UPDATE OF REGIONAL WEATHER AND SMOKE HAZE (Second Fortnight of May 2019)

1. Review of Regional Weather Conditions for Second Fortnight of May 2019

1.1 In the second fortnight of May 2019, prevailing winds were mostly from the southwest or west over the northern ASEAN region. In the southern ASEAN region, winds were generally weak and variable in direction over the equatorial region, but moderate to strong south-easterly winds prevailed over the Java Sea and Banda Sea areas.

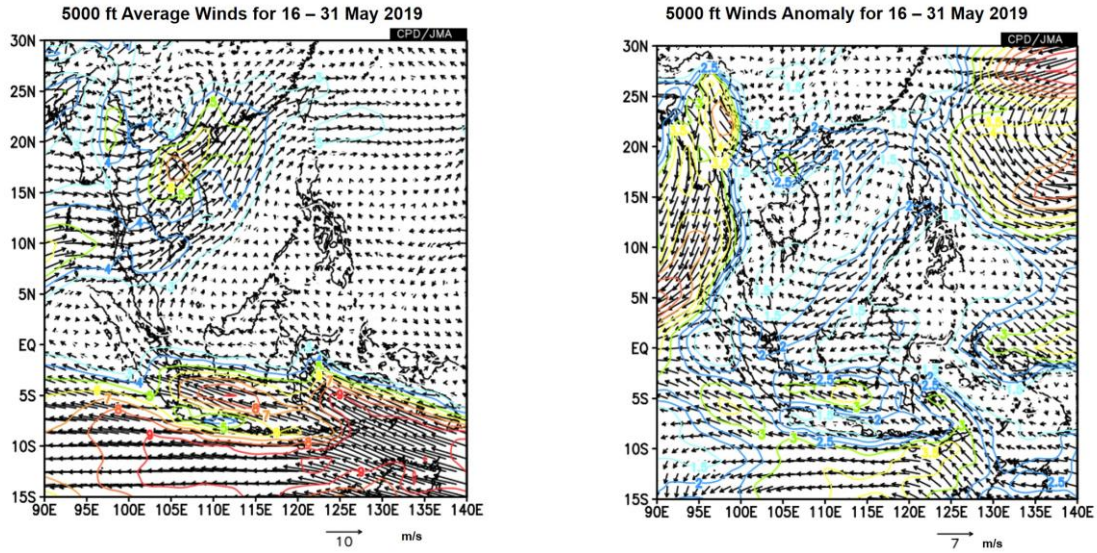

Figure 1: 5000 ft average winds (left) and winds anomaly (right) for 16 - 31 May 2019. (Source: JMA)

1.2 In the second half of May 2019, there were shower activities on most days over many parts of the ASEAN region except over the Java Sea area where dry weather prevailed. This was brought about by the incursion of dry continental air mass from Australia, transported by the anomalously strong south-easterly winds over the Java Sea during the review period. Below-average rainfall was also observed in southern Sumatra, parts of Kalimantan, northern Myanmar and eastern Thailand.

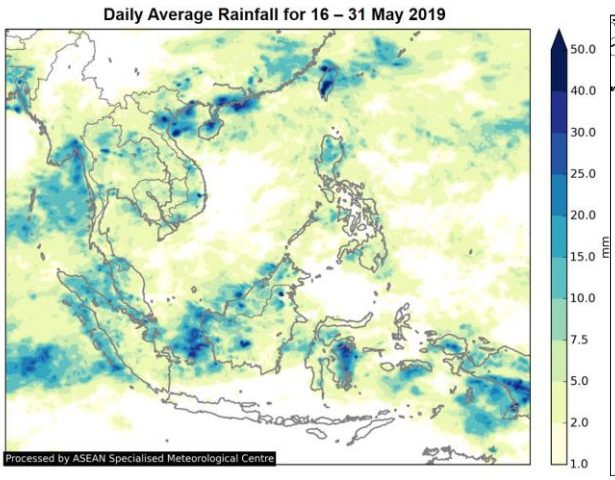

Figure 2: Daily average rainfall for the ASEAN region in the Second fortnight of May 2019. (Source: JAXA Global Satellite Mapping of Precipitation)

