Twenty-sixth Session of the ASEAN Climate Outlook Forum (ASEANCOF-26)

19 - 22 May 2026, Online

Consensus Bulletin for June-July-August (JJA) 2026 Season

INTRODUCTION

The Association of Southeast Asian Nations Climate Outlook Forum (ASEANCOF) is an avenue to collaboratively develop consensus-based seasonal climate outlooks and related information on a regional scale. The forum's outlook and its activities contribute significantly to one of the key roles of the ASEAN Specialised Meteorological Centre (ASMC), which is to conduct climate and seasonal prediction for the ASEAN region through pooling the expertise of ASEAN National Meteorological and Hydrological Services (NMHSs). In 2021, the ASEANCOF Working Group was established with the goal to guide and support the long-term development of ASEANCOF, in particular with regard to the implementation of objective outlooks.

The twenty-sixth session of ASEANCOF (ASEANCOF-26) was organized by the Philippine Atmospheric, Geophysical, and Astronomical Services Administration (PAGASA), Regional Multi-Hazard Early Warning System for Africa and Asia (RIMES), ASMC, the ASEANCOF Working Group, and WMO. This included two prior training sessions: firstly, an introduction to the Seasonal Fundamentals eLearning (pilot version for ASEANCOF) by the UK Met Office; secondly, training and discussion on the Relative Oceanic Niño Index (RONI), by NOAA, Bureau of Meteorology (BoM) Australia, ASMC, and the Meteorological Service Singapore (MSS). During the second training session, participants agreed to adopt RONI alongside other Niño indices for monitoring ENSO in the region.

Navigating an uncertain climate future requires stronger collaboration and more effective use of climate information across the ASEAN region. Guided by the theme of ASEANCOF-26, "Navigating Our Future, Together: Translating Climate Forecasts into Actions", the focus of this COF was to strengthen the capacity and confidence of NMHSs to deliver actionable forecasts that support climate-informed decision-making. During the COF proper, participants from the NMHSs of ASEAN Member States created a consensus forecast for the boreal summer monsoon 2026 in the ASEAN region. The consensus for the June-July-August (JJA) 2026 outlook was achieved through a virtual session, which included presentations from NMHSs, questionnaires, and discussions regarding the current climate conditions and predictions for Southeast Asia. On the last day of ASEANCOF-26, a user-engagement webinar was held, with a sharing on the use of climate information for various sectors by the United Nations (UN) Economic and Social Commission for Asia and the Pacific (ESCAP), Food and Agriculture Organization of the UN (FAO), International Rice Research Institute (IRRI), and the multi-hazard impact-based forecasting and early warning systems by PAGASA. A recording of the webinar is available at ASEANCOF-26 User Engagement Webinar (use the passcode: **dKUL2s&f**)

CONDITIONS AND OUTLOOK

Recent sea surface temperature anomalies over the equatorial Pacific Ocean during April-May 2026 overall indicated El Niño–Southern Oscillation (ENSO) neutral conditions were present. However, persistent warming over most of the Niño regions, together with atmospheric indicators such as decreased cloudiness over most parts of Southeast Asia and anomalous low-level westerlies east of the Philippines, supports the development of El Niño-like conditions. Meanwhile, the Indian Ocean remains in a neutral Indian Ocean Dipole (IOD) phase.

International climate outlooks predict a moderate El Niño is likely to develop during June to August (JJA) 2026. After JJA, most models predict continued strengthening into a strong to very strong El Niño, while the rest predict only moderate El Niño conditions to persist through the remainder of the year. If a very strong El Niño occurs, this does not necessarily indicate bigger impacts on Southeast Asia's climate but rather that typical impacts from El Niño events are more likely to occur. The IOD is also predicted to transition to positive IOD conditions through the latter part of 2026, although with less confidence than the predicted El Niño.

The onset of the 2026 Southwest Monsoon season has been or is expected to be near-average across much of the ASEAN region, except over Viet Nam and the Lao People's Democratic Republic (PDR), where a later-than-average onset occurred. Overall, the strength of the Southwest Monsoon is predicted to be near or stronger than average over most parts of Southeast Asia.

For JJA 2026, tropical cyclone frequency is predicted to be below- to near-average across the region.

RAINFALL

For the upcoming boreal (Northern Hemisphere) summer season (JJA 2026):

Below-normal rainfall conditions are likely over much of the Maritime Continent, including the southern Philippines, Brunei Darussalam, and Singapore. The exception is over Malaysia, where below- to near-normal or near-normal rainfall is predicted for much of the country, and the central and northern Philippines, where a mix of near- to above-normal rainfall is predicted.

A mix of below- to above-normal rainfall is predicted over mainland Southeast Asia. Below- to near-normal rainfall is predicted over central Thailand, parts of southern Thailand, central Cambodia, and southern Viet Nam. Near-normal rainfall is predicted over the northern half of Myanmar, southern Lao PDR, and mountainous regions of northern Viet Nam and southern Viet Nam. Above-normal rainfall is predicted over coastal and southern Myanmar and parts of northern Lao PDR, with near- to above-normal rainfall over parts of northern Thailand, Cambodia, and Viet Nam.

TEMPERATURE

For the upcoming boreal (Northern Hemisphere) summer season (JJA 2026):

