



## **BULETIN CUACA BULANAN**

**MAC 2024**

***Monthly Weather Bulletin***

***March 2024***

### **Pendahuluan / Introduction**

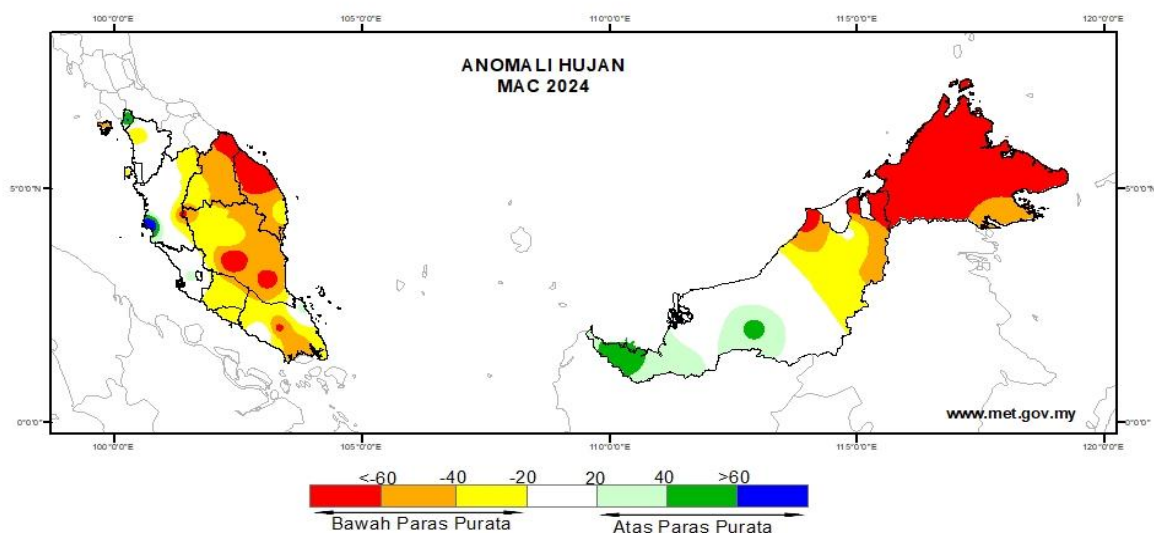
Bulan Mac merupakan fasa akhir Monsun Timur Laut di mana tiupan angin mula bertiup dari pelbagai arah dan terdapat beberapa kawasan menerima jumlah hujan yang kurang. Fenomena El-Niño yang sedang berlaku juga memberi kesan kepada bacaan suhu yang lebih tinggi. Fasa Peralihan Monsun bermula pada 29 Mac 2024 dan berterusan sehingga Mei 2024 menandakan berakhirnya Monsun Timur Laut 2023/2024 yang telah bermula sejak 11 November 2023. Dalam tempoh ini, rantau negara akan menerima tiupan angin lemah dari pelbagai arah yang amat sesuai untuk kejadian ribut petir yang lazimnya membawa hujan lebat berserta angin kencang dalam jangka masa yang singkat.

*The month of March is the final phase of the Northeast Monsoon where winds start blowing from various directions and there are some areas that receive less rainfall. The ongoing El-Niño phenomenon is also impacting higher temperature readings. The transition phase of the monsoon which has started on 29 March 2024 and continue until May 2024 marks the end of the Northeast Monsoon which has started on 11 November 2023. During this period, the country will experience weak winds from various directions which are very conducive for thunderstorms to bring heavy rain and strong winds in a short period.*

## Hujan / Rainfall

Berdasarkan anomali hujan sepanjang bulan Mac 2024 (Rajah 1), kebanyakan stesen di Semenanjung Malaysia mencatatkan peratusan anomali hujan dari purata hingga lebih 60% di bawah paras purata kecuali Chuping, Sitiawan, Subang dan Mersing yang mencatatkan peratusan anomali hujan dari 20 - 60% di atas paras purata. Di Sarawak pula , kebanyakan kawasan menerima peratusan anomali hujan dari purata hingga 60% di bawah paras purata kecuali Kuching, Sri Aman dan Kapit menerima peratusan anomali dari 20-40% di atas paras purata. Di Sabah, kesemua stesen mencatatkan peratusan anomali pada paras 40-60 % di bawah paras purata.

