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## MEMORANDUM

TO : **The Directors**  
FMB, MGB, EMB, BMB, LMB, ERDB  
Policy and Planning Service  
  
**All Regional Executive Directors**

FROM : **The Undersecretary**  
Policy, Planning and International Affairs

SUBJECT : **WEATHER FORECAST FOR SOUTHEAST ASIA IN  
JULY - SEPTEMBER 2022**

DATE : JUL 13 2022

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This pertains to the electronic mail dated 06 July 2022 from Ms. Aida Hayati Mohd Hassan, Peatland Programme - Global Environment Centre (Malaysia) forwarding a Seasonal Forecast for the ASEAN Region for July to September 2022.

The forecast mainly derived from the information from the ASEAN Specialised Meteorological Centre (ASMC) and APEC Climate Center (APCC). Similar weather forecast, and outlook is also available on ASEAN Specialised Meteorological Centre website: (<http://asmc.asean.org/home/>). Other relevant links are listed in the attached papers. This information is useful for reference in undertaking necessary precaution actions and preventive measures for fire risk.

For your information and reference.

  
ATTY. JONAS R. LEONES

MEMO NO. 2022 -- 475



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## Weather forecast for Southeast Asia in July - September 2022

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Aida Hayati Mohd Hassan <aidahayati@gec.org.my>  
Reply-To: aidahayati@gec.org.my  
To: Aida Hayati Mohd Hassan <aidahayati@gec.org.my>

Wed, Jul 6, 2022 at 9:12 AM

Dear partners,

GEC would like to share with you a Seasonal Forecast for the ASEAN Region for July - September 2022.

The forecast are mainly derived from information from the ASEAN Specialised Meteorological Centre (ASMC) and APEC Climate Center (APCC).

Similar weather forecast and outlook is also available on ASEAN Specialised Meteorological Centre website: (<http://asmc.asean.org/home/>).

Other relevant links are listed in the attached papers too.

A gentle reminder, ASMC has issued Alert Level 1 on 1<sup>st</sup> July 2022, indicate the start of dry season for the southern ASEAN region. ASMC also warned a risk of increased fire hotspot activity and smoke haze development until October 2022.

We hope this information is useful for reference in undertaking necessary precaution actions and preventive measures for fire risk.

Thank you.

Best regards;

**Aida Hayati**

Aida Hayati Mohd Hassan

Peatland Programme

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 [short\\_report\\_weather\\_forecast\\_asean\\_jul\\_to\\_sep\\_2022\\_gec\\_v20220705c.pdf](#)  
1754K

## SEASONAL WEATHER AND FIRE RISK FORECAST FOR ASEAN REGION JULY – SEPTEMBER 2022

Reports from the ASEAN Specialised Meteorological Centre (ASMC<sup>1</sup>) suggest that weak La Niña conditions are present, although these conditions are likely to continue weakening during July – August. After August, either La Niña or ENSO neutral conditions are expected.

The APEC Climate Centre (APCC<sup>2</sup>) ENSO Alert suggests “La Niña WATCH” with weak intensity expected to increase.