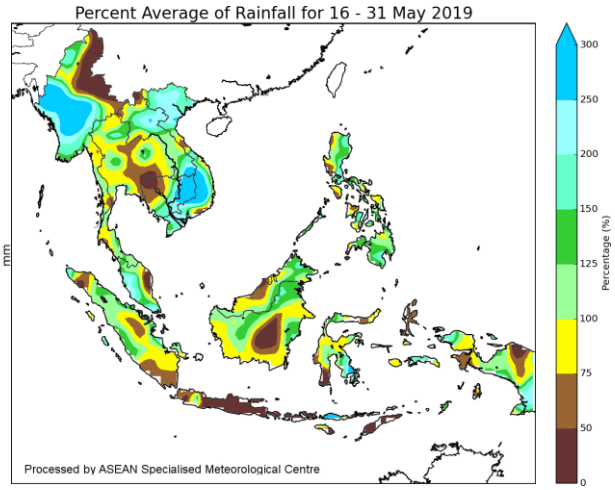

Figure 3: Percent of average rainfall for 16 – 31 May 2019. The rainfall data may be less representative for areas with a less dense rainfall network. Hatched areas indicate climatology dry mask (average daily rainfall below 1 mm). (Source: IRI NOAA/NCEP CPC Unified Precipitation Analyses)

1.3 The Madden-Julian Oscillation (MJO) propagated through Phases 8 – 1, and this could have contributed to the drier-than-average conditions over the Java Sea area. The MJO contributed to large-scale wind anomalies over the Indian Ocean and the Java Sea. Toward the end of May, the MJO reached the Indian Ocean (Phase 2).

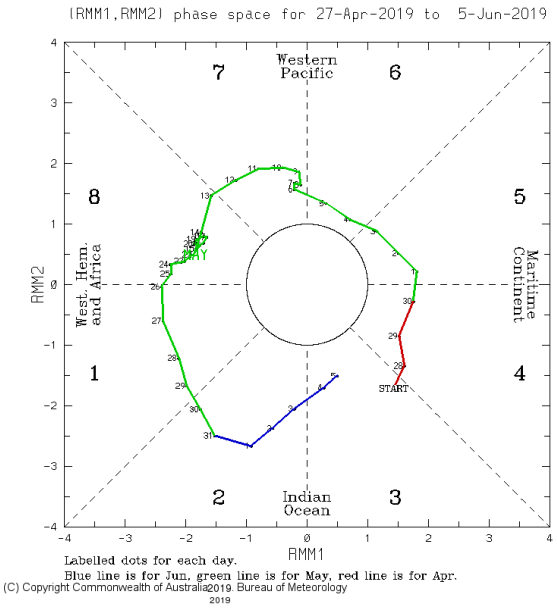

Figure 4: The MJO phase diagram for May 2019 (green). The diagram illustrates the movement of the MJO through different phases, which correspond to different locations along the equator. The distance of the index from the centre of the diagram is correlated with the strength of MJO. When the index falls within the circle, the MJO is considered weak or indiscernible. (Source: Bureau of Meteorology)

1.4 Slightly warm sea-surface temperature (SST) anomalies over the Nino3.4 Region were still observed. There was a slight weakening of the trade winds in the eastern Pacific Ocean towards the end of May 2019. Overall, there were no clear indications of El Nino conditions as the coupling of the SST and atmosphere over the tropical Pacific remained inconsistent.

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

2.1 In the second half of May 2019, the increase of shower activities over the Mekong sub-region brought a further improvement to the hotspot and haze situation. There were still some isolated hotspot activities but these were gradually subsequently subdued by the rainy weather.

2.2 In the southern ASEAN region, occasional dry weather led to the emergence of isolated hotspots with smoke plumes in Riau, Sumatra, Peninsular Malaysia and West Kalimantan. However, these hotspot activities were short-lived and were subsequently subdued by shower activities.

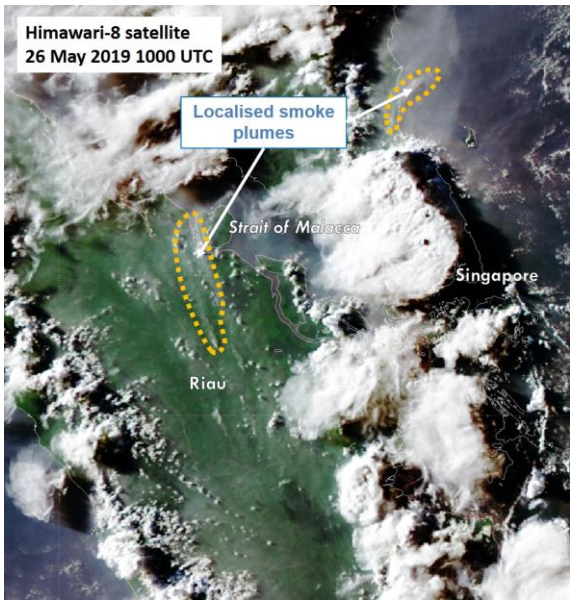

Figure 5: Himawari-8 satellite image on 26 May 2019 shows isolated hotspots with localised smoke plumes in Peninsular Malaysia and Riau, Sumatra.