BULETIN METEOROLOGI PERTANIAN 10 HARI
DEKAD KETIGA JULAI 2022
(21hb - 31hb Julai 2022)
10 DAYS AGROMETEOROLOGICAL BULLETIN
THIRD DECADE OF JUL 2022
(21th – 31st July 2022)

PENDAHULUAN / *INTRODUCTION*

Negara masih berada dalam tempoh Monsun Barat Daya dan dijangka berterusan sehingga pertengahan September 2022. Dalam tempoh ini, lazimnya angin bertiup secara konsisten dari arah barat daya dengan kelembapan udara yang lebih rendah dan keadaan atmosfera yang lebih stabil. Ini menyebabkan kurangnya pembentukan awan yang menghasilkan hujan dalam tempoh ini. Sepanjang tempoh Monsun Barat Daya, kejadian ribut petir dan hujan lebat dijangka berkurangan dan kebanyakan negeri akan mengalami lebih banyak bilangan hari tanpa hujan. Walau bagaimanapun, fenomena garis badai yang membawa hujan lebat dan angin kencang boleh berlaku di pantai barat Semenanjung dan barat Sabah pada awal pagi. Garisan ribut petir yang terbentuk akibat penumpuan angin boleh berlarutan sehingga beberapa jam.

The country is still in the Southwest Monsoon and is expected to continue until mid-September 2022. During this phase, wind usually blows consistently from south west direction with low humidity and more stable atmosphere to reduce formation of rain clouds. Therefore, several places experience a higher number of days without rain than the number of days with rain. Heavy rain with strong winds and lightning due to the squall line phenomenon can occur on the west coast of the Peninsula and west Sabah in the early morning. Storm lines are formed as a result of wind convergence and can last up for several hours.

HUJAN / *RAINFALL*

Merujuk kepada Rajah 1, kawasan-kawasan di Semenanjung iaitu Pulau Pinang (Butterworth dan Perai), Perak (Lubok Merbau, Ipoh dan Sitiawan), bahagian selatan Pahang (Kuantan, Muadzam Shah, Cameron Highlands, Temerloh dan MARDI Sg. Baging),

Selangor (Subang dan Petaling Jaya) dan Johor (Batu Pahat dan Senai) merekodkan peratusan anomali hujan melebihi 40% di atas purata. Manakala kawasan lain merekodkan peratusan anomali hujan antara lebih dari 60% di bawah purata sehingga purata. Di Sarawak, Kuching, Miri dan Bintulu merekodkan peratusan anomali hujan lebih dari 60% diatas purata. Sibu dan Sri Aman pula merekodkan bacaan antara purata 40% di bawah purata hingga purata. Di Sabah pula, Labuan dan Kota Kinabalu merekodkan peratusan anomali hujan lebih dari 60% di atas purata. Sementara Kudat, Tawau dan Sandakan merekodkan peratusan anomali hujan lebih dari 60% di bawah purata sehingga purata

Berdasarkan Rajah 2, beberapa kawasan di Semenanjung seperti Pusat Pertanian Charok Padang, Ipoh, Muadzam Shah, Cameron Highlands, Petaling Jaya, Mardi Klang, Batu Pahat, Senai dan Pejabat Haiwan Jajahan Machang merekodkan jumlah hujan antara 100 - 200 mm. Kawasan-kawasan lain pula merekodkan jumlah hujan kurang dari 100 mm. Petaling Jaya mencatatkan jumlah hujan tertinggi iaitu 193 mm manakala FELDA Trolak Utara mencatatkan jumlah hujan terendah iaitu 2 mm. Batu Pahat merekodkan jumlah hari cerapan hujan tertinggi iaitu 10 hari manakala FELDA Trolak Utara merekodkan jumlah hari cerapan hujan terendah iaitu 1 hari. Pusat Pertanian Charok Padang merekodkan hujan harian tertinggi dengan bacaan 74.3 mm yang dicerap pada 31hb pada bulan ini.

Di Sarawak, dua (2) kawasan merekodkan jumlah hujan kurang dari 60 mm iaitu Sri Aman dan Sibu. Kuching, Miri dan Bintulu merekodkan jumlah hujan antara 140 - 270 mm. Julat bilangan hari hujan adalah di antara 6 hari (Miri) dan 10 hari (Kuching dan Sri Aman). Bintulu merekodkan hujan harian tertinggi iaitu 192 mm yang dicerap pada 26hb.