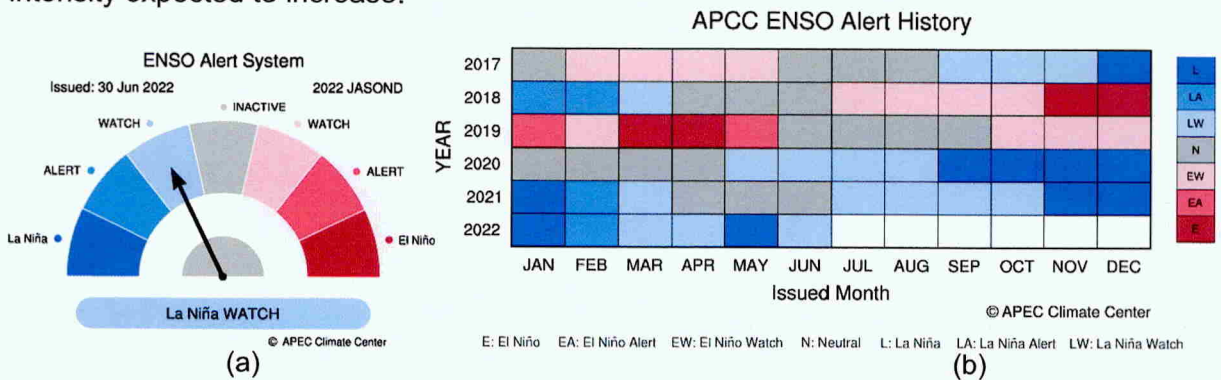
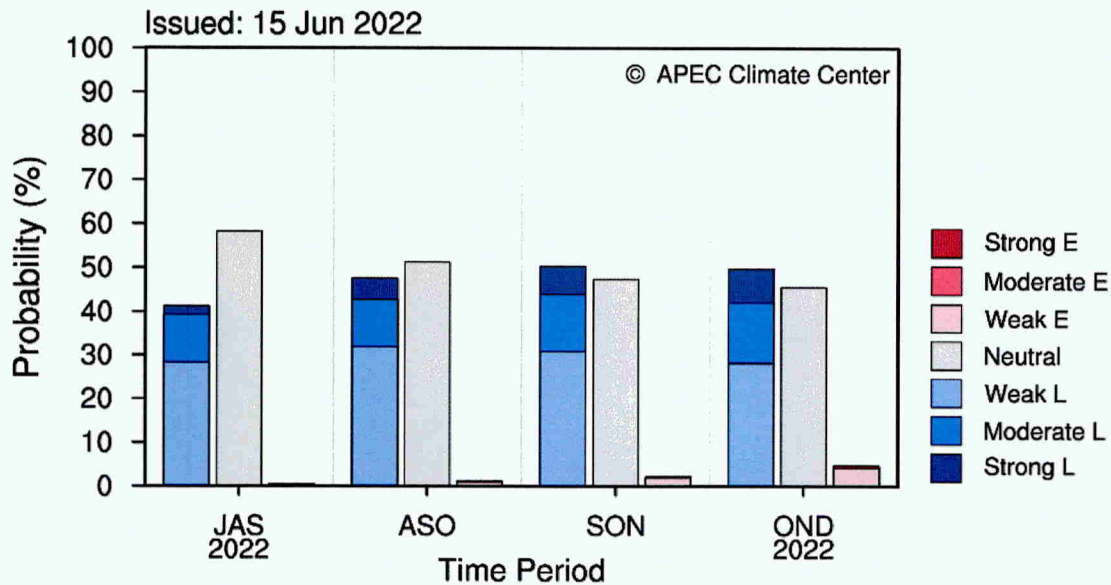


Figure 1: (a) ENSO Alert status for July – December 2022; and (b) history of monthly ENSO Alert from 2017 – 2022

### Probabilistic ENSO Forecast for 2022 JASOND



\* ENSO Intensity based on 3M Mean Nino3.4 SST Anomaly (Category Boundaries: +/-1.5, 1.0, 0.5°C)

Figure 2: Predicted monthly mean Nino3.4 index for July – December 2022

Southwest monsoon conditions became fully established over the ASEAN region in June 2022. During the southwest monsoon, the monsoon rainband is typically located over the northern ASEAN region, leading the onset of the traditional wet season over the region. Over the southern ASEAN region, drier conditions become established as this region enters its traditional dry season.

<sup>1</sup> Information from ASEAN Specialised Meteorological Centre (<http://asmc.asean.org/home/>)

<sup>2</sup> Information from APEC Climate Center (<https://www.apcc21.org/main.do?lang=en>)

### Rainfall

There is an increased chance of above-normal rainfall for much of southern ASEAN region in July-September, especially in southern Kalimantan, southern Sumatera and Sulawesi. Northern Peninsular Malaysia and Eastern Sabah are predicted to have below normal rainfall in September. There is an increased chance of below-normal rainfall in the northern ASEAN region from 10°N to 20°N, especially in southern Myanmar and northern Thailand.

### Temperature

Warmer-than-usual temperature is expected for most of the ASEAN region in July-September especially in southern portions.

### Hotspot and Haze

In the southern ASEAN region, although above-normal rainfall is forecast over much of the region, hotspot and smoke haze activities are expected to intensify as dry conditions become established in July – September 2022. This may lead to an increased likelihood of transboundary haze events if dry conditions are persistent over fire-prone regions. In the northern ASEAN region, hotspot and smoke haze activities are expected to remain subdued as the region enters its traditional wet season. However, a higher chance of below-normal rainfall is forecast in the coming months in the southern portion of northern ASEAN, which may lead to localised development of hotspots and smoke plumes over fire-prone areas.

