

1. Review of Regional Weather Conditions for First Fortnight of July 2018

1.1 The Southwest Monsoon conditions prevailed in the first fortnight of July 2018. During the period, the equatorial region received more rainfall than the other parts of the Southeast Asia in the first week of July. In the second week of the month, with the strengthening of the monsoon winds and movement of the monsoon rain band away from the equatorial region, wetter weather was felt in the northern ASEAN region while the southern ASEAN region transitioned from wet to dry weather conditions by the end of the fortnight. These conditions were consistent with model forecasts, as indicated in the subseasonal outlook for 2 – 16 July 2018.

1.2 During the review period, parts of the Mekong sub-region, including Myanmar, Lao PDR and Viet Nam, received above-normal rainfall. Rainfall was below normal over most parts of the western equatorial Maritime Continent, particularly over Peninsular Malaysia, Sumatra, Java, and West and Central Kalimantan. The rainfall distribution and the percent of normal rainfall for the first fortnight of July 2018 are shown in Figure 1 and 2.

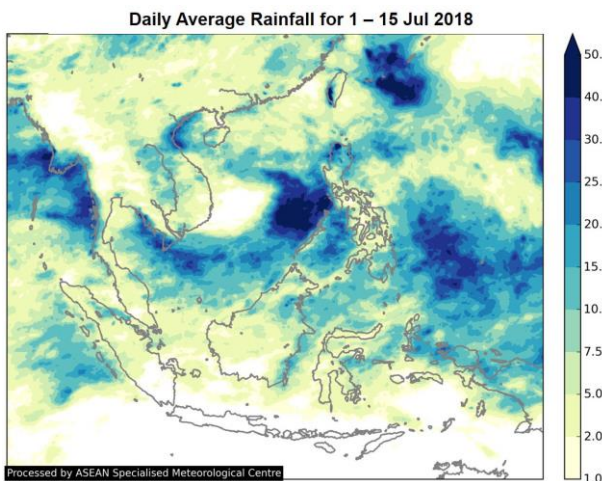


Figure 1: Daily average rainfall for the ASEAN region in the first fortnight of July 2018. (Source: JAXA Global Satellite Mapping of Precipitation)

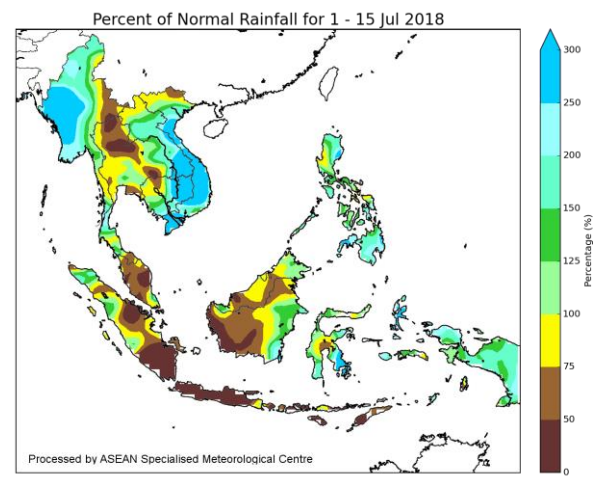


Figure 2: Percentage of Normal Rainfall for 1 – 15 July 2018. The rainfall data may be less representative for areas with a less dense rainfall network. (Source: IRI NOAA/NCEP CPC Unified Precipitation Analyses)

1.3 Stronger-than-usual southwesterly winds prevailed over the northern ASEAN region and the South China Sea. In areas south of the Equator, winds generally blew from the southeast or south, typical of the wind flow for this time of the year. Figure 3 shows the average and anomalous winds at 5000 feet.