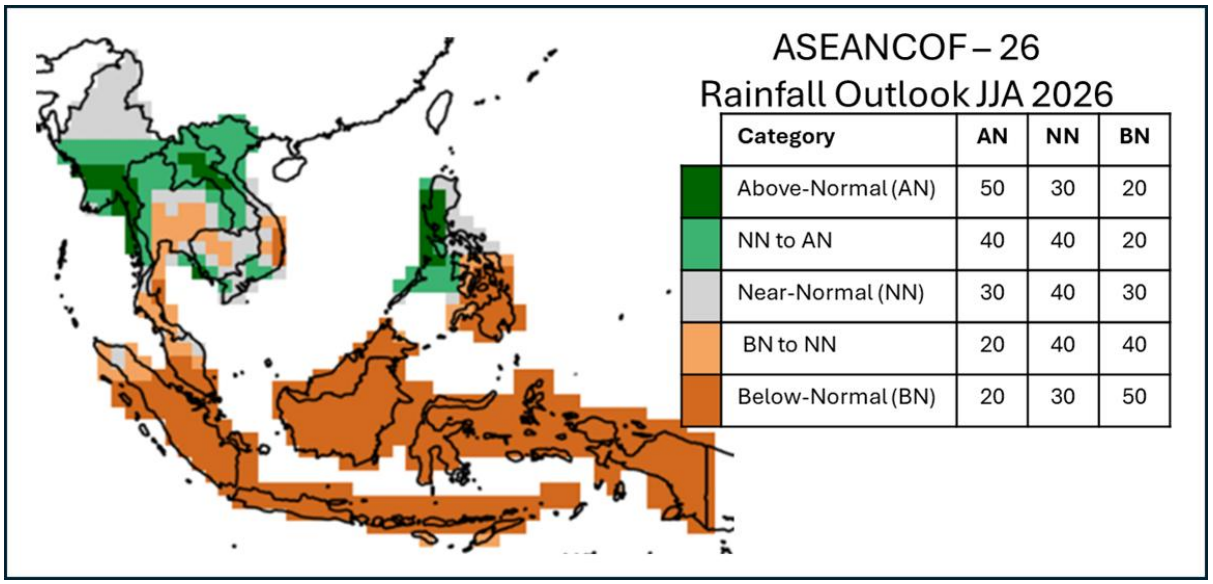
Above-normal temperatures are expected across most parts of Southeast Asia. The exception is over the southern Maritime Continent and parts of northern Viet Nam and northern, southern, and coastal Myanmar, where near- to above-normal temperatures are predicted.

Refer to **Annex A** for reference on what is meant by "above, near, or below normal" in the outlook. For more information on the boreal (Northern Hemisphere) summer monsoon outlook and further updates on the national scale, the relevant NMHSs should be consulted (see **Annex D**).

CONSENSUS MAPS FOR JJA 2026

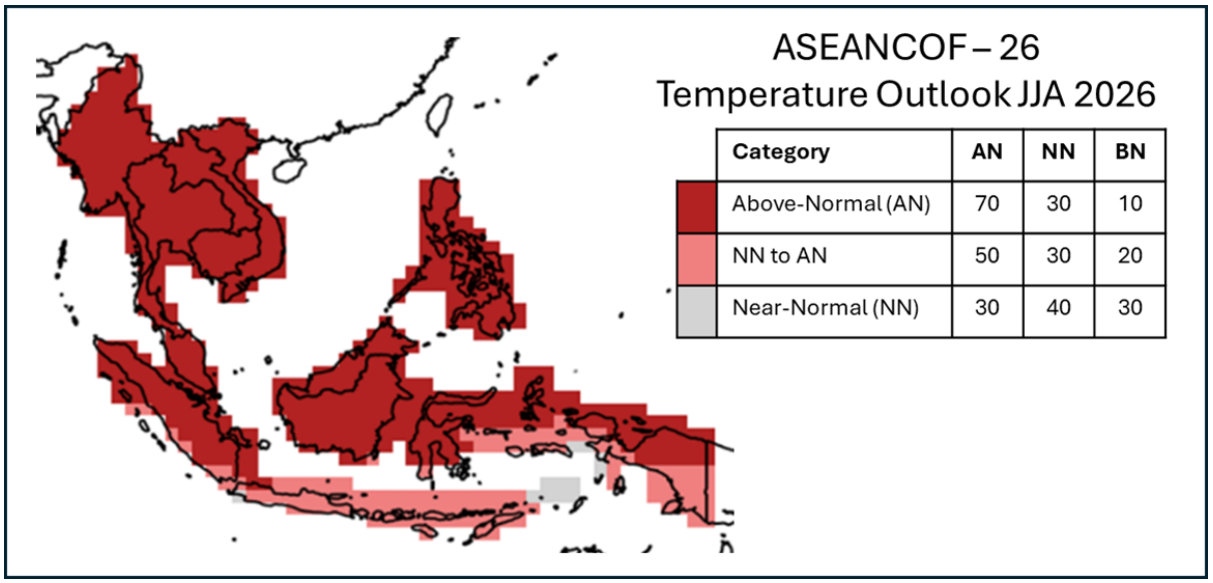
The following maps provide the probabilistic outlooks for the JJA 2026 season in terms of tercile categories of “Above Normal” (AN: upper tercile), “Near Normal” (NN: middle tercile), and “Below Normal” (BN: lower tercile).

PROBABILISTIC RAINFALL OUTLOOK



Category	AN	NN	BN
Above-Normal (AN)	50	30	20
NN to AN	40	40	20
Near-Normal (NN)	30	40	30
BN to NN	20	40	40
Below-Normal (BN)	20	30	50