### APCC Fire and Haze Early Warning System Report

APCC has developed a Fire and Haze Early Warning System (FHEWS) specifically for Kalimantan, Indonesia. This system shows how seasonal forecast can be used to predict drought conditions that triggering forest fires.

APCC FHEWS provides forecast to indicate probability of forest fires and precipitation in Kalimantan for **August, September and October (ASO)**, when the region has the highest risk of forest fires. The forecast utilises targeted 3-month precipitation value from April to June to predict probability of forest fires in ASO. The forecast focuses on 4 regions namely in Kalimantan, namely West (*Barat*), Central (*Tengah*), South (*Selatan*) and East (*Timur*) (Figure 3).

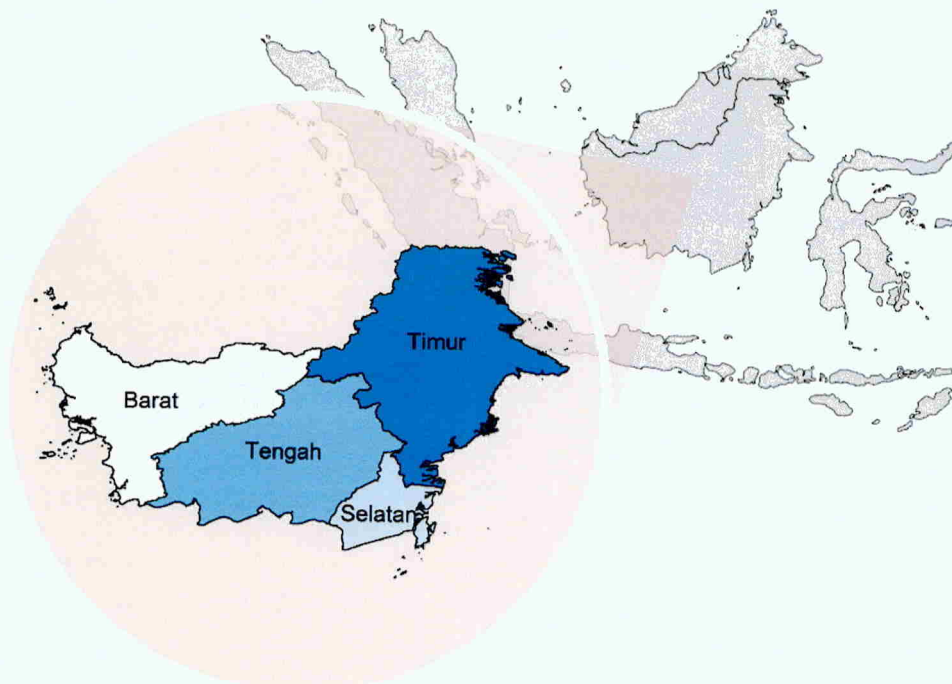


Figure 3: Forecast in Kalimantan divided into 4 regions

The forecast is translated into four forest fire risk ratings based on the relationship between the precipitation amount and CO<sub>2</sub> emissions for each region. Four forest fire ratings used in the forecast are Low, Moderate, High and Extreme.