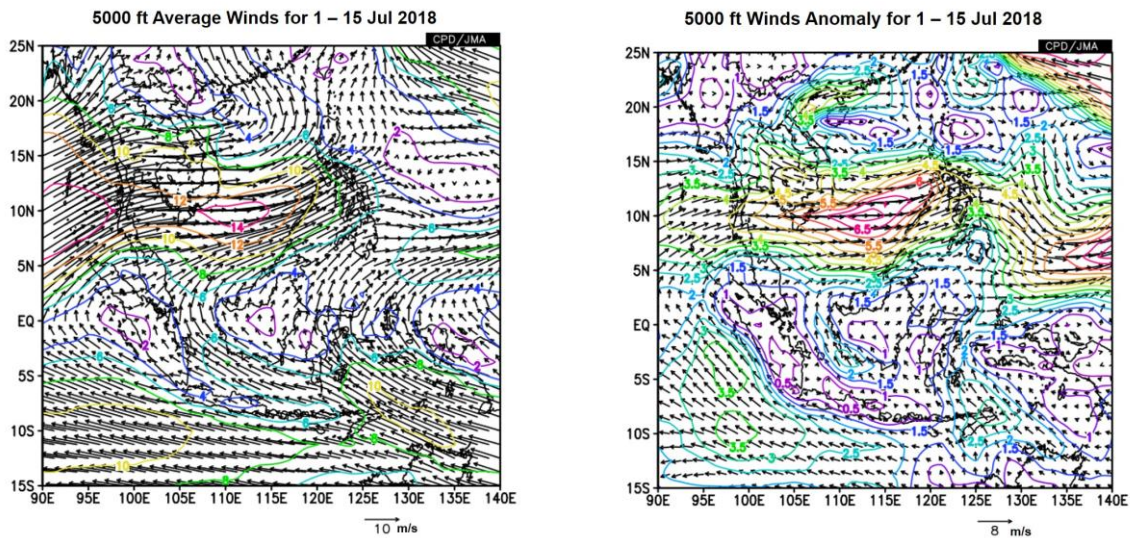


Figure 3: 5000 ft average winds (left) and anomaly (right) for 1 - 15 July 2018. (Source: JMA)

1.4 The El Niño-Southern Oscillation (ENSO) remained in the neutral state (neither El Niño nor La Niña). While there were signs of further increase in sea surface temperatures in the eastern Pacific Ocean, other atmospheric indicators continued to show neutral conditions.

1.5 In the second week of July 2018, the Madden Julian Oscillation (MJO)¹ strengthened and progressed through Phases 4 and 5². While its strength was stronger than expected, its movement was largely in line with model forecasts. This was consistent with the increased rainfall activities and a strengthening of south-westerly or westerly winds observed over the northern ASEAN region, and the transition from wet to dry conditions over the southern ASEAN region.

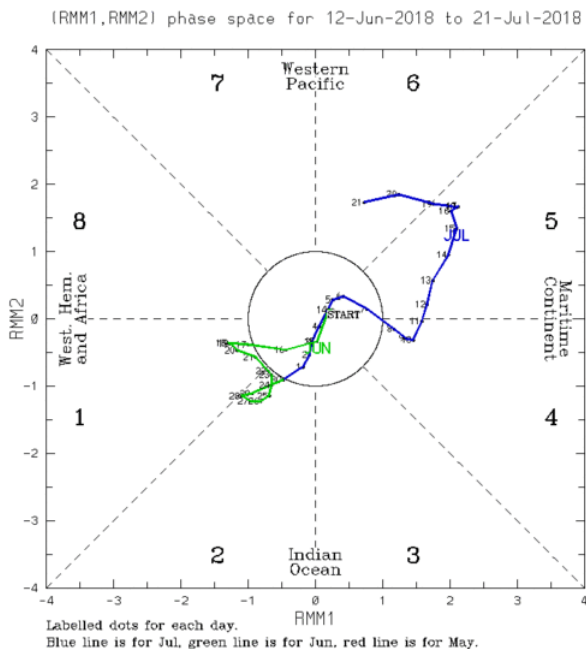


Figure 4: The MJO phase diagram for June-July 2018 (green). The diagram illustrates the movement of the MJO through different phases, which correspond to different locations along the equator. The distance of the index from the centre of the diagram is correlated with the strength of MJO. When the index falls within the circle, the MJO is considered weak or indiscernible. (Source: Bureau of Meteorology)