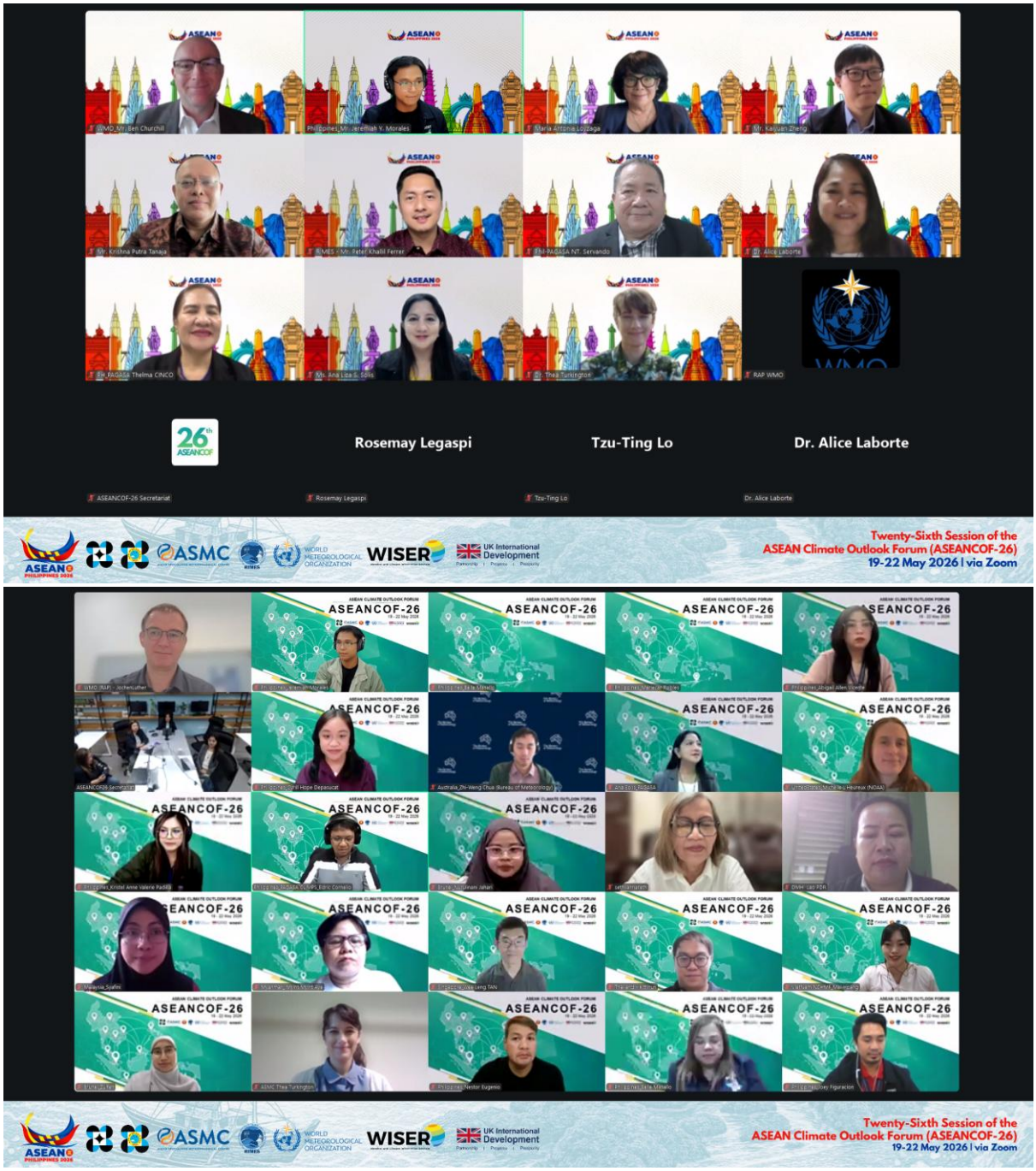
PROBABILISTIC TEMPERATURE OUTLOOK



Category	AN	NN	BN
Above-Normal (AN)	70	30	10
NN to AN	50	30	20
Near-Normal (NN)	30	40	30

ACKNOWLEDGEMENTS

ASEANCOF-26 would like to express appreciation to the NMHSs of the ASEAN Member States for sharing their national level forecasts, the Global Producing Centres (GPCs: Japan Meteorological Administration (JMA), NOAA, BoM, China Meteorological Administration (CMA), European Centre for Medium-range Weather Forecasts (ECMWF), UK Met Office, APEC Climate Centre (APCC)), the Southeast Asia Regional Climate Centre (SEA-RCC)-Network, RIMES, UN ESCAP, FAO, and other partners of ASEANCOF for sharing their products and expertise, and the WMO Regional Office in Asia and the Pacific (RAP) for their continued support of ASEANCOF. The forum would also like to thank PAGASA for hosting and facilitating the online forum.

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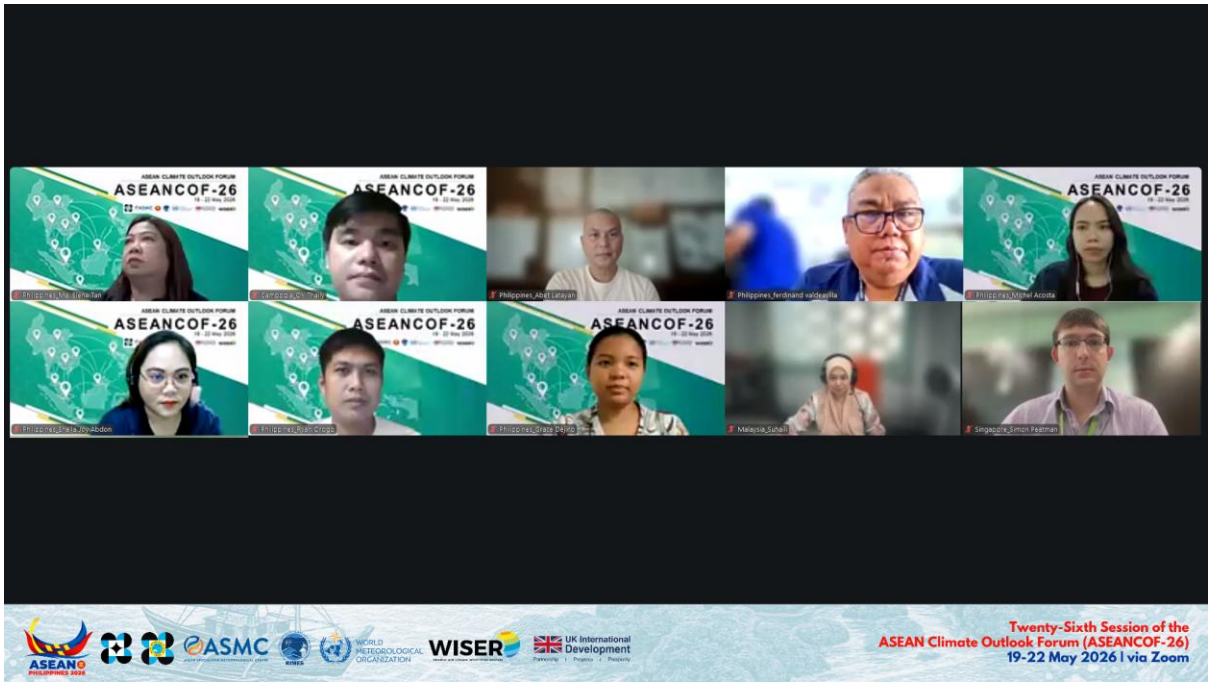
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ANNEX A: RAINFALL AND TEMPERATURE TERCILE CLIMATOLOGIES

The following figures include mean rainfall and temperature, and tercile boundary climatology to reference against the consensus outlook. Only a single data source for each variable is provided: CHIRPS (Funk et al. 2014) for rainfall and ERA5 (Hersbach et al. 2019) for temperature. For more representative climatology, reference should also be made against observational datasets known to better characterize local patterns (e.g., quality-controlled station data from the respective NMHSs).