*Based on the rainfall anomalies during March 2024 (Figure 1), most stations in Peninsular Malaysia generally recorded a percentage of rainfall anomalies ranging from an average to 60 % below average except Chuping, Sitiawan, Subang and Mersing recorded the percentage of rainfall anomalies at 20 – 60 % above average. In Sarawak, most areas have received a percentage from an average to 60 % below average except Kuching, Sri Aman and Kapit have received percentage of rainfall amount ranging 20– 40 % above average. In Sabah, all stations have received percentage of rainfall amount ranging 40-60 % below average rainfall.*



**Rajah 1: Anomali Hujan (Mac 2024)**

**Figure 1: Rainfall Anomaly (March 2024)**



Secara umumnya, pada bulan Mac 2024, Semenanjung Malaysia merekodkan jumlah hujan bulanan di antara 10 mm hingga 350 mm, Sarawak di antara 50 mm hingga 600 mm dan Sabah di antara 00 mm hingga 70 mm. Jumlah hujan bulanan tertinggi di Semenanjung Malaysia telah direkodkan di Subang, Selangor (324.0 mm) dan jumlah hujan bulanan terendah telah direkodkan di Gong Kedak, Terengganu (18.8 mm). Di Sarawak pula, Kapit merekodkan bacaan jumlah hujan bulanan tertinggi iaitu 555.2 mm manakala jumlah hujan bulanan terendah direkodkan di Miri (50.6 mm). Manakala di Sabah, hujan tertinggi dan terendah masing-masing direkodkan di Tawau (67.2 mm) dan Labuan (3.6 mm).

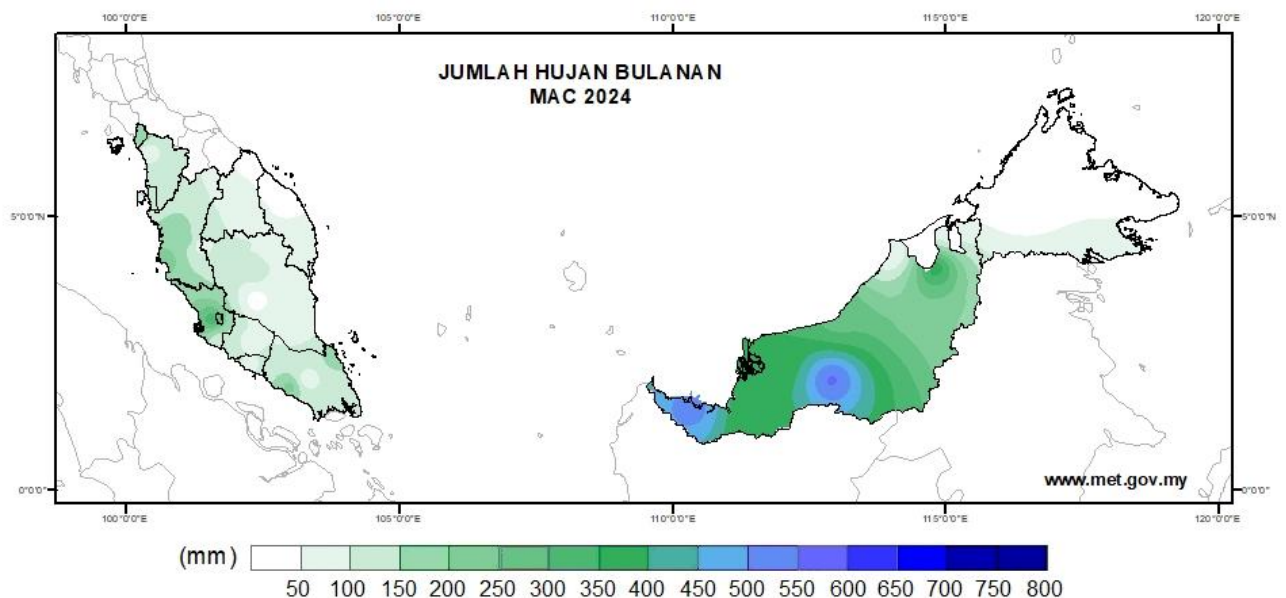
Di Semenanjung Malaysia, jumlah hujan harian tertinggi telah direkodkan di Sitiawan pada 5 Mac 2024 dengan bacaan sebanyak 127.5 mm. Di Sarawak pula, jumlah hujan harian tertinggi direkodkan di Kuching pada 1 Mac 2024 dengan bacaan sebanyak 203.6 mm. Manakala di Sabah, jumlah hujan harian tertinggi telah direkodkan sebanyak 22.6 mm di Tawau pada 23 Mac 2024.