**Probabilistic Forest Fire Forecast (issued : 2022-06) for 2022 : AUG-OCT**

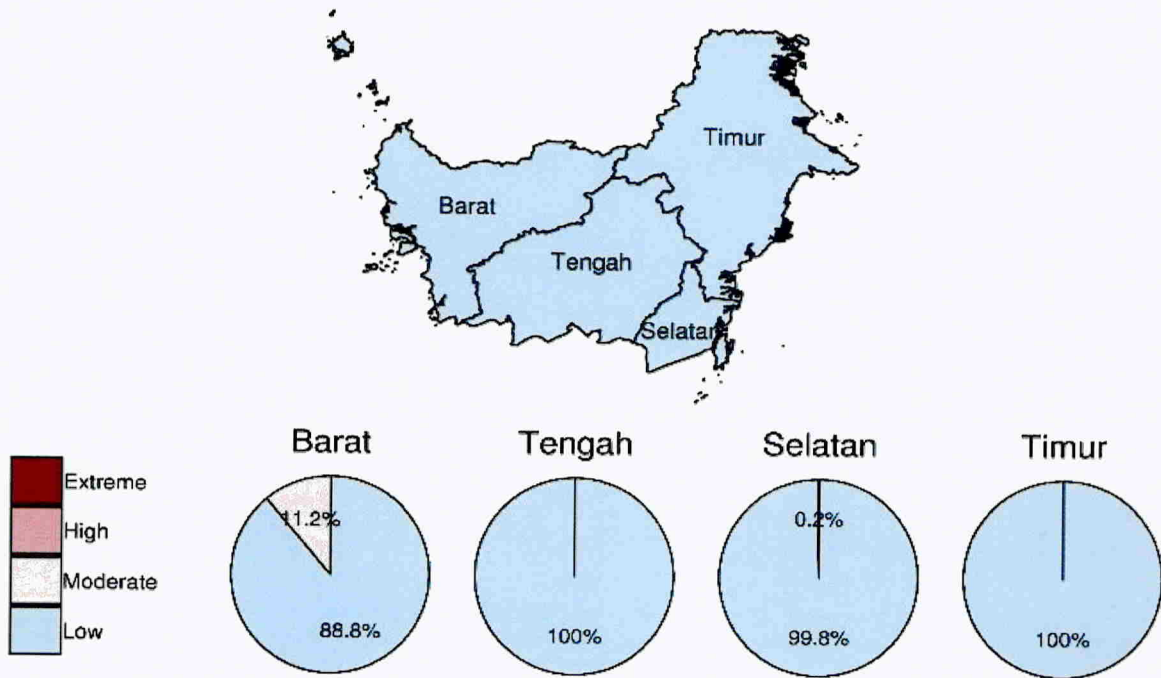


Figure 4: Probability of forest fires in Kalimantan regions for ASO, issued in June 2022 (Source: APCC)

Figure 4 shows the probability of forest fires on the four regions in Kalimantan, Indonesia for ASO. The forest fire forecast map displays the corresponding colour for the risk rating with the highest probability among the four categories for each region. Generally, there is a low probability of forest fire to occur in ASO. However, there is risk of fire to occur in West (*Barat*) Kalimantan region.

**Monthly History of Probabilistic Forest Fire Forecast for 2022**

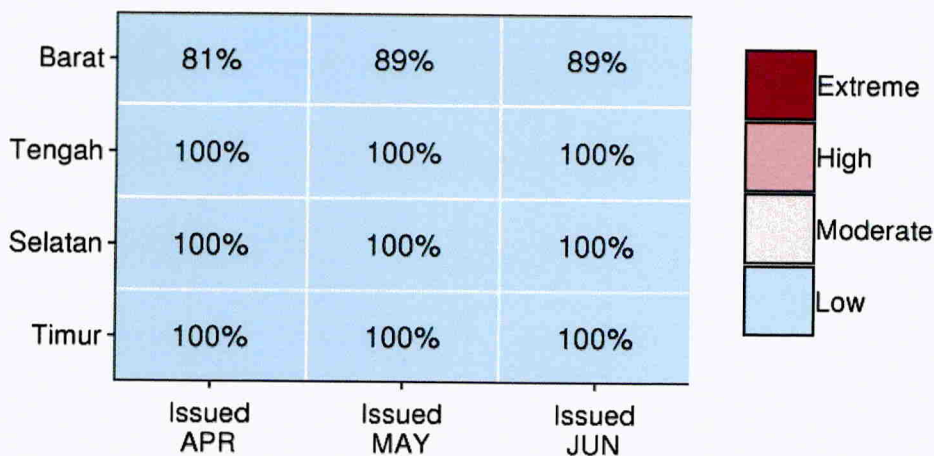


Figure 5: Monthly history of probabilistic forest fire forecast (low risk) in Kalimantan for ASO 2022

Figure 5 shows the monthly history of the ASO probabilistic forest fire forecast issued from April to June 2022. Each cell of the table displays the risk colour and probability value of the risk based on the precipitation.

*This APCC Fire and Haze Early Warning System is only available from April to July each year. This report can be assessed in <https://www.apcc21.org/ser/sea.do?lang=en>*

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**Other information on weather conditions, hotspot, haze and fire danger rating can be found on the following links:**

Hotspot and haze information at ASEAN Specialised Meteorological Centre (<http://asmc.asean.org/home/>)

Information on Fire Danger Rating System (FDRS) at Malaysian Meteorological Department (<http://www.met.gov.my/iklim/fdrs/afdrs?lang=en>)