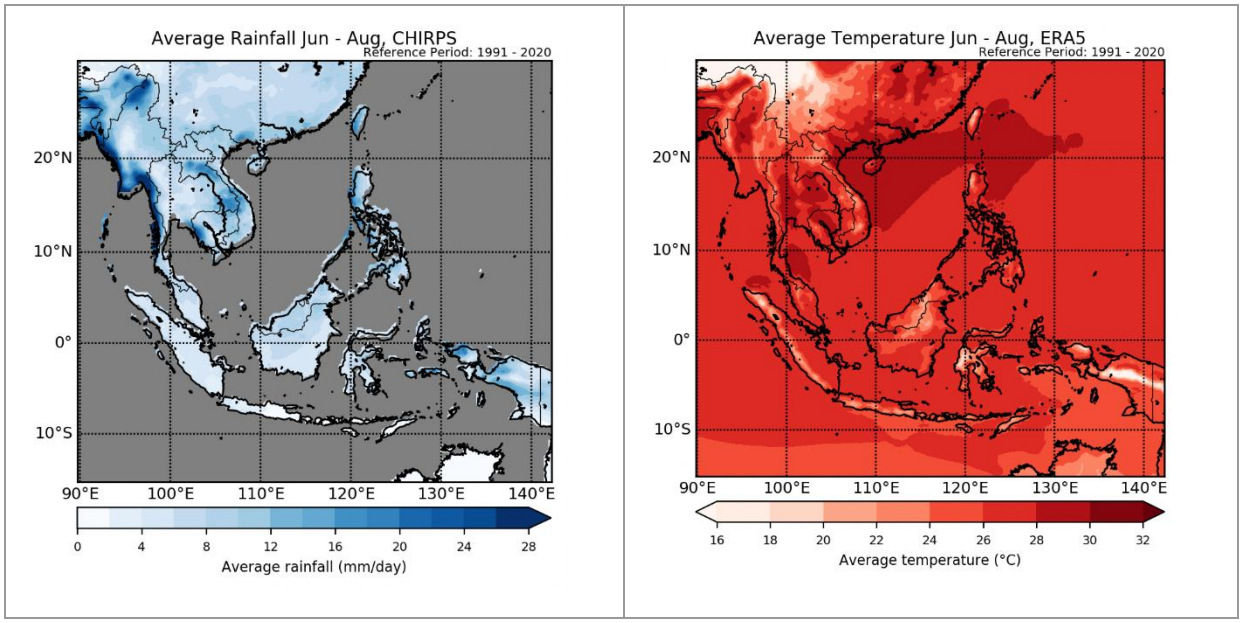


Figure A1: Mean rainfall (left, CHIRPS) and mean temperature (right, ERA5) for JJA for the climatology period 1991-2020.

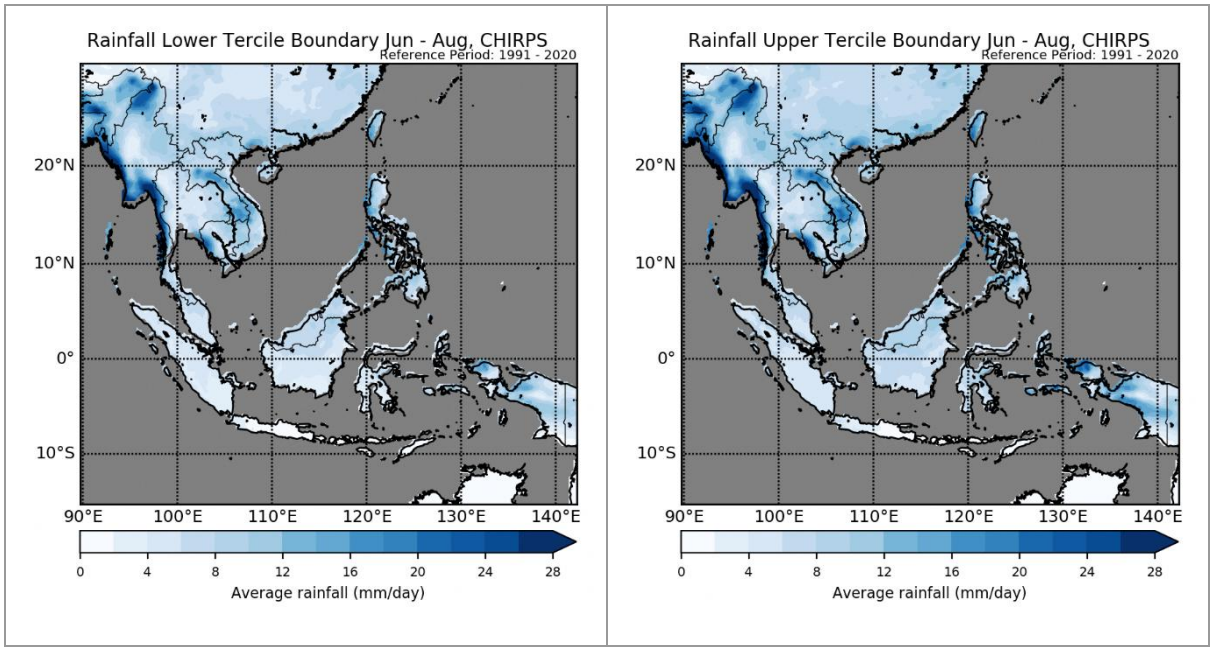


Figure A2: Rainfall climatologies of the lower tercile boundary (left) and the upper tercile boundary (right) for JJA from 1991-2020 using CHIRPS.