Bilangan hari hujan tertinggi di Semenanjung Malaysia direkodkan di Subang, Selangor dengan cerapan 21 hari hujan dan bilangan hari hujan terendah adalah di Kuala Terengganu, Terengganu sebanyak 4 hari. Di Sabah dan Sarawak Ranau dan Sibuh merekodkan bilangan hari hujan tertinggi iaitu masing-masing sebanyak 12 dan 26 hari. Manakala Kota Kinabalu dan Limbang merekodkan bilangan hari hujan terendah dengan hanya 2 dan 7 hari cerapan hujan.

*In general, monthly rainfall amount in Peninsular Malaysia for Mac 2024 is between 10 mm and 350 mm, Sarawak between 50 mm and 600 mm and Sabah between 00 mm and 70 mm. The highest monthly rainfall in Peninsular Malaysia was recorded in Subang, Selangor (324.0 mm) and the lowest monthly rainfall was recorded in Gong Kedak, Terengganu (18.8 mm). In Sarawak, Kapit recorded the highest monthly rainfall reading of 555.2 mm while the lowest monthly rainfall was recorded in Miri (50.6 mm). While in Sabah, the highest and lowest rainfall was recorded respectively in Tawau (67.2 mm) and Labuan (3.6 mm).*

*In Peninsular Malaysia, the highest daily rainfall was recorded in Sitiawan on 5 March 2024 with a reading of 127.5 mm. In Sarawak, the highest daily rainfall was recorded in Kuching on 01 March 2024 with a reading of 203.6 mm. While in Sabah, the highest daily rainfall was recorded in Tawau on 23 March 2024 with a reading of 22.6 mm.*

*The highest number of rainy days in Peninsular Malaysia was recorded in Subang, Selangor with 21 rainy days and the lowest number of rainy days was in Kuala Terengganu, Terengganu with 4 days. In Sabah and Sarawak, Ranau and Sibu were recorded the highest number of rainy days reaching 12 and 26 rainy days respectively. Meanwhile, Kota Kinabalu and Limbang was recorded the lowest number of rainy days with only 2 and 7 days of rain.*



