Twenty Fifth Session of the ASEAN Climate Outlook Forum (ASEANCOF-25)

27 – 30 October 2025, Online

Consensus Bulletin for December-January-February (DJF) 2025/2026 Season

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INTRODUCTION

The ASEAN 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 Association of Southeast Asian Nations (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 regarding the implementation of objective outlooks.

The Twenty-fifth session of ASEANCOF (ASEANCOF-25) was organised by the Ministry of Water Resources and Meteorology, Cambodia (MOWRAM), RIMES, ASMC, the ASEANCOF Working Group, UN ESCAP, and WMO. Participants from the NMHSs of ASEAN Member States created a consensus forecast for the boreal winter monsoon 2025/2026 in the ASEAN region. The consensus for the December-January-February (DJF) 2025/2026 outlook was achieved through an online session, which included presentations from different NMHSs, questionnaires, and discussions regarding the current climate conditions and predictions for Southeast Asia. The theme of ASEANCOF-25 was on advancing the tailoring of climate services to better meet the diverse needs of users across the ASEAN region. On the last day of ASEANCOF-25, a sharing session was held which included a panel discussion on the various uses of climate services.

CONDITIONS AND OUTLOOK

Recent (September – October 2025) sea surface temperatures (SSTs) were below-average across the central and eastern equatorial Pacific Ocean and, along with atmospheric indicators such as

stronger trade winds and increased cloudiness in the western Pacific, indicate La Niña or La Niña-like conditions. In the Indian Ocean, a negative Indian Ocean Dipole is present.

International climate outlooks predict weak or moderate La Niña conditions for December 2025 to February 2026. After DJF 2025/2026, most models indicate a transition from La Niña to ENSO-neutral conditions, although there remains a possibility that La Niña may persist beyond early 2026. The Indian Ocean Dipole (IOD) is likely to return to neutral during December 2025.

The onset of the 2025/2026 Northeast monsoon season has been or is expected to be near- or later than average for much of the northern ASEAN region. The onset for much of the southern ASEAN region is predicted to be near-average. The strength of the Northeast Monsoon is predicted to be near-average over most of Southeast Asia.

During DJF 2025/2026, tropical cyclone frequency is predicted to be above average around the Philippine Sea, and near-average for the Bay of Bengal, and South China Sea.

RAINFALL

For the upcoming boreal (Northern Hemisphere) winter season (DJF 2025/2026):

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.

TEMPERATURE

For the upcoming boreal (Northern Hemisphere) winter season (DJF 2025/2026):

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.

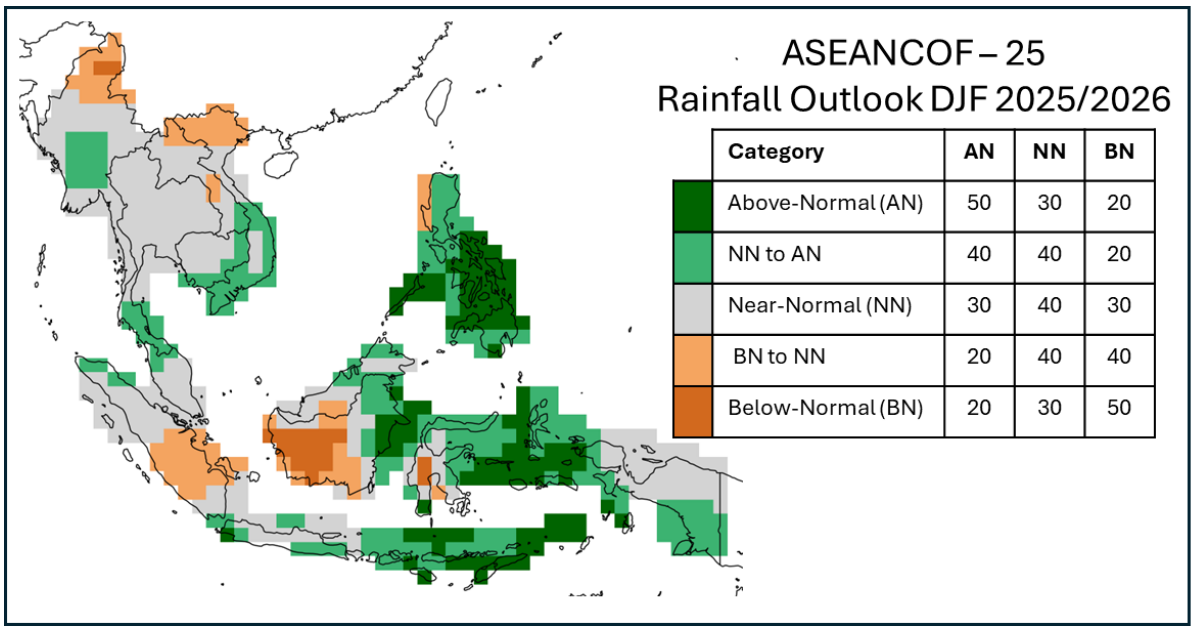
Over Mainland Southeast Asia, most of the region is predicted to experience near-normal temperature, apart from northern Myanmar, northern Thailand, central and southern Lao PDR, and most of Cambodia where near-to above-normal or above-normal temperature is predicted.