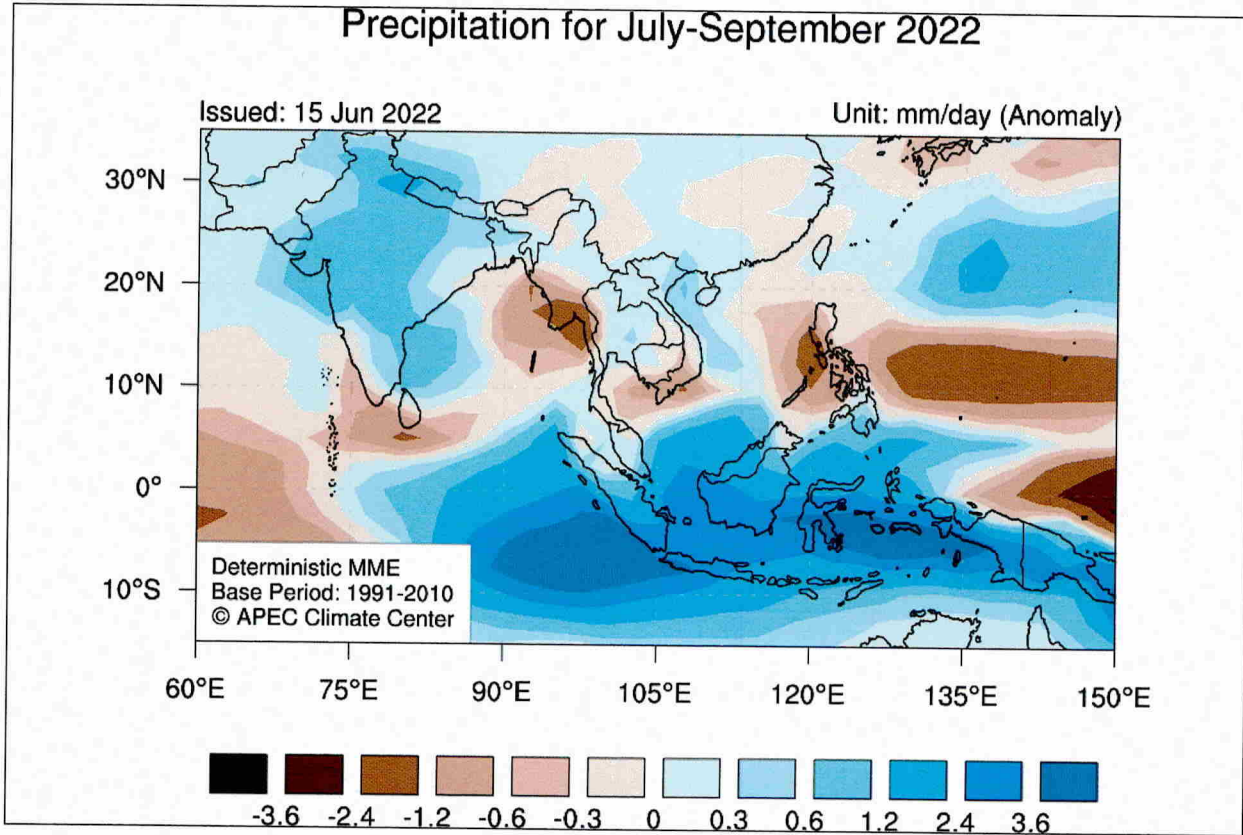
Information by Badan Meteorologi, Klimatologi dan Geofisika of Indonesia on FDRS (<https://www.bmkg.go.id/cuaca/kebakaran-hutan.bmkg>)

Hotspot information (adjustable confidence levels for hotspots) by Lembaga Penerbangan dan Antariksa Nasional (LAPAN) of Indonesia (<http://lowres-catalog.lapan.go.id/monitoring/>)