**Rajah 2: Jumlah Hujan Bulanan (Mac 2024)**

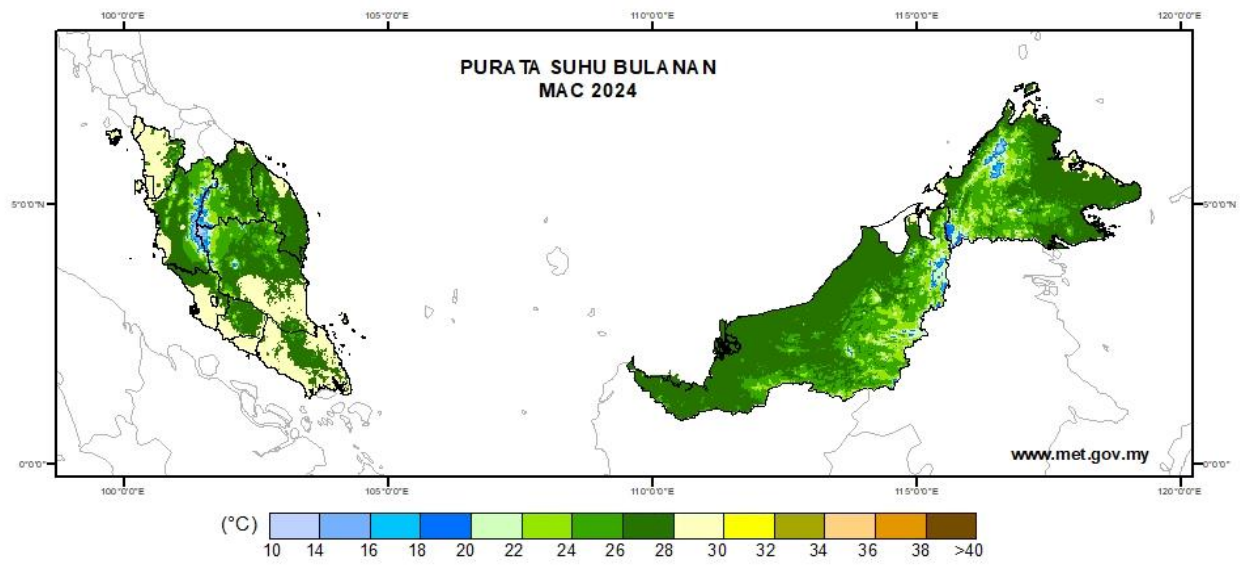
**Figure 2: Monthly Amount of Rainfall (March 2024)**



## **Suhu / Temperature**

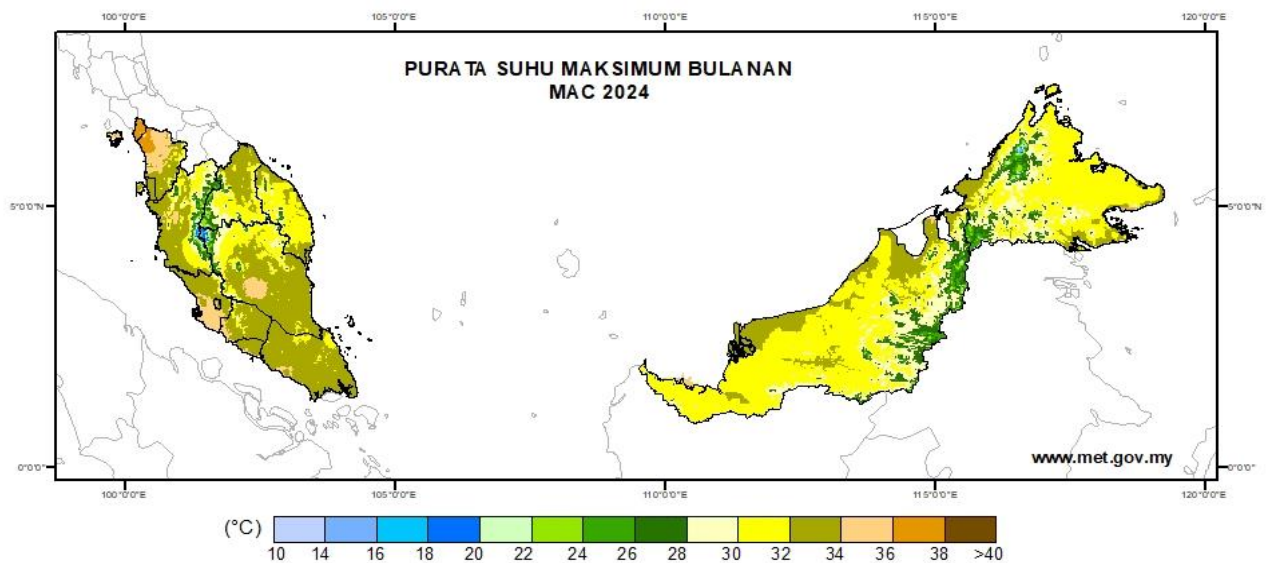
Suhu purata bulanan di kawasan tanah rendah adalah berjulat di antara 26.0°C hingga 30.0°C. Di Semenanjung, Chuping mencatatkan bacaan suhu maksimum tertinggi iaitu 39.0°C. Manakala di Sabah dan Sarawak pula, Labuan dan Limbang merekodkan suhu maksimum tertinggi masing-masing sebanyak 37.1°C dan 36.4°C. Suhu minimum terendah untuk kawasan tanah rendah di Semenanjung direkodkan di Batu Embun, Pahang iaitu 19.7°C. Manakala Keningau (Sabah) dan Sibul (Sarawak) merekodkan suhu minimum terendah masing-masing sebanyak 20.3°C dan 22.6°C. Stesen di kawasan tanah tinggi Cameron Highlands dan Ranau mencatatkan purata suhu masing-masing pada 19.4°C dan 25.3°C.