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) winter monsoon outlook and further updates on the national scale, the relevant NMHSs should be consulted (see **Annex D**).

CONSENSUS MAPS FOR DJF 2025/2026

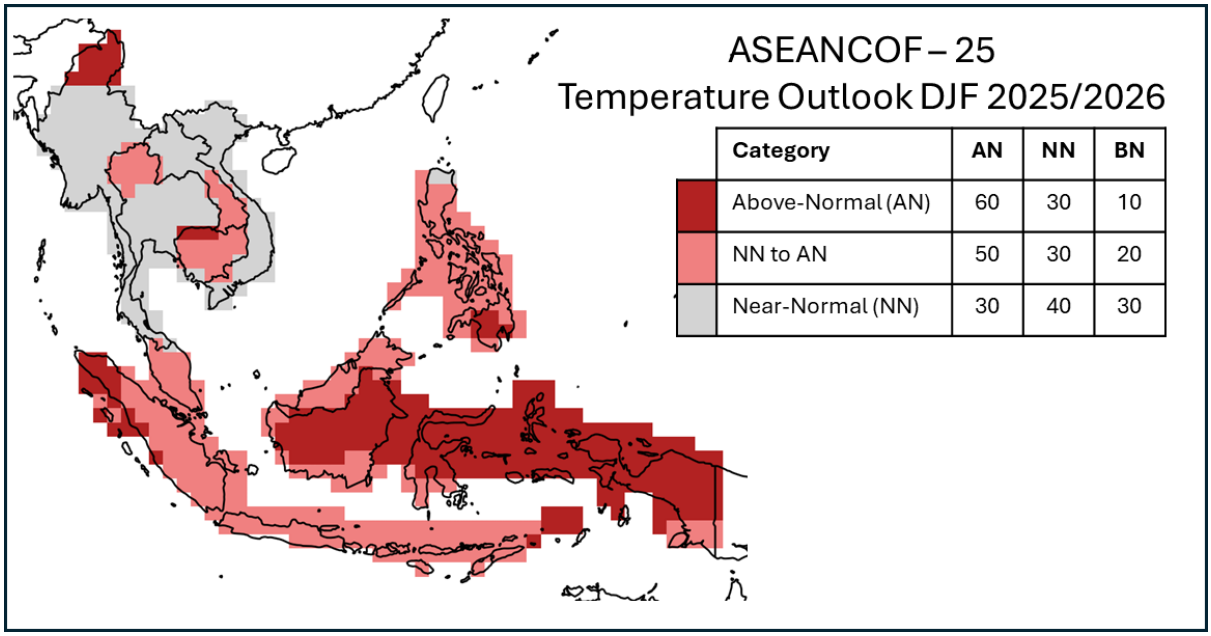
The following maps provide the probabilistic outlooks for DJF 2025/2026 season in terms of tercile categories of “Above Normal” (AN: upper tercile), “Near Normal (NN: middle tercile) and “Below Normal” (BN: lower tercile).

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)	60	30	10
NN to AN	50	30	20
Near-Normal (NN)	30	40	30

ACKNOWLEDGEMENTS

ASEANCOF would like to convey its appreciation to the NMHSs of the ASEAN Member States for sharing their national level forecasts, the Global Producing Centres, the Southeast Asia Regional Climate Centre – Network, RIMES, UN ESCAP, and other partners of ASEANCOF for sharing their products and expertise, and the World Meteorological Organization Regional Office in Asia and the Southwest Pacific (WMO-RAP) for their continued support of ASEANCOF. The Forum would also like to thank MOWRAM for hosting the forum virtually, as well as trainers from RIMES, UK Met Office, and ASMC.

ASEANCOF-25 participants (where image was available).