Di Sabah, tiga (3) kawasan merekodkan jumlah hujan kurang dari 40 mm iaitu Kudat, Tawau dan Sandakan. Labuan dan Kota Kinabalu merekodkan jumlah hujan antara 180 - 270 mm. Julat bilangan hari hujan adalah di antara 3 hari (Sandakan) dan 8 hari (Kota Kinabalu). Kota Kinabalu turut merekodkan hujan harian tertinggi iaitu 70.8 mm yang dicerap pada 27hb.

Berdasarkan Indeks Hujan Piawai dalam Rajah 3, secara amnya Malaysia merekodkan indeks normal kecuali Muadzam Shah yang merekodkan indeks sederhana kering. Ipoh, Cameron Highland, Subang, Petaling Jaya, Batu Pahat dan Kapit merekodkan indeks sangat lembap manakala Butterworth, Lubok Merbau, Temerloh, Melaka, Kluang, Senai, Sri Aman, Miri dan Limbang merekodkan indeks sederhana lembab. Hanya Sibu merekodkan indeks sangat lembab.

Based on Figure 1, some areas in the Peninsula including Penang (Butterworth and Perai), Perak (Lubok Merbau, Ipoh and Sitiawan), southern area in Pahang (Kuantan, Muadzam Shah, Cameron Highlands, Temerloh and MARDI Sg. Baging), Selangor (Subang and Petaling Jaya) and Johor (Batu Pahat and Senai) recorded a percentage of rainfall anomalies more than 40 % below average. Meanwhile, other areas recorded a percentage of anomalies rainfall more than 60% below average to average. In Sarawak, Kuching, Miri and Bintulu recorded a percentage of anomalies rainfall more than 60 % above average. Sibu and Sri Aman recorded a percentage of anomalies rainfall of 40 % below average to average. In Sabah, Labuan and Kota Kinabalu recorded a percentage of anomalies rainfall more than 60 % above average while Kudat, Tawau and Sandakan recorded rainfall anomalies 20 % to more than 60 % above average.

Based on Figure 2, most areas in Peninsula namely Pusat Pertanian Charok Padang, Ipoh, Muadzam Shah, Cameron Highlands, Petaling Jaya, Mardi Klang, Batu Pahat, Senai and Pejabat Haiwan Jajahan Machang recorded rainfall between 100 - 200 mm. Other areas recorded rainfall amount less than 100 mm. Petaling Jaya recorded highest rainfall amount reading at 193 mm while FELDA Trolak Utara recorded the lowest rainfall amount of 2 mm. Batu Pahat has the most numbers of rainfall observation of 10 days. FELDA Trolak Utara has the least number of rainfall observation of 1 day. Pusat Pertanian Charok Padang recorded the highest daily rainfall with a reading of 74.3 mm which was observed on the 31st day of the month.

In Sarawak, two (2) areas had recorded rainfall amount less than 60 mm are Sri Aman and Sibu. Kuching, Miri and Bintulu recorded rainfall amount between 140 - 270 mm. Numbers of rainfall observation range is between 6 days (Miri) and 10 days (Kuching and Sri Aman). Bintulu had also recorded the highest daily rainfall with a reading of 192 mm which was observed on 26th day.

In Sabah, three (3) areas recorded rainfall readings less than 40 mm namely Kudat, Tawau and Sandakan. Labuan and Kota Kinabalu recorded rainfall readings between 180 - 270 mm. Numbers of rainfall observation range is between 3 days (Sandakan) and 8 days (Kota Kinabalu). Kota Kinabalu had also recorded the highest daily rainfall with a reading of 70.8 mm which was observed on 27th day.

Based on the Standard Precipitation Index in Figure 3, in general, areas in Malaysia recorded a normal index except for Muadzam Shah which recorded a moderately dry index.

Ipoh, Cameron Highland, Subang, Petaling Jaya, Batu Pahat and Kapit recorded a severely wet index while Butterworth, Lubok Merbau, Temerloh, Melaka, Kluang, Senai, Sri Aman, Miri and Limbang recorded a moderately wet index. Only Sibu recorded an extremely wet index.