*The average monthly temperature in the lowland areas ranges between 26.0°C to 30.0°C. In the Peninsula, Chuping recorded the highest maximum temperature reading of 39.0°C while in Sabah and Sarawak, Labuan and Limbang recorded the highest maximum temperature of 37.1°C and 36.4°C. The lowest minimum temperature for lowland areas in the Peninsula was recorded in Batu Embun, Pahang at 19.7°C. Meanwhile Keningau (Sabah) and Sibul (Sarawak) recorded the lowest minimum temperature of 20.3°C and 22.6°C respectively. Stations in the highland areas such as Cameron Highlands and Ranau recorded average temperatures of 19.4°C and 25.3°C respectively.*



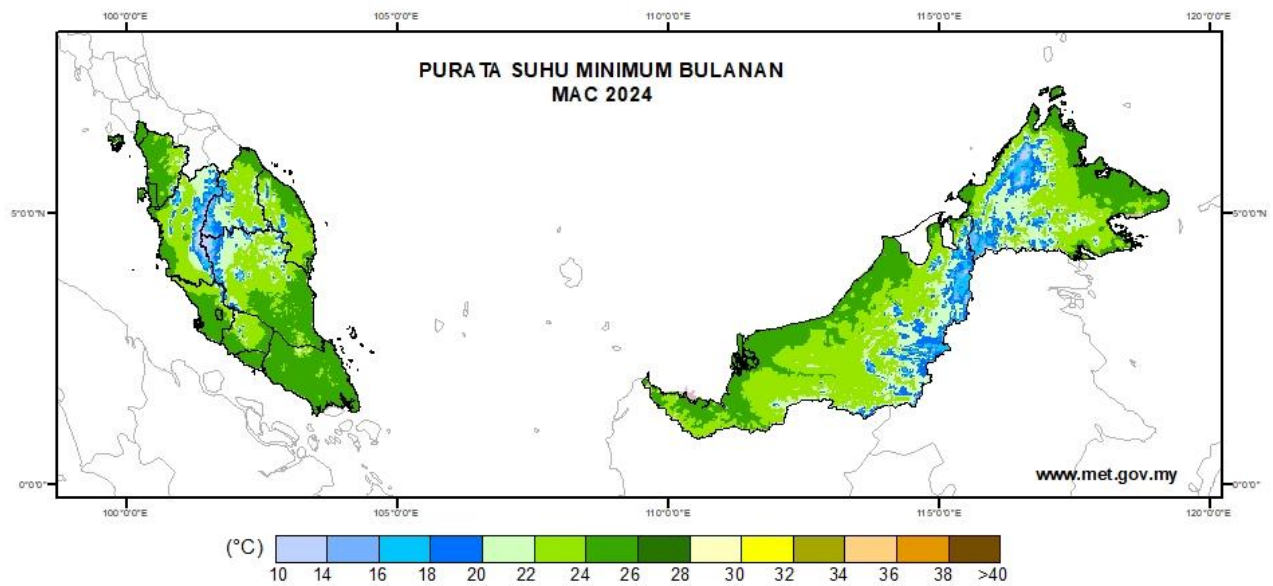
Rajah 3: Purata Suhu Bulanan (Mac 2024)