ANNEX A: RAINFALL AND TEMPERATURE TERCILE CLIMATOLOGIES

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

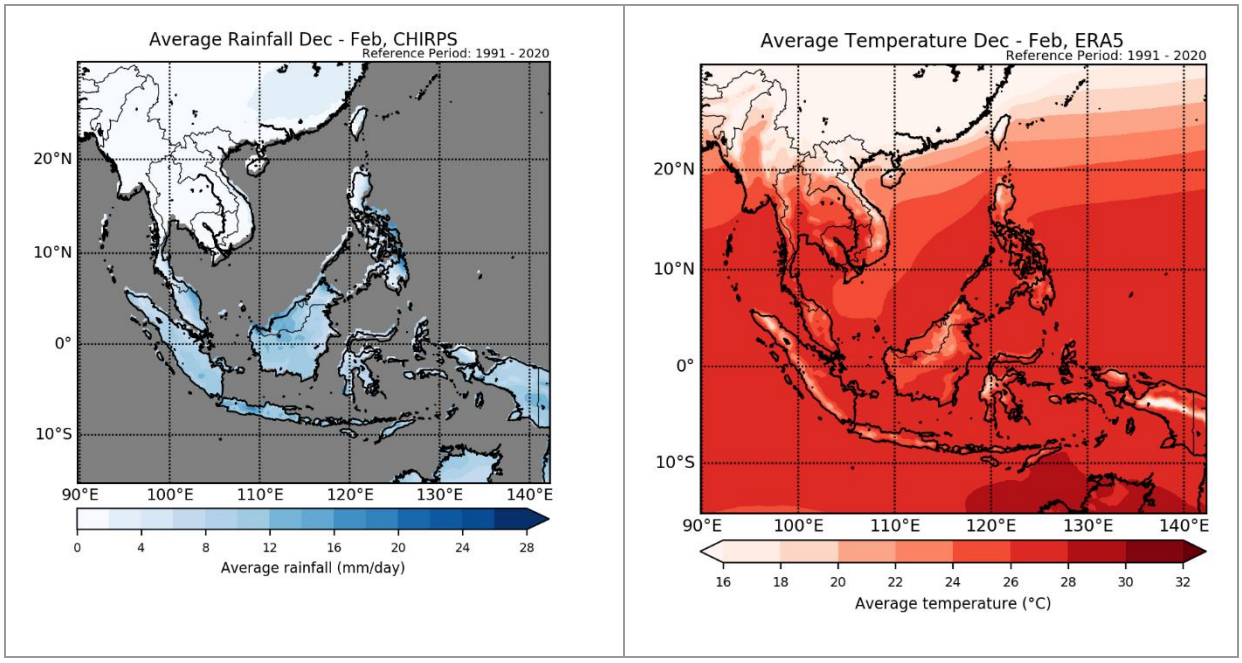


Figure A1: Mean rainfall (left, CHIRPS) and mean temperature (right, ERA5) for DJF for the climatology period 1991-2020.

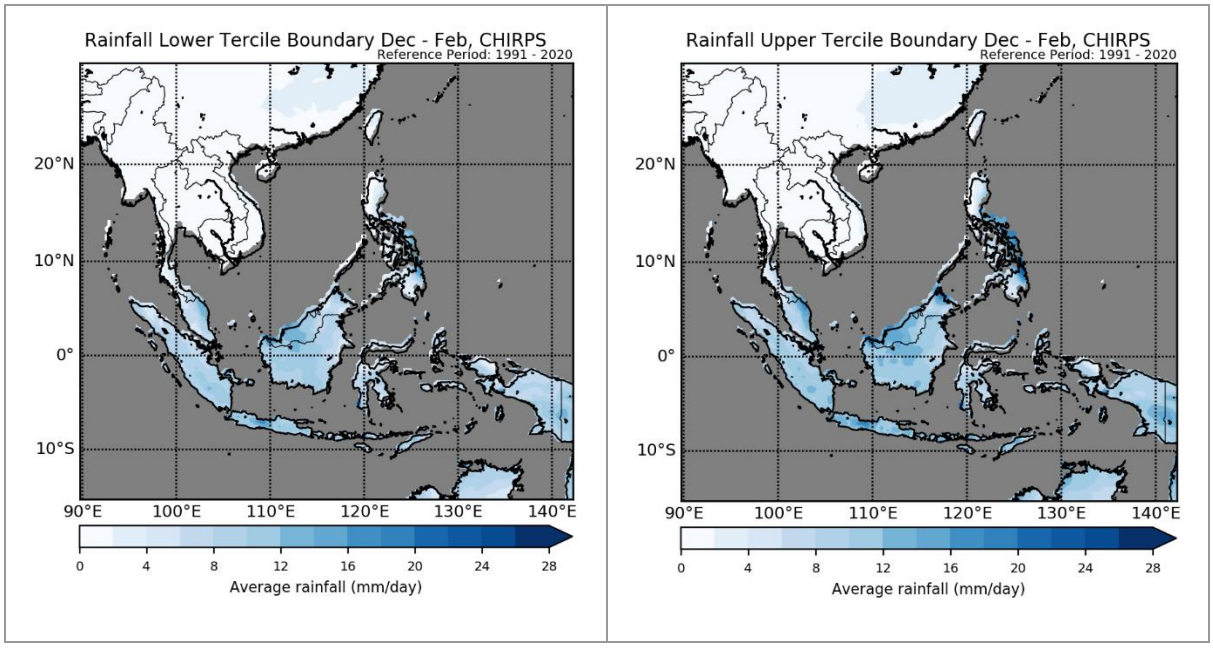


Figure A2: Rainfall climatologies of the lower tercile boundary (left) and the upper tercile boundary (right) for DJF from 1991-2020 using CHIRPS.

