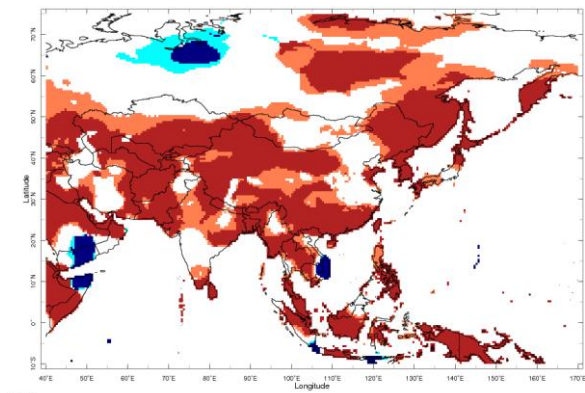
[Central Asia](#)

[Southern Asia](#)

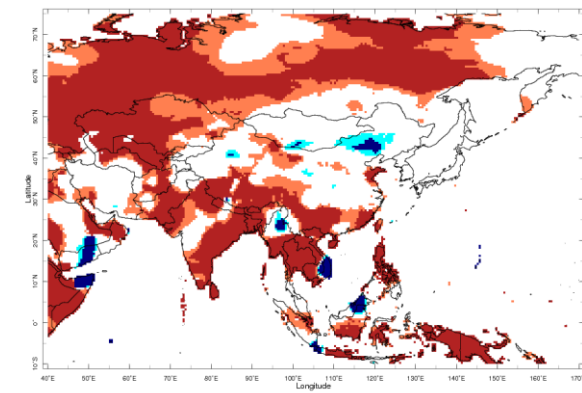
[Southeast Asian Peninsula](#)

[Southeastern Asia / Indonesia](#)

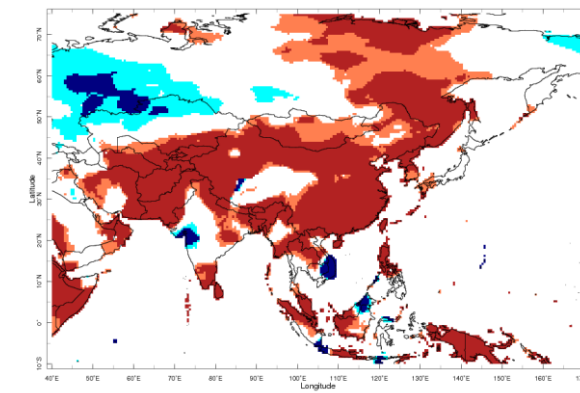
Current Status – Temperature percentiles



July

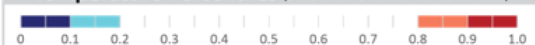


August



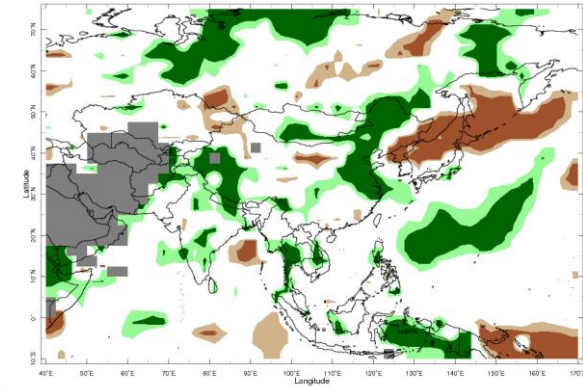
September

Temperature Percentiles (BLUE below 20th and RED above 80th)



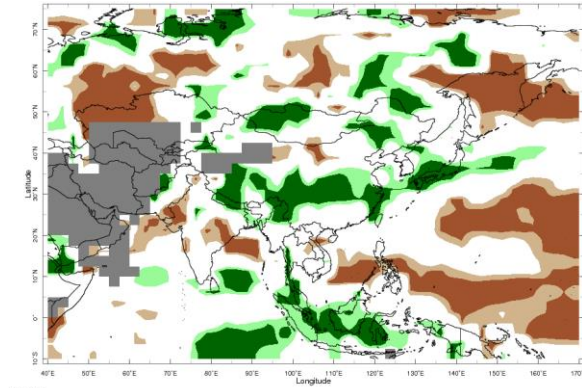
Notes: The percentiles shown in the map indicate a ranking of temperature, with the 0th percentile being the coolest and the 100th percentile being the warmest in the 1981-2010 climatology. Orange and red shading represent values above the 80th (Warm) and 90th (Hot) percentile, respectively; regions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



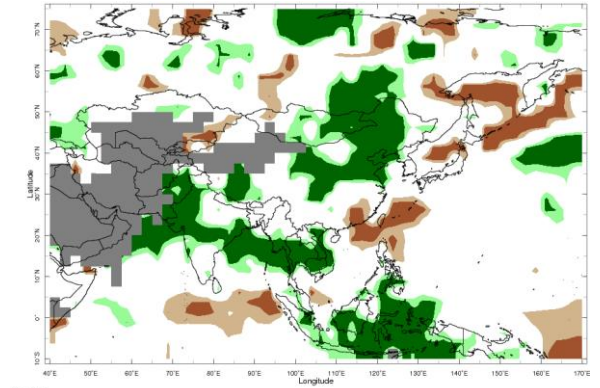
Jul 2021

July



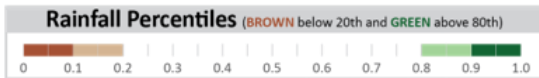
Aug 2021

August



Sep 2021

September



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

| | July | August | September |
|-------------|------|--------|-----------|
| Afghanistan | Hot | Warm | Hot |
| Tajikistan | Hot | Normal | Hot |
| Kyrgyzstan | Hot | Normal | Hot |

Current Status: Rainfall

| | July | August | September |
|--|---------|-----------|-----------|
| | Normal* | Mixed (1) | Mixed (1) |
| | Wet | Normal* | Normal |
| | 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: Normal* widely, but Very Wet in the far east.