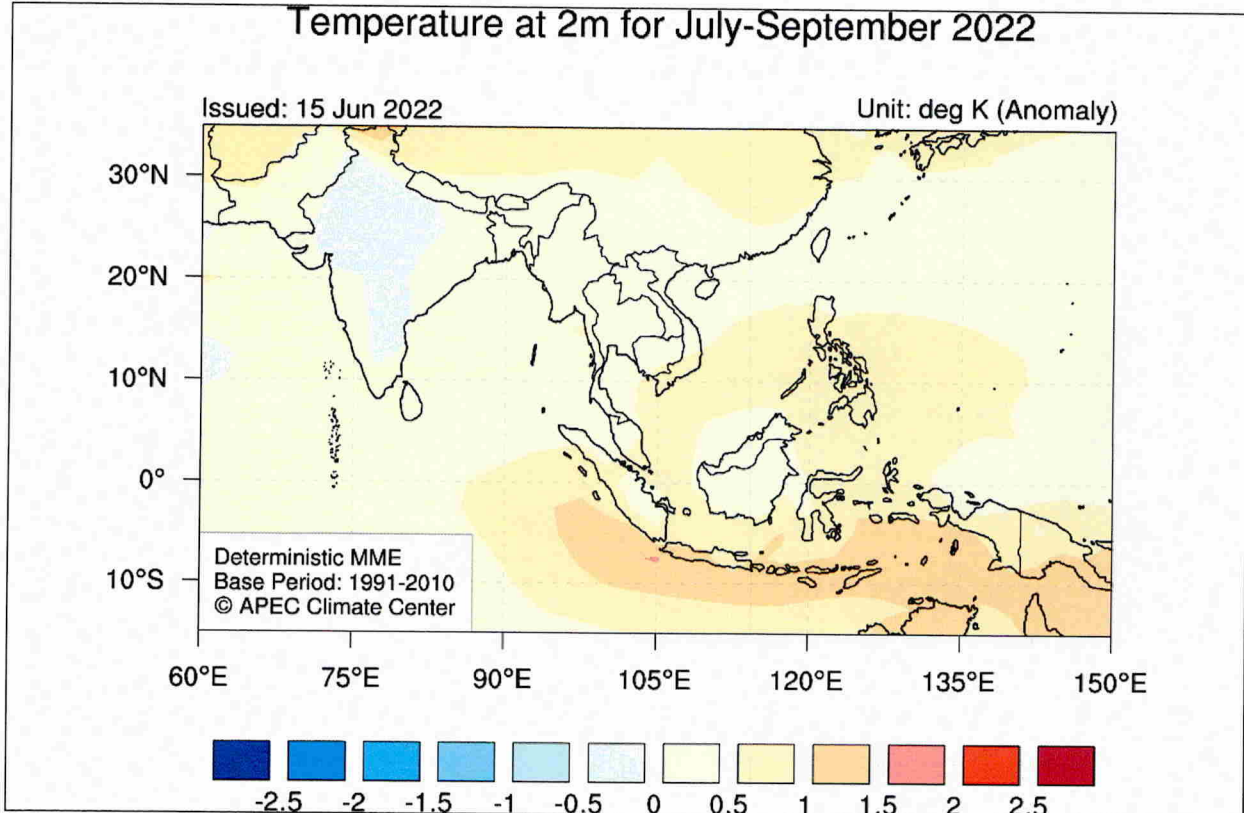
Subscription to ASEAN Fire Alert Tool (<https://www.aseanfirealert.org/>) to manage land parcels of which information on FDRS and hotspot will be delivered daily to smartphone of subscribers.

ASEAN Haze Action Online (<https://hazeportal.asean.org>)