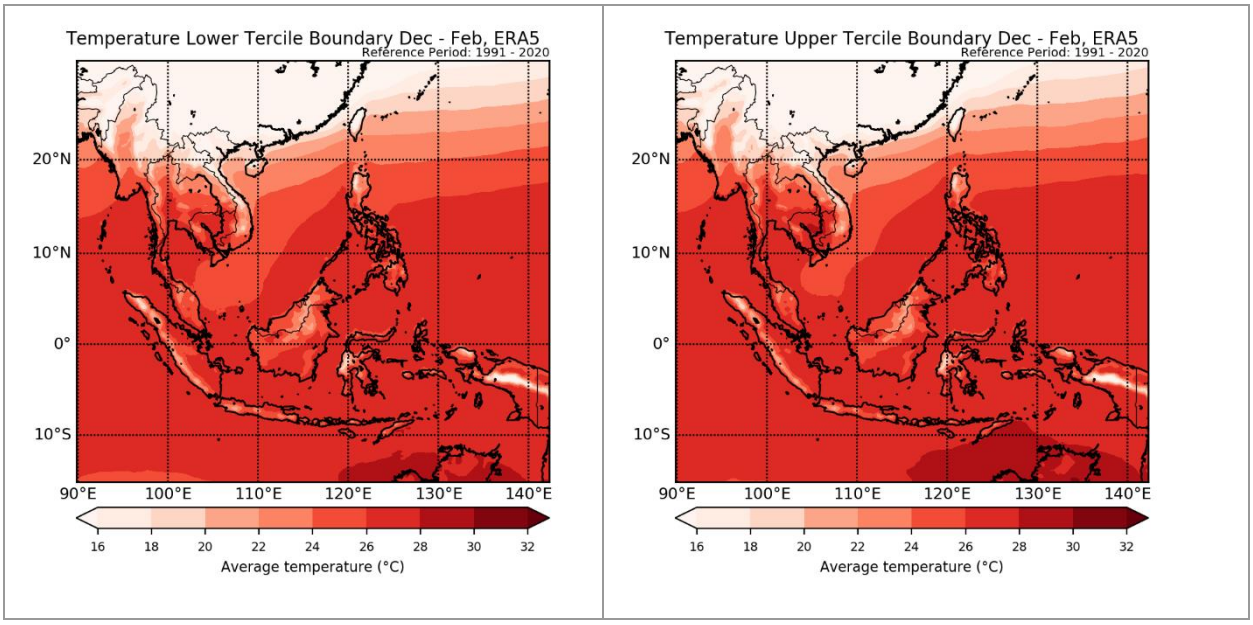


Figure A3: Temperature climatologies of the lower tercile boundary (left) and the upper tercile boundary (right) for DJF from 1991-2020 from ERA5.

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 during El Niño and IOD events, additional models (including statistical post-processed models), and assessment of model skill.