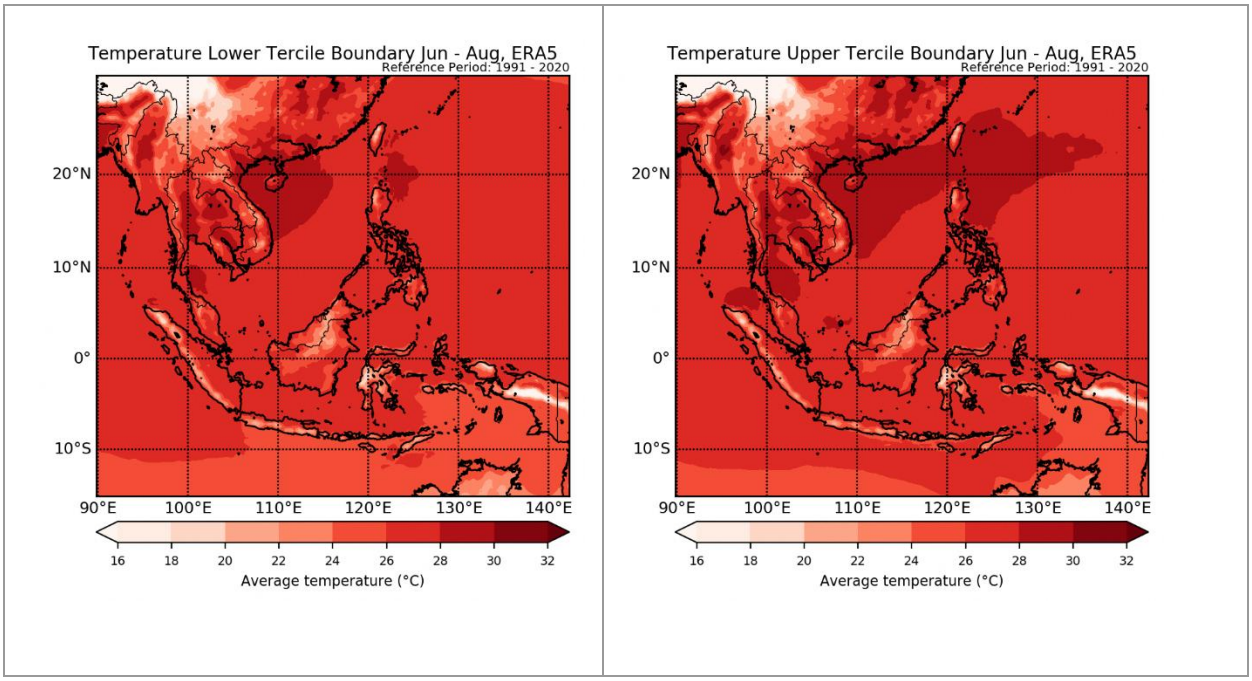


Figure A3: Temperature climatologies of the lower tercile boundary (left) and the upper tercile boundary (right) for JJA from 1991-2020 from ERA5.

ANNEX B: RAINFALL AND TEMPERATURE OUTLOOK FROM MODELS

The following figures show the starting point from the consensus discussion. From this point, NMHS representatives proposed changes based on the typical impact based on ENSO and IOD state, additional models (including statistical post-processed models), and assessment of model skill.

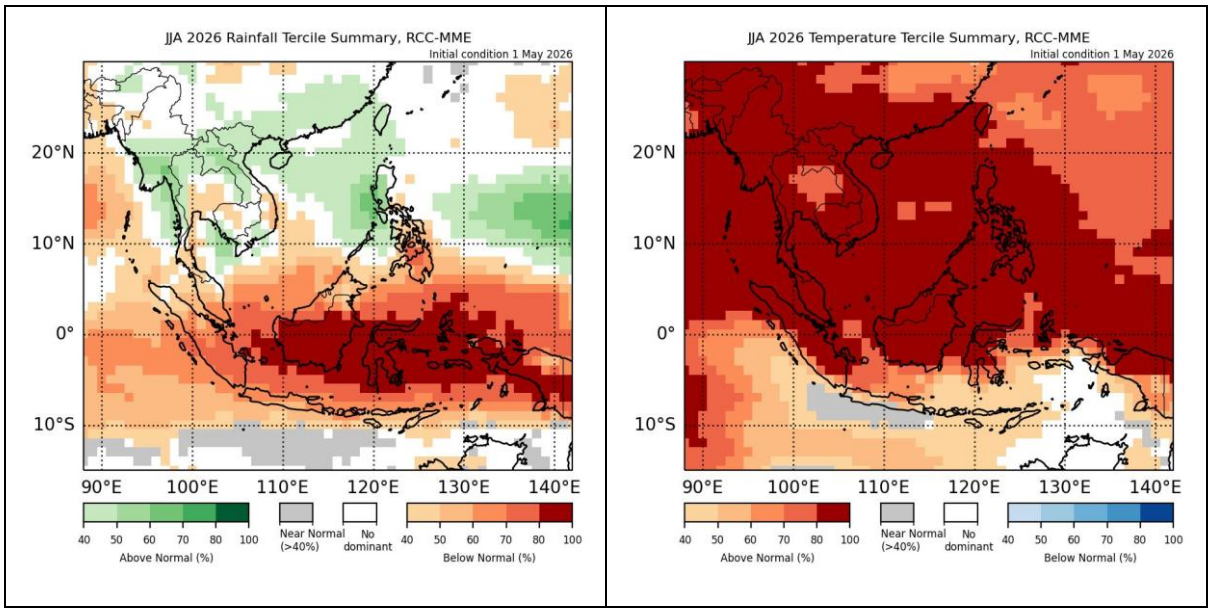
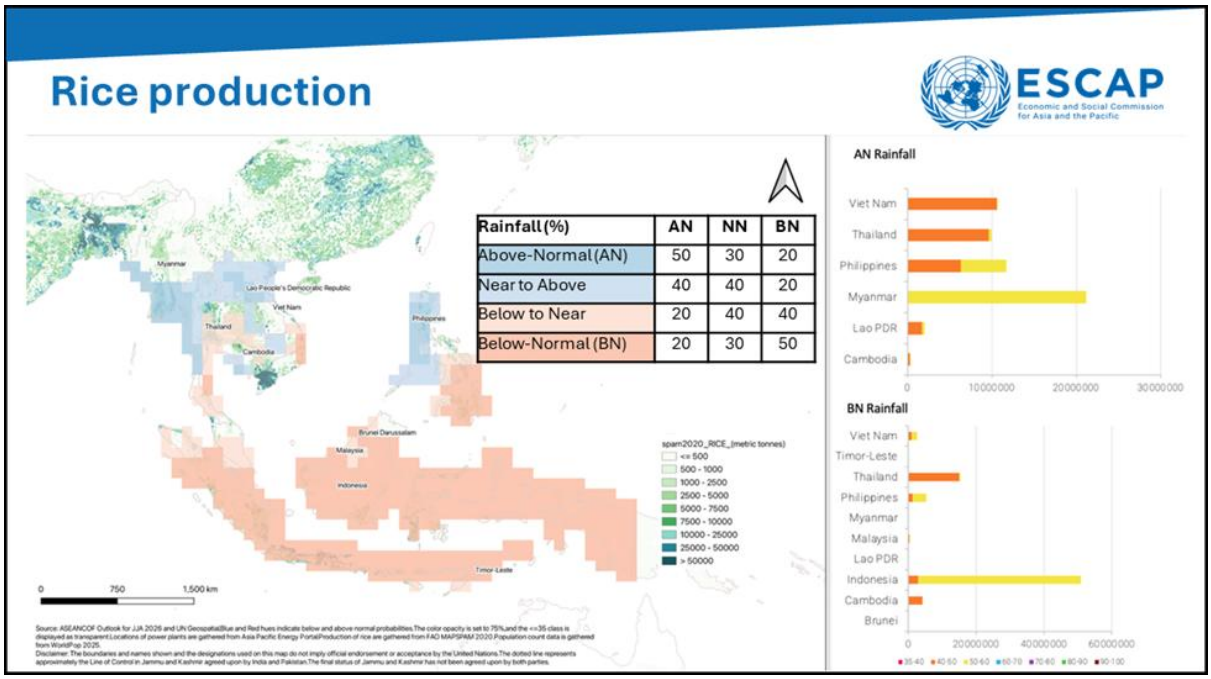


Figure B1: Outlook from the C3S seasonal models for JJA 2026 for rainfall (left) and temperature (right). The models used included NCEP, ECMWF, JMA, UK Met Office, DWD, CMCC, ECCC, and MeteoFrance.