SUHU / *TEMPERATURE*

Merujuk kepada Rajah 4 dan Rajah 5, kebanyakan kawasan tanah rendah menerima purata suhu harian dari 26.8 ºC hingga 29.4 ºC. Dalam dekad ini, bacaan suhu tertinggi direkodkan di MARDI Klang (Selangor) dengan bacaan 36.8 ºC manakala suhu terendah direkodkan di FELDA Lenga (Johor) dengan bacaan 21.6 ºC. Bagi tanah tinggi, julat purata suhu direkodkan antara 15.8 ºC hingga 24.8 ºC di Cameron Highlands.

Referring to Figure 4 and Figure 5, most lowland areas received average daily temperatures ranging from 27.2 ºC to 30.1 ºC. In this decade, the highest temperature reading was recorded at MARDI Klang (Selangor) with a reading of 36.8 ºC while the lowest temperature reading were recorded at FELDA Lenga (Johor) with readings of 21.6 ºC, respectively. For highlands, the average temperature range was recorded between 15.8 ºC to 24.8 ºC in Cameron Highlands.

SEJATAN / *EVAPORATION*

Kebanyakan kawasan di Semenanjung secara amnya merekodkan julat bagi purata kadar sejatan harian antara 2.1 mm yang direkodkan di Kluang (Johor) sehingga 5.6 mm yang direkodkan di Ipoh (Perak). Di Sabah dan Sarawak, kebanyakan stesen merekodkan bacaan dari 2.0 mm hingga 6.0 mm yang mana Kota Kinabalu merekodkan bacaan tertinggi iaitu 5.7 mm manakala Sri Aman merekodkan bacaan terendah iaitu 2.7 mm. Cameron Highlands merekodkan 1.5 mm sebagai bacaan purata sejatan. Dalam dekad ini, Ipoh merekodkan purata kadar sejatan harian dengan purata nilai sisihan piawai tertinggi iaitu +1.5 mm manakala Bayan Lepas merekodkan bacaan purata nilai sisihan piawai terendah iaitu -1.6 mm (Rujuk rajah 6).

Most areas in the Peninsula generally recorded an average daily evaporation rates ranging from 2.1 mm which was recorded in Kluang (Johor) to 5.6 mm which was recorded in Ipoh (Perak). In Sabah and Sarawak, most stations recorded readings from 2.0 mm to 6.0 mm where Kota Kinabalu recorded the highest reading with a reading of 5.7 mm while Sri Aman recorded the lowest reading with a reading of 2.7 mm. Cameron Highlands recorded 1.5 mm as an average evaporation readings. In this decade, Ipoh recorded an average daily evaporation rate with the highest average deviation value of +1.5 mm while Bintulu recorded the lowest daily average deviation value reading of -1.6 mm (Refer to Figure 6).

SINARAN SOLAR / *SOLAR RADIATION*

Dalam dekad ini, kebanyakan kawasan di Semenanjung merekodkan purata sinaran matahari harian antara 12.0 MJm-2 hingga 20.0 MJm-2 yang mana Senai (Johor) merekodkan bacaan tertinggi dengan bacaan 19.3 MJm-2 manakala Lubok Merbau (Perak) merekodkan bacaan terendah dengan bacaan 13.7 MJm-2. Bagi Sabah dan Sarawak, bacaan purata yang direkodkan adalah antara 12.6 MJm-2 hingga 21.6 MJm-2 yang mana Sandakan merekodkan bacaan tertinggi manakala Kuching merekodkan bacaan terendah. Sementara kawasan tanah tinggi pula, Cameron Highlands merekodkan bacaan 14.9 MJm-2 (Rujuk Rajah 7).

In this decade, most places in the Peninsula recorded an average daily solar radiation between 12.0 MJm-2 to 20.0 MJm-2 where Senai (Johor) recorded the highest reading with a reading of 19.3 MJm-2 while Lubok Merbau (Perak) recorded the lowest reading with a reading of 13.7 MJm-2. For Sabah and Sarawak, an average daily reading was recorded between 12.6 MJm-2 to 21.6 MJm-2 where Sandakan recorded the highest reading while Kuching recorded the lowest reading. As for highlands, Cameron Highlands recorded a reading of 14.9 MJm-2 (Refer to Figure 7).