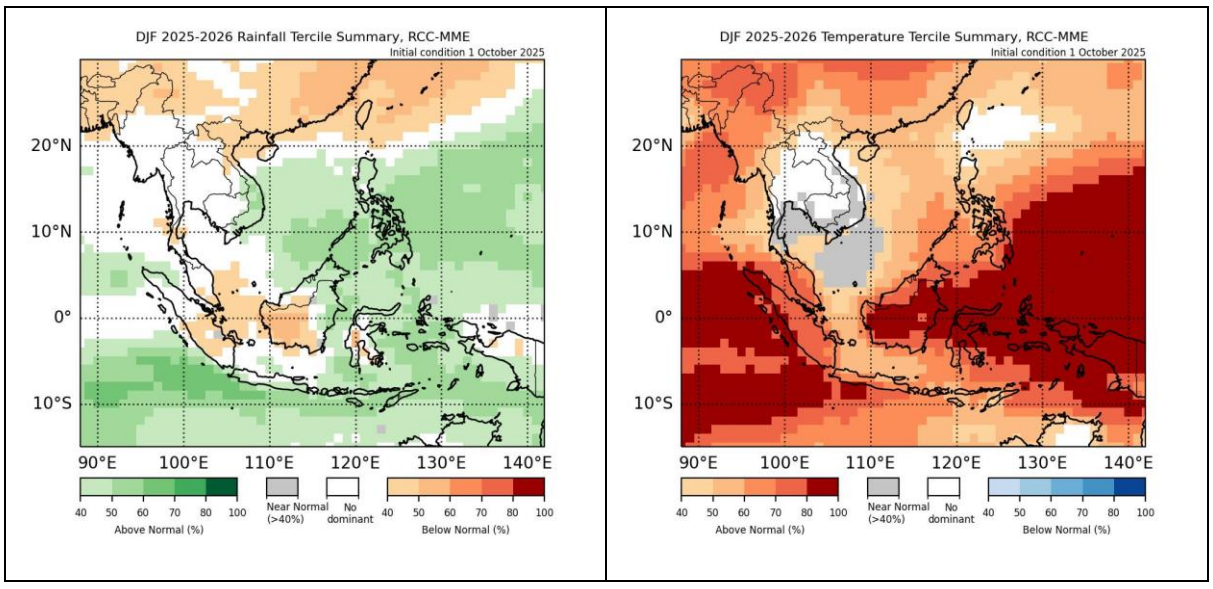


Figure B1: Outlook from the C3S seasonal models for DJF 2025/2026 for rainfall (left) and temperature (right). The models used included NCEP, ECMWF, JMA, UK Met Office, DWD, CMCC and MeteoFrance.

ANNEX C: SERVICES OUTLOOK FROM UN ESCAP

In line with the theme of ASEANCOF-25: Advancing the tailoring of climate services, potential impact to agriculture and energy sectors were prepared by UN ESCAP based on the ASEANOCF rainfall and temperature consensus outlook for DJF 2025. Impact-based outlook of expected climate anomalies are presented using the ESCAP methodology. Impact-based forecasting allows for early warning, proactive measures and a fundamental change in the response to weather and climate crises.

Potential impact on Agriculture:

For most countries in the region, rice crop is at sowing/harvest stage. In Timor Leste and Brunei nearly 100% of rice production are exposed to potentially warmer temperature conditions with 40-50% probability of above normal temperature in most regions. In Cambodia, Indonesia and the Philippines, rice crop is at mid- season to harvest-season stage and about 80-90% of total rice area faces an increased chance of above-normal temperature at 40-60% probability. The map below shows the combined effect of below-normal precipitation and above-normal temperature on rice cultivation. For the highlighted regions in Indonesia (Kalimantan Barat, Kalimantan Tengah, Riau, Jambi, Sumatra Selatan), rice cultivation is mainly rainfed (around 80%*), with limited irrigation coverage. These regions are particularly sensitive during the current crop stage (mid-season to harvest) as the warm days and dry spells can affect crop during grain filling stage, increase susceptibility to pest outbreaks, and reduce overall rice yield.

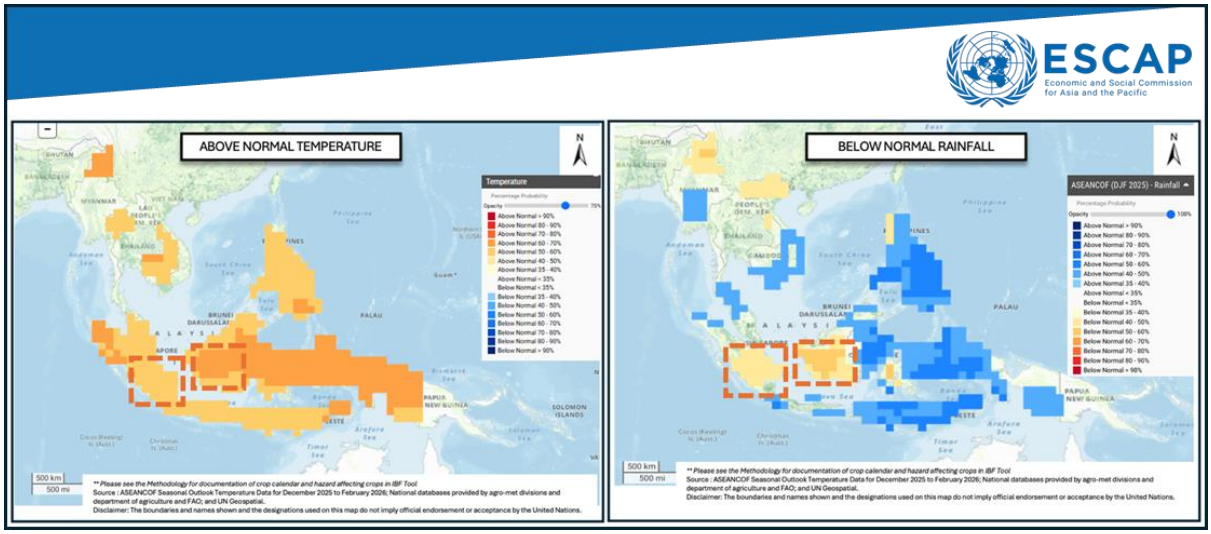
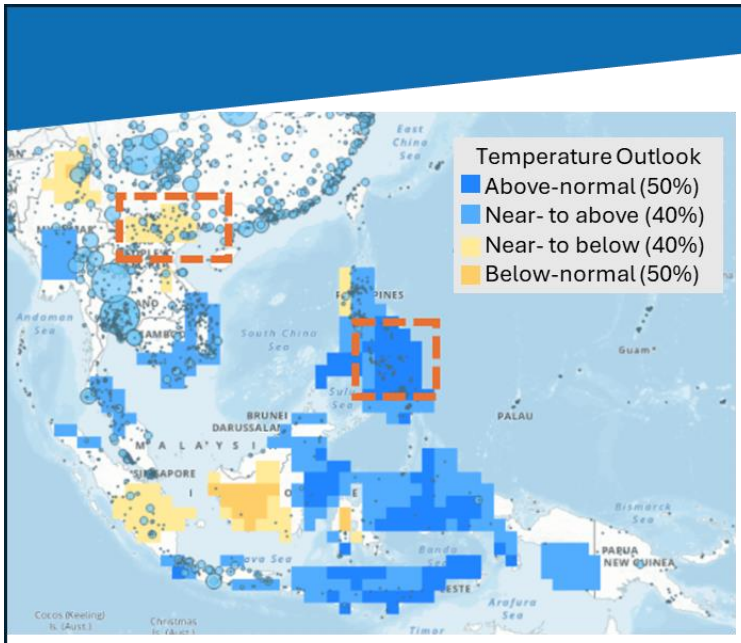