Current Status – Southern Asia

| | Current Status: Temperature | | |
|------------|-----------------------------|--------|-----------|
| | July | August | September |
| Pakistan | Hot | Warm | Hot |
| India | Normal (2) | Hot | Mixed (5) |
| Nepal | Warm | Hot | Hot |
| Bangladesh | Hot | Hot | Hot |

| | Current Status: Rainfall | | |
|--|--------------------------|-----------|-----------|
| | July | August | September |
| | Mixed (1) | Normal | Very Wet |
| | Mixed (3) | Mixed (4) | Mixed (3) |
| | Very Wet | Very Wet | Wet |
| | Normal | 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:

- (1) Note:** Normal in the south, Wet in the north.
- (2) Note:** Warm/Hot in the north and extreme south.
- (3) Note:** Wet in the north and central regions; normal elsewhere
- (4) Note:** Locally dry
- (5) Note:** Hot in the north and far south; Normal elsewhere

Current Status – Southeast Asian Peninsula

Current Status: Temperature

| | July | August | September |
|---------|------|-----------|-----------|
| China | Hot | Mixed (2) | Hot |
| Myanmar | Hot | Mixed (3) | Hot |
| Vietnam | Cold | Mixed (4) | Mixed (4) |

Current Status: Rainfall

| | July | August | September |
|--|-----------|-----------|-----------|
| | Mixed (1) | Mixed (5) | Mixed (6) |
| | Very Wet | Wet | Mixed (7) |
| | Normal | Normal | Very 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:** Hot in the far south, mainly normal elsewhere
- (3) Note:** Hot in the south, normal to cold in the north.
- (4) Note:** Cold in central parts, hot elsewhere.
- (5) Note:** Very Wet across central parts, Normal elsewhere
- (6) Note:** Very Wet in northern and central regions; Dry in the far south; Normal elsewhere
- (7) Note:** Very Wet in central regions; Normal elsewhere

Current Status – Southeastern Asia / Indonesia

| | Current Status: Temperature | | | Current Status: Rainfall | | |
|------------------|-----------------------------|--------|-----------|--------------------------|--------|-----------|
| | July | August | September | July | August | September |
| Indonesia | Hot | Hot | Hot | Normal (1) | Wet | Wet |
| Papua New Guinea | Hot | Hot | 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:

(1) Note: Wet in the east

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: November to April– Central Asia

| | | Forecast summary | | |
|-------------|-------------|--------------------------------|---------------------------------|---------------------|
| | | November | November to January | February to April |
| Afghanistan | Temperature | Climatological odds | Likely to be warmer than normal | Climatological odds |
| | Rainfall | Likely to be drier than normal | Likely to be drier than normal | Climatological odds |
| Tajikistan | Temperature | Climatological odds | Likely to be warmer than normal | Climatological odds |
| | Rainfall | Likely to be drier than normal | Likely to be drier than normal | Climatological odds |
| Kyrgyzstan | Temperature | Climatological odds | Likely to be warmer than normal | Climatological odds |
| | Rainfall | Likely to be drier than normal | Likely to be drier 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.

Outlook: November to April– Southern Asia

| | | Forecast summary | | |
|------------|-------------|---|--|---------------------------------|
| | | November | November to January | February to April |
| Pakistan | Temperature | Climatological odds | Likely to be warmer than normal | Climatological odds |
| | Rainfall | Likely to be drier than normal in the north; Likely to be near-normal in the south | Likely to be drier than normal | Climatological odds |
| India | Temperature | Climatological odds | Likely to be warmer than normal in the north; Likely to be colder than normal in central and southern regions; Climatological odds elsewhere | Climatological odds |
| | Rainfall | Likely to be near-normal in the north; Likely to be wetter than normal in the south | Likely to be drier than normal in the north; Likely to be wetter than normal in the south and east; Climatological odds elsewhere | Climatological odds |
| Nepal | Temperature | Climatological odds | Likely to be warmer than normal | Climatological odds |
| | Rainfall | Likely to be drier than normal | Likely to be drier than normal | Climatological odds |
| Bangladesh | 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 along the coast; Climatological odds elsewhere | Climatological odds |

Outlook: November to April– SE Asian Peninsula

| | | Forecast summary | | |
|---------|-------------|---|--|---------------------------------|
| | | November | November to January | February to April |
| China | Temperature | Climatological odds | 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 across Tibet and in southern and eastern areas; Likely to be wetter than normal in the far northeast; Climatological odds elsewhere | 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 | Likely to be wetter than normal along the coast; Climatological odds elsewhere | Climatological odds |
| Vietnam | Temperature | Likely to be warmer than normal | Climatological odds | Climatological odds |
| | Rainfall | Likely to be wetter than normal | Likely to be drier than normal in the north; Likely to be wetter than normal in the south | 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: November to April– SE Asia / Indonesia

| | | Forecast summary | | |
|------------------|-------------|---|---|---------------------------------|
| | | November | November to January | February to April |
| 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 | Likely to be wetter than normal | Likely to be wetter than normal | Climatological odds |
| 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 | 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 (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>