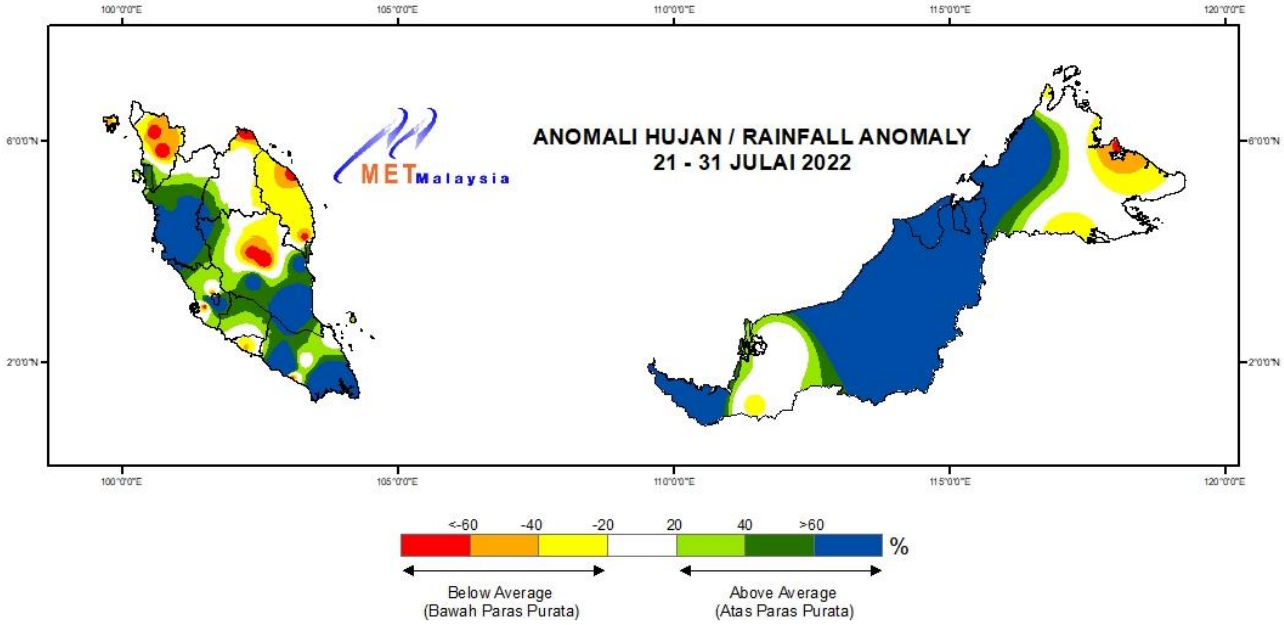

Figure 1: Rainfall Anomaly

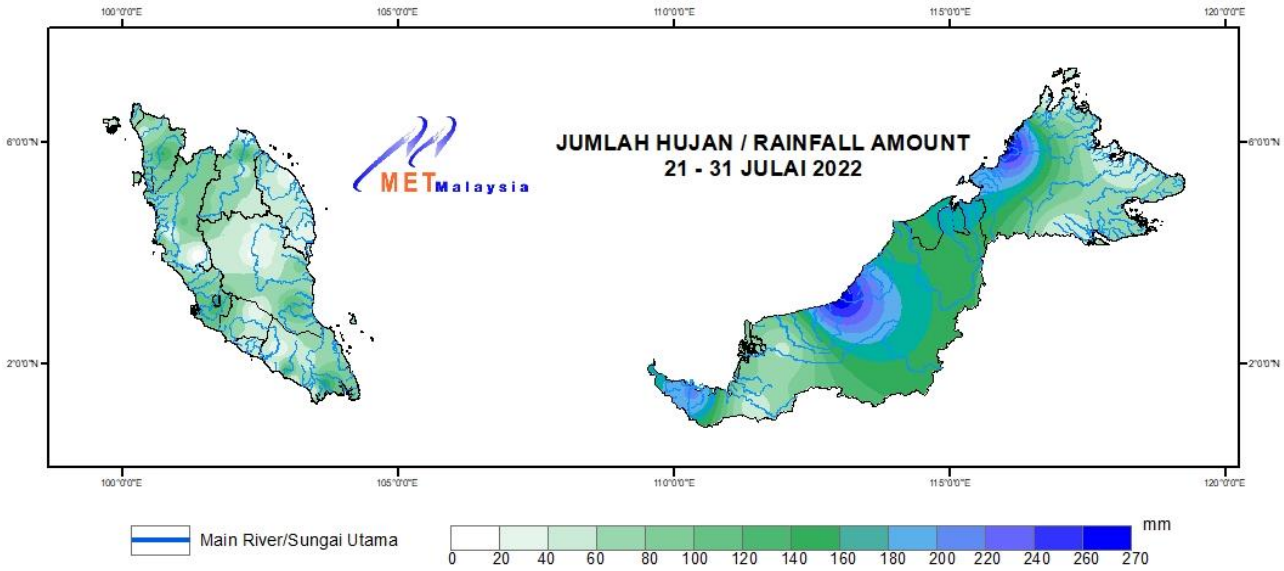

Figure 2: Rainfall Amount