Figure C1: Exposure of rice crop to above-normal temperature and below-normal rainfall DJF25/26.

Potential impact on Energy:

Almost the entire set of powerplants in Timor Leste and Philippines (100%) faces an increased chance of above-normal rainfall (40% and-50% probability). Around one third of all powerplants in Viet Nam are also likely to face an increased chance of above-normal rainfall (40%). Brunei Darussalam also faces an increased chance of above-normal rainfall (40% probability). Above-normal rainfall increases reservoir inflows for hydropower plants, temporarily boosting generation capacity through fuller lakes and higher head pressure. However, prolonged or

intense rainfall can exacerbate flooding, damage hydraulic infrastructure and switchyards, and disrupt infrastructure of both hydro and thermal power plants.[1]



Country	Number of Power plants with potential exposure			
	BN	NN - BN	NN - AN	AN
Brunei Darussalam			5	
Cambodia			25	
Indonesia	24	3	60	17
Lao PDR	16		25	
Myanmar	15	10	98	
Malaysia			20	
Philippines		6	139	110
Singapore				
Thailand			53	
Timor-Leste			1	27
Viet Nam	80		116	

Source : ASEANCOF Seasonal Outlook Precipitation Data for December 2025 to February 2025; Asia-Pacific Energy Portal, 2018; and UN Geospatial.
Disclaimer: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Figure C2: Exposure of power plants to above-normal and below-normal rainfall DJF25/26.

[1] ASEAN Centre for Energy, 2023: "How climate-related weather conditions disrupt power plants in Indonesia and affect people" https://aseanenergy.org/news-clipping/how-climate-related-weather-conditions-disrupt-power-plants-in-indonesia-and-affect-people/

ANNEX D: NATIONAL METEOROLOGICAL SERVICES' CONTACT INFORMATION

- Brunei Darussalam Meteorological Department (BDMD)

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

- Department of Meteorology, Cambodia

http://www.cambodiameteo.com/map?menu=3&lang=en

- 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)

http://www.met.gov.my/

- Department of Meteorology and Hydrology (DMH), Myanmar

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

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

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

- Meteorological Service Singapore (MSS)

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

- Thai Meteorological Department (TMD)

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

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

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

ANNEX E: REVIEW OF JJA 2025 CONSENSUS OUTLOOK

SUMMARY

The rainfall and temperature outlooks were representative of the actual conditions over much of the ASEAN region for June-July-August (JJA) 2025. Much of region experienced above-normal rainfall and temperature.

In April, sea surface temperature (SST) anomalies over the equatorial Pacific showed average to slightly below-average SSTs across the equatorial Pacific Ocean, and along with atmospheric indicators such as trade wind strength and cloudiness, indicated ENSO-neutral conditions. In the Indian Ocean, the Indian Ocean Dipole was also neutral. The international climate outlook predicted ENSO neutral conditions would continue into JJA 2025. The Indian Ocean Dipole was also predicted to be neutral.

Based on the assessment as part of ASEANCOF-25, SEA RCC Climate Monitoring Node, and the WMO El Niño/La Niña Updates, during the JJA 2025 period ENSO-neutral conditions were present, with a neutral negative IOD developing in August.

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.

JJA 2025 RAINFALL OUTLOOK

Above-normal rainfall is predicted over parts of the southern ASEAN region. Near- to above-normal rainfall is predicted over eastern and southern Philippines, parts of east Malaysia, Brunei Darussalam, northeastern Cambodia, and northern and southern Lao PDR.

Below-to near-normal rainfall is predicted over parts of southern Thailand, northwestern Cambodia, coastal central Vietnam and northwestern Philippines.