ANNEX C: SECTOR OUTLOOK FROM UN ESCAP

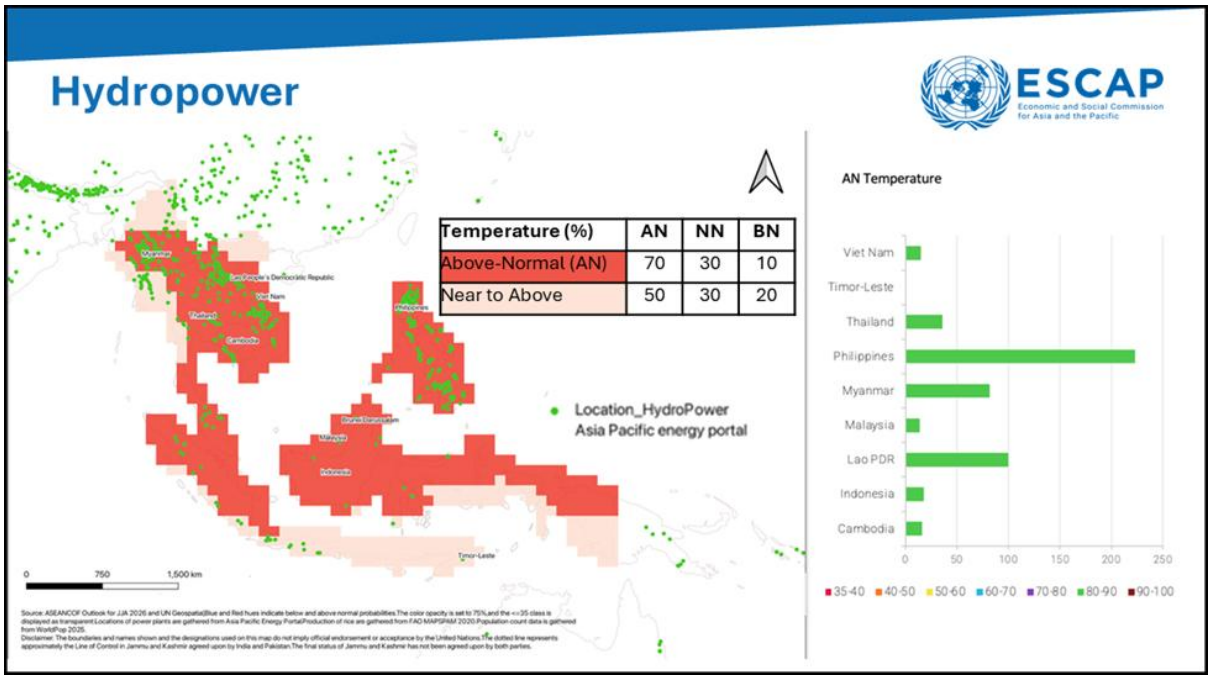
Based on the consensus ASEANCOF-26 seasonal climate forecast, impact-based climate outlooks for agriculture and energy sectors were presented during the ASEANCOF-26 webinar on 22nd May 2026 using the ESCAP impact-based forecasting (IBF) methodology [1]. These forecasts allow for early warning, proactive measures, and a fundamental change in the response to weather and climate crises. With this information in advance of the coming season, policymakers can take some preparatory measures. For further details on the methodology, users may refer to the ESCAP Risk and Resilience Portal.



Rice across much of Southeast Asia is expected to be in the sowing and vegetative growth stages during the JJA season. As a result, above-normal rainfall can support crop establishment and growth, particularly in rainfed systems, while below-normal rainfall may lead to water stress and adversely affect crop development. Countries with substantial rice production exposed to above-normal rainfall include Lao PDR, where approximately 56.6% (2.0 million metric tons) of rice production is likely to be exposed, including 288,000 metric tons (8.0% of total production) under moderate likelihood conditions (50–70%). In Myanmar, approximately 83.7% (21.2 million metric tons) of rice production is likely to be exposed to above-normal rainfall, with nearly all of this exposure occurring within the moderate likelihood category. In the Philippines, around 64.5% (11.7 million metric tons) of rice production is likely to be exposed, including 5.4 million metric tons (29.7% of total production) under moderate likelihood conditions.

Conversely, exposure to below-normal rainfall is concentrated in Indonesia, Timor-Leste, and Brunei Darussalam. In Indonesia, approximately 95.4% (50.8 million metric tons) of rice production is likely to be exposed to below-normal rainfall, with 48.0 million metric tons (90.2% of total production) falling within the moderate likelihood category. Timor-Leste and Brunei Darussalam are also projected to experience widespread exposure, with nearly all rice production likely to be affected by below-normal rainfall conditions.

[1] ESCAP's Approach to Impact-Based forecasting https://rrp.unescap.org/knowledge-products/4873



Seasonal rainfall during JJA plays a critical role in replenishing reservoirs and sustaining hydropower generation. Below-normal rainfall, particularly when combined with above-normal temperatures, can reduce water availability for power generation while simultaneously increasing electricity demand. Several countries are projected to experience substantial exposure of hydropower infrastructure to below-normal rainfall. In Indonesia, approximately 97.2% (35 units) of hydropower plants are likely to be exposed, with 29 units (80.6% of total plants) under moderate likelihood conditions (50–70%). In the Philippines, 38.1% (85 units) of hydropower plants are likely to be exposed, including 73 units (32.7% of total plants) within the moderate likelihood category. In Timor-Leste, both hydropower plants in the country are projected to be exposed to below-normal rainfall conditions.