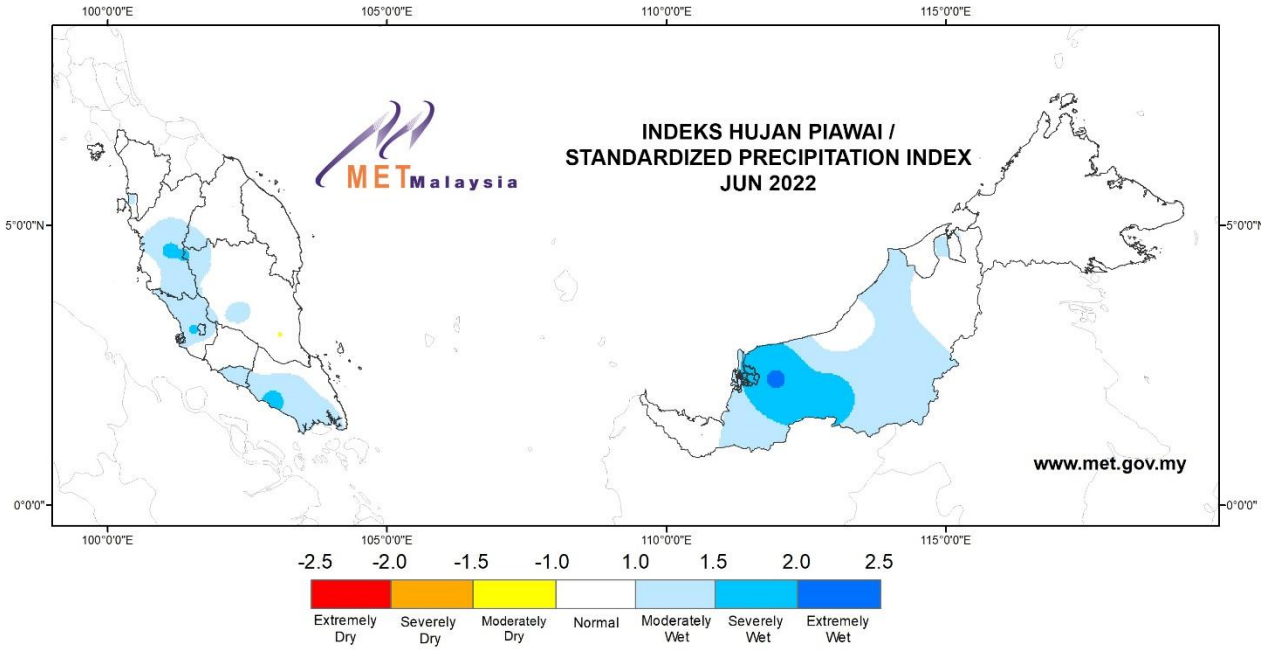

Figure 3: Standardized Precipitation Index

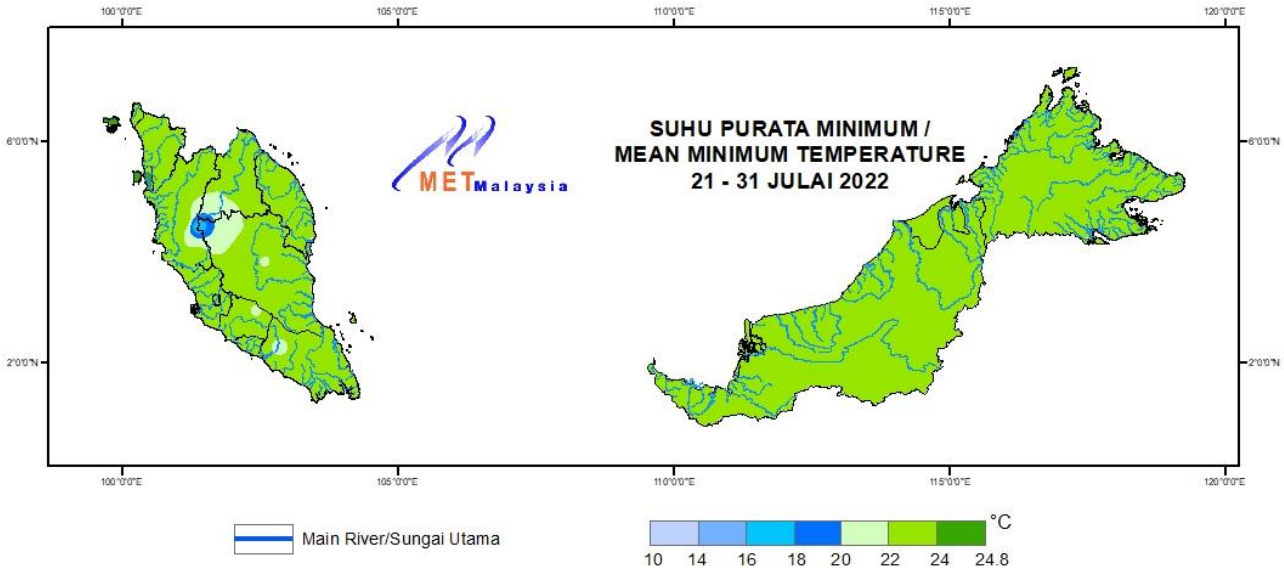