Elsewhere, near-normal rainfall is predicted.

Much of the ASEAN region experienced above-normal rainfall, as can be seen by CHIRPS rainfall in Figure E1. There is good agreement between the predicted and observed rainfall for much of the region.

Over Mainland Southeast Asia, the parts where above-normal rainfall was predicted (parts of Lao PDR and Cambodia) mostly experience above-normal rainfall, similarly for below-normal rainfall (southern Thailand, southern Viet Nam, and parts of Cambodia). Elsewhere, a small increase in chance of near-normal rainfall was predicted, although much of this region experienced above-normal rainfall based on CHIPRS.

Over the Maritime Continent, above-normal rainfall was recorded most of the southern and eastern Maritime Continent, in agreement with the outlook. Much of the western Maritime Continent experienced below-normal rainfall, where the outlooks was predicting a small increase in chance of near-normal rainfall.

Based on the country reviews by NMHSs (Table E1), there was reasonable agreement between the outlook values averaged over the country and the observed values. There were some differences between the country reviews (based on primarily rain gauge data) and the CHIRPS gridded product in Figure E1. The differences include countries recorded less rainfall than CHIRPS (Brunei Darussalam, parts of the Philippines), while other assessments were wetter (parts of Cambodia, West Malaysia, Thailand). These differences highlight the importance of comparing against multiple datasets.

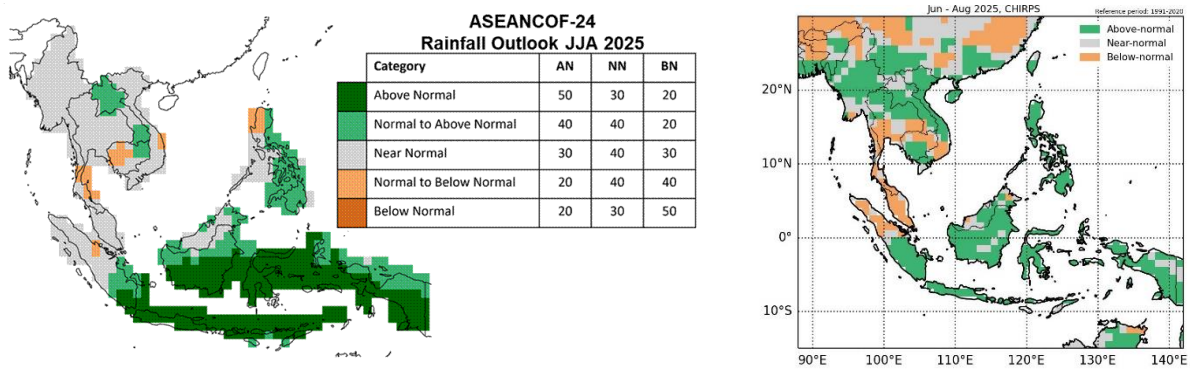


Figure E1: JJA 2025 ASEANCOF outlook (left) observed JJA rainfall in terciles (right, climatology 1991-2020). The rainfall dataset is CHIRPS (Funk et al 2014).

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

Country	NMHS OBS TERCILE
Brunei	BN
Cambodia	NN - AN
Lao PDR	Northern and Southern: AN Central: NN
Malaysia	West Malaysia: NN East Malaysia: NN to AN
Myanmar	Eastern, parts of central, southern: AN Rest: NN
Philippines	Northwestern: BN Rest: NN - AN
Singapore	NN
Timor-Leste	Upper Northern and upper Northeastern: AN South (west coast): NN Rest: BN
Thailand	NN to AN
Viet Nam	Northern and Central Viet Nam: AN Rest: BN - NN

JJA 2025 TEMPERATURE OUTLOOK

Above-normal temperature is predicted over much of the equatorial region, as well as over eastern and southern Philippines and parts of northern Viet Nam and northwestern Cambodia.

Elsewhere, near- to above-normal1 temperature is predicted.

Most of ASEAN region experienced above-normal temperature, apart from over northern parts where a mix of below- and above- temperature was recorded, based on the CPC Unified Gauge dataset (Figure E2). Overall, this is in good agreement with the outlook.

The results from NMHS country reviews (Table E2) also show predominantly near- to above-normal temperatures. There is good agreement between most likely tercile from the outlook averaged over the country and the observed values, except for Viet Nam that observed below- to near-normal over most of the country, whereas the CPC Unified Gauge data recorded above-normal temperature for most of Viet Nam.