Exposure to above-normal temperatures is even more widespread. Cambodia, Lao PDR, Malaysia, Thailand, Viet Nam, and the Philippines are projected to have nearly all hydropower plants exposed to high-likelihood (70–90%) above-normal temperatures. Similarly, 97.2% of hydropower plants in Indonesia and 64.1% (82 units) of hydropower plants in Myanmar are projected to face high-likelihood above-normal temperature conditions. These combined rainfall and temperature stresses may place additional pressure on hydropower production and energy security during the JJAS season. Assessments of other possible risks and IBF related to past seasons are available on the UNESCAP website "Risk & Resilience Analytics" in the section “Rapid IBF”: https://rrp.unescap.org/.

Annex D: National Meteorological and Hydrological Services' Contact Information

ANNEX D: NATIONAL METEOROLOGICAL AND HYDROLOGICAL SERVICES' (NMHSS) WEBSITES

- Brunei Darussalam Meteorological Department (BDMD)

http://www.met.gov.bn/

- Department of Meteorology, Cambodia

http://www.cambodiameteo.com/

- Badan Meteorologi, Klimatologi dan Geofisika, Indonesia (BMKG)

http://www.bmkg.go.id

- Department of Meteorology and Hydrology (DMH), Lao PDR

http://dmh.monre.gov.la/

- Malaysian Meteorological Department (MMD)

https://www.met.gov.my/en/

- Department of Meteorology and Hydrology (DMH), Myanmar

https://www.moezala.gov.mm/

- Philippines Atmospheric, Geophysical and Astronomical Services Administration (PAGASA)

http://www.pagasa.dost.gov.ph/

- Meteorological Service Singapore (MSS)

https://www.weather.gov.sg/home/

- Thai Meteorological Department (TMD)

http://www.tmd.go.th/en/

- National Center for Hydro-Meteorological Forecasting (NCHMF), Vietnam

https://nchmf.gov.vn/KttvsiteE/en-US/2/index.html

ANNEX E: REVIEW OF DJF 2025/2026 CONSENSUS OUTLOOK

SUMMARY

The rainfall and temperature outlooks were representative of the actual conditions over much of Southeast Asia in December-January-February (DJF) 2024/2025 based on the national assessment. The Maritime Continent experienced predominantly near- to above-normal rainfall and near- to above-normal temperature, while Mainland Southeast Asia experienced a mix of below- to above-normal rainfall and near-normal to above-normal temperature.

In October 2025, based on sea surface temperatures, trade winds, and cloudiness in the Pacific, either La Niña or La Niña-like conditions were present, along with a negative Indian Ocean Dipole (IOD). International climate outlooks predicted weak or moderate La Niña conditions from December 2025 to February 2026. The IOD was predicted to likely return to neutral during December 2025.

Based on the assessment as part of ASEANCOF-26, SEA RCC Climate Monitoring Node, ASMC, and the WMO El Niño/La Niña Updates, during DJF 2025/2026 period, La Niña conditions were present, with the IOD in the Indian Ocean transitioned to neutral in December 2025.

In the sections below, a combination of global gridded data and reviews by National Meteorological and Hydrological Services (NMHSs) was used to verify the outlook.

DJF 2025/2026 RAINFALL OUTLOOK

Over the Maritime Continent, near- to above-normal or above-normal rainfall is predicted for much of the eastern half of the region, including most of the Philippines, Brunei Darussalam, Sabah, and Timor-Leste. One exception is over the northwestern Philippines, where below- to near-normal rainfall is predicted. For the western half, most of the region is predicted to experience either below- to near-normal or near-normal rainfall, including near-normal rainfall over Singapore, Peninsular Malaysia, and parts of East Malaysia.

Across Mainland Southeast Asia, near- to above-normal rainfall is predicted over parts of southern Mainland Southeast Asia, including southern Thailand, southern and eastern Cambodia, southern Viet Nam, as well as central Myanmar. Near- to below-normal rainfall is predicted over northern parts, including northern Myanmar, Lao PDR, and Viet Nam. Elsewhere, near-normal rainfall is predicted.

There is some agreement between the predicted and observed rainfall for the region in Figure E1.

Over the Maritime Continent, above-normal rainfall was recorded over much of the region, in line with the outlook as well as a typical response during La Niña. However, parts of the western Maritime Continent, a region which typically sees little response from La Niña at this time of the year, experienced above-normal rainfall compared to the predicted below- to near-normal rainfall. Furthermore, parts of the eastern Maritime Continent recorded below-normal and near-normal rainfall, compared to the predicted near- to above-normal rainfall.

Over Mainland Southeast Asia, a mix of below- to above-normal rainfall was recorded, broadly in line with the predicted mix of below-, near-, and above-normal rainfall. As this is the dry season for much of Mainland Southeast Asia, the difference between below- and above-normal rainfall is smaller than for the Maritime Continent.

Based on the country reviews by NMHSs (Table E1), there was reasonable agreement between the rainfall dataset CHRIPS and the observed values, with some exceptions. Based on the national assessment, Luzon and the southern Philippines were below-normal, compared to near-normal based

on the CHIRPS dataset. Northern and northeastern Thailand were near-normal, compared to mostly above-normal based on the CHIRPS dataset. For Singapore, rainfall was near-normal based on the national assessment, while rainfall was below-normal based on CHIRPS.

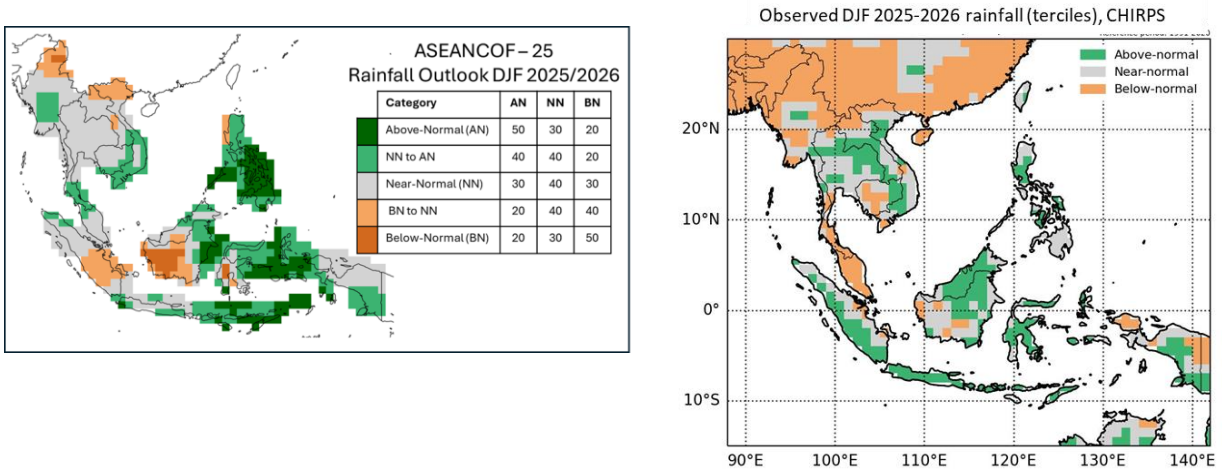


Figure E1: DJF 2025/2026 ASEANCOF outlook (left) observed DJF rainfall in terciles (right, climatology 1991-2020). The rainfall dataset is CHIRPS (Funk et al. 2014).