### Precipitation for July-September 2022

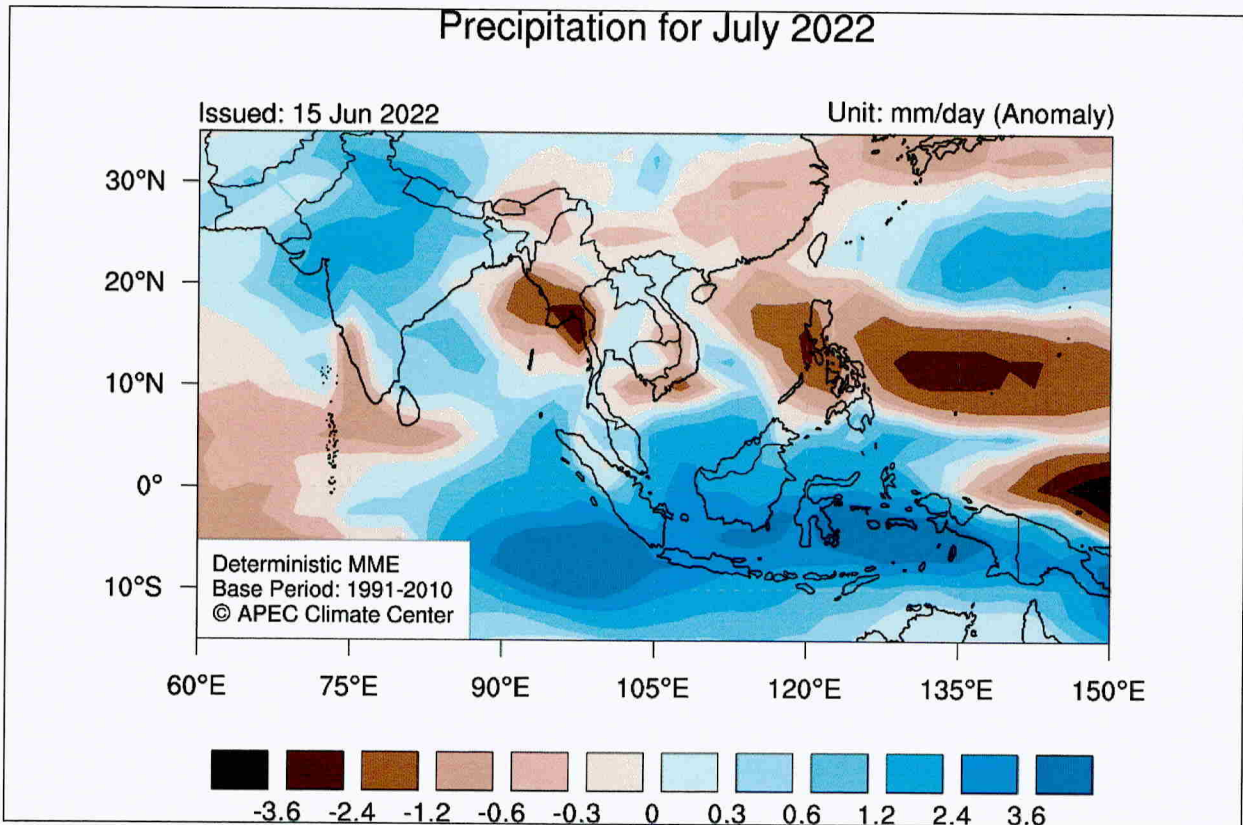


### Temperature at 2m for July-September 2022

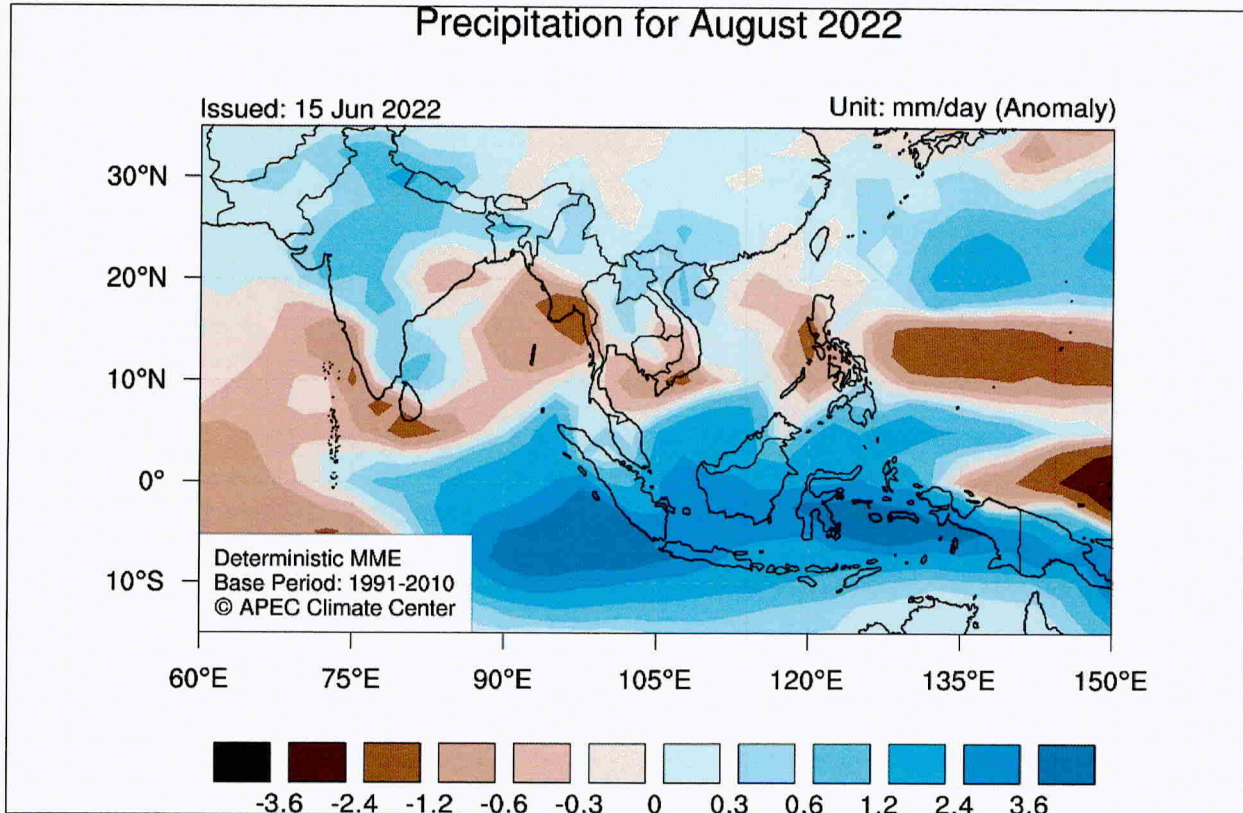