¹ The MJO is characterised by an eastward propagation of clouds and rainfall over the tropics with an average cycle of 30 to 60 days. The MJO is more prominent between the Indian and western Pacific Ocean, and consists of two phases – an enhanced rainfall (convection) phase and a suppressed rainfall phase.

² Based on the Average Outgoing Longwave Radiation (OLR) information by the Bureau of Meteorology, Australia.

2. Review of Land/Forest Fires and Smoke Haze Situation

2.1 During the review period, hotspot activities in the northern ASEAN region remained subdued due to the prevailing wet weather conditions.

2.2 In the southern ASEAN region, there were increased hotspot activities observed in Sarawak and West Kalimantan in the latter half of the fortnight, as dry weather conditions set in over the region. Smoke plumes were observed emanating from some of the hotspots.

2.3 Figures 5 and 6 show the satellite images over the ASEAN region in the second fortnight of June 2018.

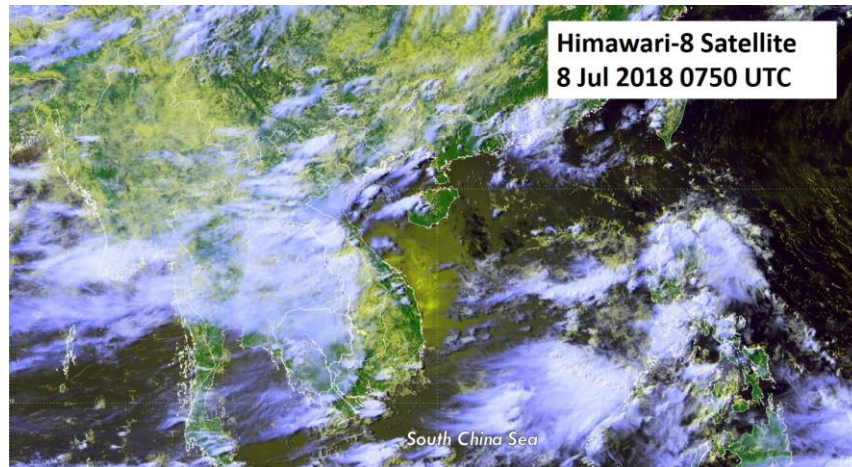


Figure 5: Himawari-8 satellite image on 8 Jul 2018 shows hotspot activities in the northern ASEAN region subdued by wet weather conditions.

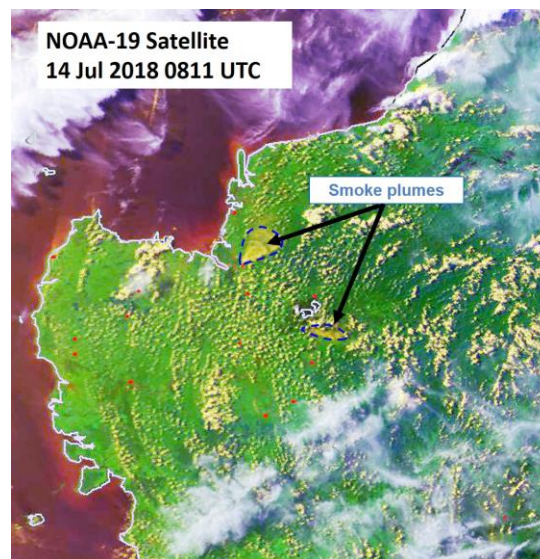


Figure 6: NOAA-19 satellite image on 14 Jul 2018 shows isolated hotspots and smoke plumes detected in Sarawak and West Kalimantan.