Figure 4: Mean Minimum Temperature

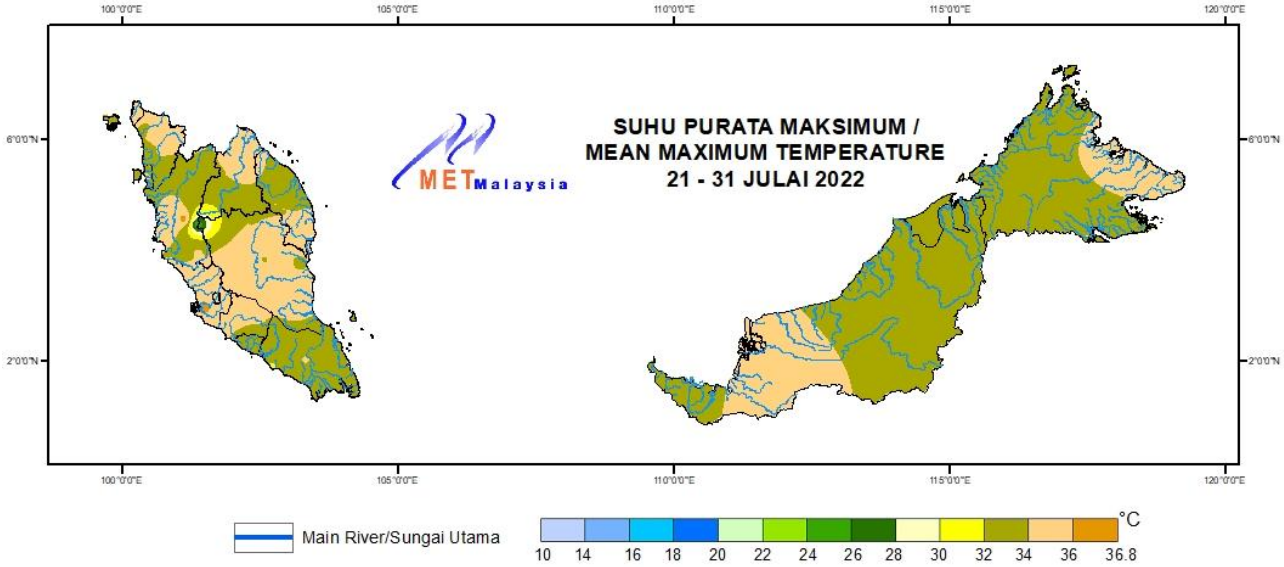

Figure 5: Mean Maximum Temperature

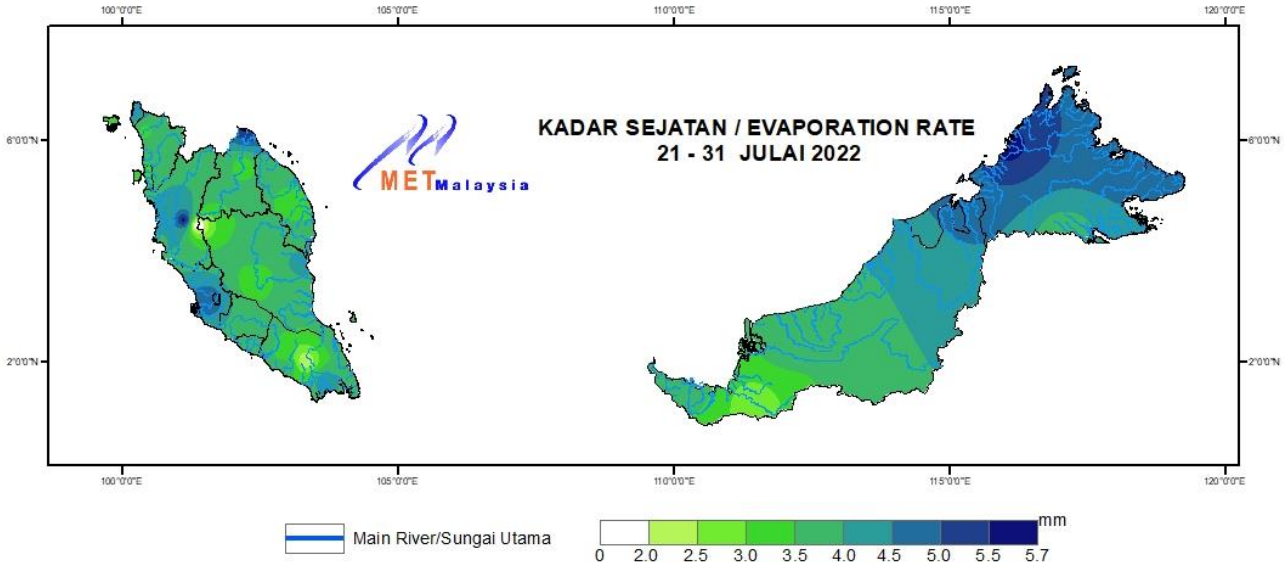