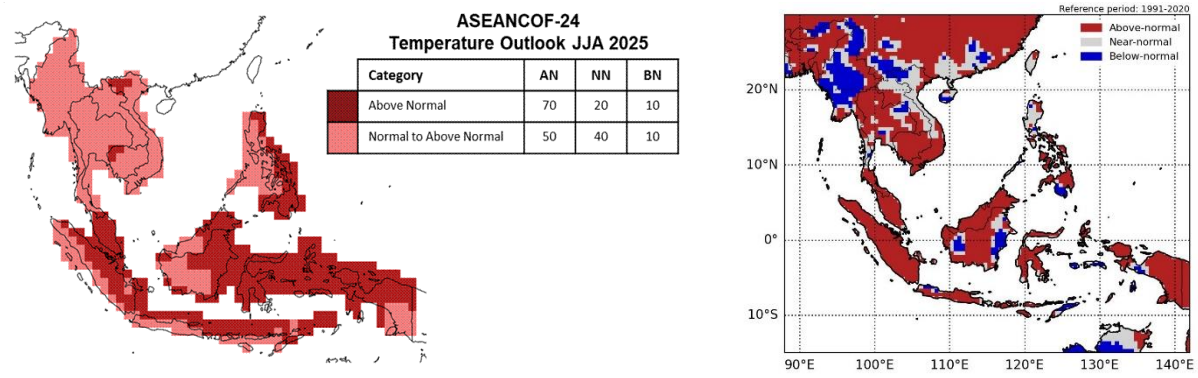


Figure E2: JJA 2025 ASEANCOF outlook (left) observed temperature in terciles (right, climatology 1991-2020). The temperature dataset is CPC Unified Gauge (Chen et al 2008).

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

Country	NMHS OBS TERCILE
Brunei	AN
Cambodia	AN
Lao PDR	NN to AN
Malaysia	NN
Myanmar	Western, Southeastern: BN, Rest: NN
Philippines	NN
Singapore	AN
Thailand	Northeastern: NN Rest: AN
Timor-Leste	AN
Viet Nam	AN

SIGNIFICANT EVENTS

From June to August 2025, three tropical storms and one tropical depression directly affected Viet Nam, with another three storms and one depression indirectly affecting the country. Several of these storms also affected other countries in the region. Notably, Tropical storm Wipha made landfall in upper Vietnam in late July, weakened over Lao PDR and northern Thailand and causing heavy rainfall and flooding in Chiang Rai, Nan, and Phayao provinces, with prolonged flooding in the north. This storm is one of the multiple tropical cyclones that entered or affected the Philippine Area of Responsibility in July, which enhanced the southwest monsoon and resulted in episodes of heavy rainfall and flooding, particularly over the western sections of the country. In late August, Typhoon Kajiki made landfall in Vietnam, before weakening over Lao PDR and northern Thailand. Shortly after, Tropical storm Nongfa hit Vietnam on 30 August, moving across Lao PDR and dissipating into an active low-pressure cell covering northern and northeastern Thailand. For Thailand, these storms brought widespread rainfall, with flooding, flash floods, and landslides, particularly in the North and Northeast. Over the Adman Sea and Bay of Bengal in JJA 2025, five Low Pressure Areas and two Depression occurred. These contributed to 12 new rainfall records in Myanmar.

Other heavy rainfall events occurred in June - August. This includes rain leading to flooding in parts of Timor-Leste in June, potentially associated with above normal SSTs in the surrounding region. Several heavy rainfall events also occurred over northern and central regions of Viet Nam, notably in mid-June and late August. In June over the Philippines, severe thunderstorms brought heavy rainfall that caused flooding in parts of Metro Manila and nearby provinces. Malaysia also recorded several occurrences of flash flood. Cambodia also experienced its longest every SW monsoon period – increasing the risk of flood.

Dry conditions also occurred, with Brunei Darussalam in June recording the lowest rainfall of 2025, 66% below average. The significantly dry conditions in June and July were likely influenced by a strong Southwest Monsoon and active tropical storms or typhoon development over the Western Pacific, which diverted atmospheric moisture away from the region. This coincided with warm temperatures in Singapore, where Singapore recorded a monthly mean temperature of 29.3°C, matching June 1997's record. Malaysia also noted several occurrences of transboundary haze.

Other high temperatures were recorded. During JJA 2025, Myanmar also recorded new record minimum temperature at 9 stations, as well as new record maximum temperatures at 9 stations. Malaysia issued several Level 1 heatwave warnings, a noted an increase in the number of heatwaves events, particularly in July, when most stations experienced below-normal rainfall. A severe heatwave in early August in Viet Nam brought 8-11 hot days with peak temperatures of 38-40°C, setting new records at 37 stations.

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.

CPC Unified Gauge: Chen, M., W. Shi, P. Xie, V. B. S. Silva, V E. Kousky, R. Wayne Higgins, and J. E. Janowiak (2008), Assessing objective techniques for gauge-based analyses of global daily precipitation, J. Geophys. Res., 113, D04110, doi:10.1029/2007JD009132.

ERA5: Hersbach et al. 2019: Global reanalysis: goodbye ERA-Interim, hello ERA5. ECMWF Newsletter, doi:10.21957/vf291hehd7.