Figure 3: Mean Monthly Temperature (March 2024)



Rajah 4: Purata Suhu Maksimum Bulanan (Mac 2024)

Figure 3: Mean Monthly Maximum Temperature (March 2024)



Rajah 5: Purata Suhu Minimum Bulanan (Mac 2024)

Figure 3: Mean Monthly Minimum Temperature (March 2024)

### Sinaran Suria / Solar Radiation

Purata sinaran suria harian bagi kawasan tanah rendah ialah berjulat antara  $13.4 \text{ MJm}^{-2}$  (Kuching, Sarawak) hingga  $24.6 \text{ MJm}^{-2}$  (Kudat, Sabah). Purata sinaran suria yang telah direkodkan di kawasan tanah tinggi ialah  $18.6 \text{ MJm}^{-2}$  (Cameron Highlands) dan  $21.7 \text{ MJm}^{-2}$  (Ranau). Sisihan positif terbesar dari normal ialah  $+3.8 \text{ MJm}^{-2}$  yang direkodkan di Kudat, Sabah manakala Kuching, Sarawak dan Keningau, Sabah mencatatkan sisihan negatif terbesar dari normal iaitu  $-1.6 \text{ MJm}^{-2}$ .

*Average daily solar radiation for lowland areas ranges from  $13.4 \text{ MJm}^{-2}$  (Kuching, Sarawak) to  $24.6 \text{ MJm}^{-2}$  (Kudat, Sabah). The average solar radiation that has been recorded in the highland areas was  $18.6 \text{ MJm}^{-2}$  (Cameron Highlands) and  $21.7 \text{ MJm}^{-2}$  (Ranau). The largest positive deviation from normal was  $+3.8 \text{ MJm}^{-2}$  recorded in Kudat, Sabah while Kuching, Sarawak and Keningau, Sabah recorded the largest negative deviation from normal was  $-1.6 \text{ MJm}^{-2}$ .*



## **Sejatan / Evaporation**

Bagi kawasan tanah rendah, Melaka mencatatkan purata kadar sejatan harian tertinggi dengan bacaan 6.9 mm/hari manakala Miri, Sarawak pula mencatatkan purata kadar sejatan harian terendah dengan bacaan 4.6 mm/hari. Sisihan positif terbesar dari normal telah direkodkan di Melaka iaitu sebanyak +1.7 mm/hari manakala sisihan negatif terbesar dari normal sebanyak -1.0 mm/hari direkodkan di Kuala Pilah, Negeri Sembilan. Bagi kawasan tanah tinggi, purata kadar sejatan harian direkodkan di Cameron Highlands ialah 1.9 mm/hari.

*For lowland areas, Melaka recorded the highest average daily evaporation rate with a reading of 6.9 mm/day while Miri, Sarawak recorded the lowest average daily evaporation rate with a reading of 4.6 mm/day. The largest positive deviation from normal was recorded in Melaka which was +1.7 mm/day while the largest negative deviation from normal was -1.0 mm/day recorded in Kuala Pilah, Negeri Sembilan. For highland areas, the average daily evaporation rate recorded in Cameron Highlands is 1.9 mm/day.*

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