Table E1: Observed Rainfall based on the national level assessment by the NMHS (obs. tercile). The tercile categories are above-normal (AN), near-normal (NN), and below-normal (BN).

Country	**NMHS OBS TERCILE**
Brunei	AN
Cambodia	NN to AN
Lao PDR	Northern and central parts: NN to BN Southern part: NN to AN
Malaysia	Northern Peninsular, Eastern Coastal and Southern regions: BN Western Sabah, Northern Sarawak: AN Rest: NN
Myanmar	BN
Philippines	Luzon (Northern Philippines): BN Mindanao (Southern Philippines): BN-NN Rest: AN
Singapore	NN
Timor Leste	AN
Thailand	Northern, Northeastern: NN Rest: BN
Viet Nam	Central: AN, Southern: AN or NN-AN* Rest: BN

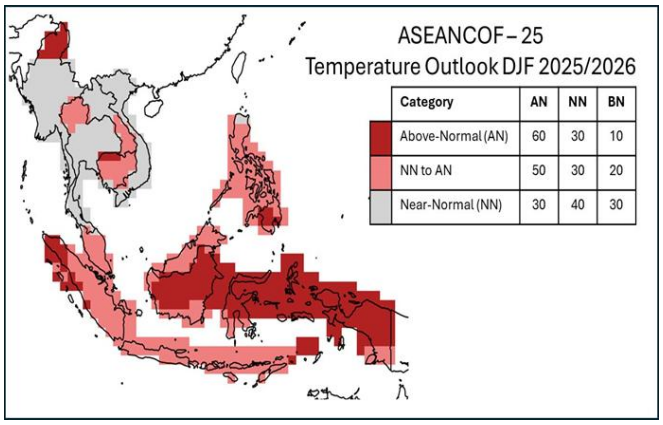
DJF 2025/2026 TEMPERATURE OUTLOOK

Over the Maritime Continent, near- to above-normal or above-normal temperature is predicted, apart from over the northern Philippines, where near-normal temperature is predicted.

Over Mainland Southeast Asia, most of the region is predicted to experience near-normal temperature, apart from northern Myanmar, northern Thailand, central and southern Lao PDR, and most of Cambodia, where near- to above-normal or above-normal temperature is predicted.

The observations were generally cooler than was indicated by the outlook. However, there were some discrepancies between the CPC Unified Gauge dataset (Figure E2) and temperatures recorded by the NMHSs (Table E2). Based on the CPC Unified Gauge, most of the Maritime Continent experienced below-normal temperatures, whereas the national assessments indicated a mix of near- to above-normal temperatures. In general, the national assessments align better with the ASEANCOF outlook.

Overall, Mainland Southeast Asia experienced a mix of below- to above-normal temperatures based on the CPC Unified Gauge dataset, in line with the outlook. However, as with the Maritime Continent, the national assessments indicated Mainland Southeast Asia predominantly experienced near- to above-normal temperatures in DJF 2-25/2026.



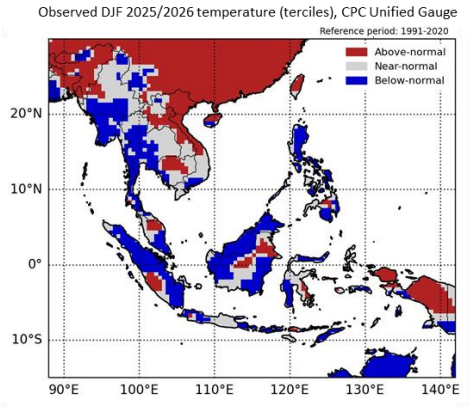


Figure E2: DJF 2024/2025 ASEANCOF outlook (left) observed temperature in terciles (right, climatology 1991-2020). The temperature dataset is from CPC Unified Gauge.

Table E2: Observed temperature based on the national level assessment (obs. tercile). The tercile categories are above normal (AN), near normal (NN), and below normal (BN).

Country	**NMHS Observed Tercile**
Brunei	NN
Cambodia	AN
Lao PDR	Northern: NN, Central, Southern: NN to AN
Malaysia	NN
Myanmar	NN
Philippines	NN – AN
Singapore	AN
Timor Leste	NN – AN
Thailand	Northern and Southern: AN, Rest: NN
Viet Nam	Northern: BN, Rest: NN

SIGNIFICANT EVENTS

During the December 2025–February 2026 (DJF 2025/26) season, Southeast Asia experienced climate conditions influenced primarily by a La Niña event, an active Madden–Julian Oscillation (MJO) over the Maritime Continent, and a transition of the Indian Ocean Dipole (IOD) from negative to neutral conditions. These climate drivers contributed to generally wetter-than-normal conditions across many parts of the region, particularly in Brunei, Malaysia, Indonesia, Timor-Leste, and portions of the Philippines.

Rainfall patterns were characterized by above-normal precipitation in several countries, resulting in localized flooding, landslides, and other hydrometeorological hazards. Significant rainfall events were reported in Cambodia, Thailand, Viet Nam, Malaysia, Brunei, and the Philippines, while Timor-Leste also recorded above-normal seasonal rainfall. Conversely, some areas of Indonesia, southern Thailand, and parts of Malaysia experienced below-normal rainfall at times during the season.

Notable climate impacts included flooding in Malaysia and Cambodia, rare heavy rainfall events in southern Viet Nam, landslides in Brunei, extreme rainfall and tropical cyclone-related hazards in the Philippines, and cold surge-induced freezing conditions in northern Lao PDR. Overall, the season highlighted the continued influence of regional climate variability on rainfall distribution and extreme weather events across Southeast Asia.

REFERENCES

CHIRPS: Funk et al. 2014: A quasi-global precipitation time series for drought monitoring: U.S. Geological Survey Data Series 832, 4 p., doi:110.3133/ds832.