Figure 6: Evaporation Rate

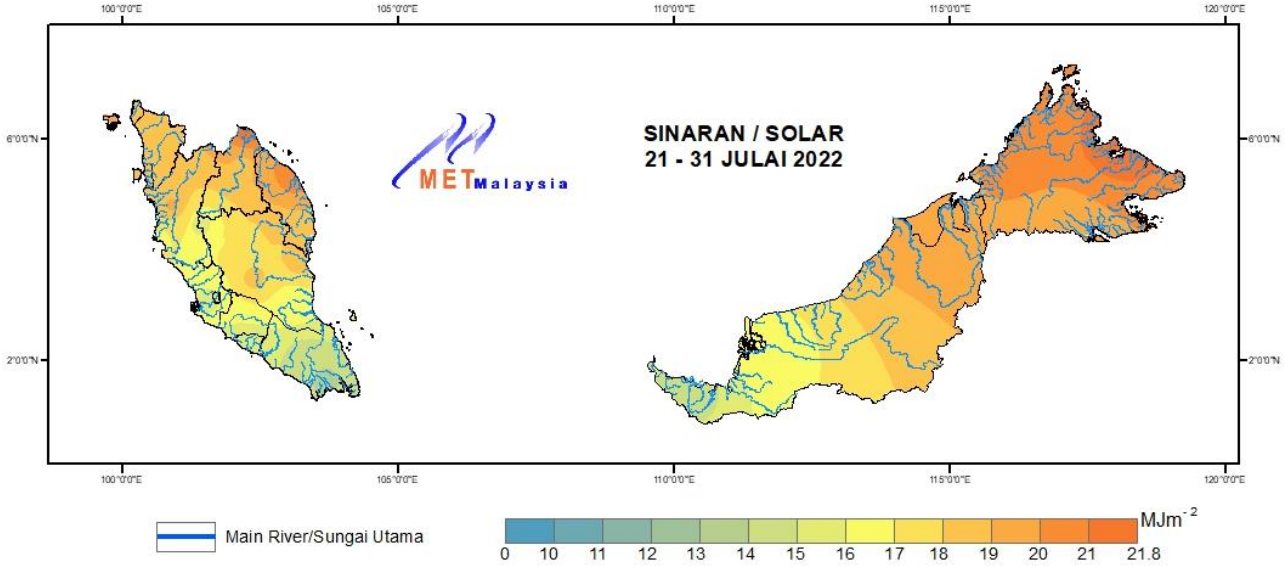

Figure 7: Solar

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