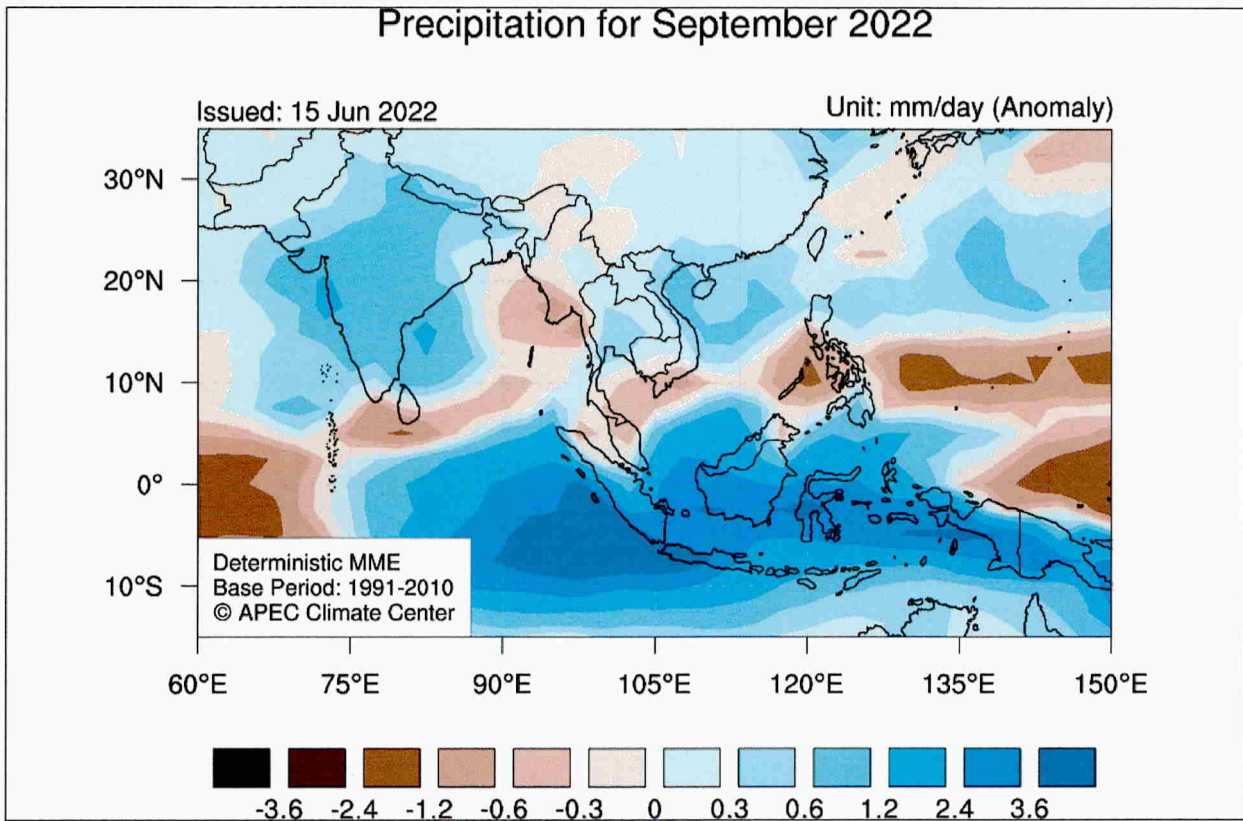
### Precipitation for July 2022



### Precipitation for August 2022



### Precipitation for September 2022



### Temperature at 2m for July 2022

