

1. Overview

1.1 During February 2020, the region south of the equator predominately experienced above-average rainfall (Figure 1), with the largest positive anomalies (wetter conditions) over Java Island, Indonesia and southern Borneo. For north of the equator, above-average rainfall was observed over some coastal regions of Peninsular Malaysia while northern Borneo and most of the Philippines experienced below-average rainfall. The rainfall anomalies over mainland Southeast Asia were negligible, which is expected given that February is the drier time of the year for that region.

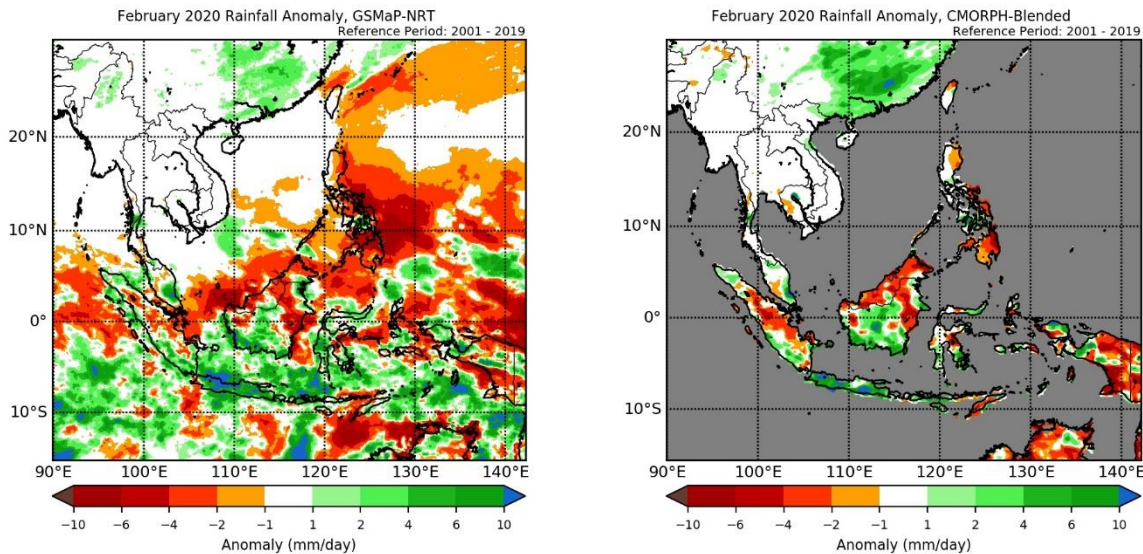


Figure 1: Rainfall anomalies for the month of February 2020 based on GSMaP-NRT data (left) and CMORPH-Blended data (right). The climatological reference period is 2001-2019. Green colour denotes above-average rainfall (wetter), while orange denotes below-average rainfall (drier).

1.2 Overall, most of Southeast Asia experienced above-average temperature during February 2020 (Figure 2). The largest anomalies occurred over parts of Sulawesi, Papua and northern Viet Nam. As for the northern Southeast Asia, some parts of Cambodia, Thailand and Myanmar experienced below-average temperatures.

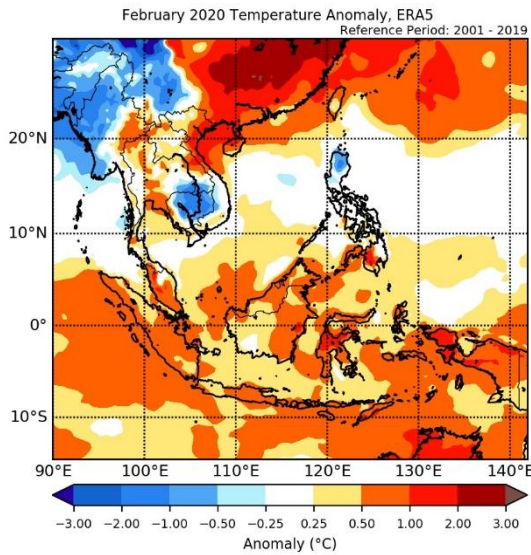


Figure 2: Temperature anomalies for the month of February 2020 based on ERA-5 reanalysis. The climatological reference period is 2001-2019. Red colour denotes above-average temperature (warmer), while blue denotes below-average temperature (colder).

2. Climate Drivers

2.1 A Madden–Julian Oscillation (MJO) signal developed and strengthened over the Maritime Continent (Phases 4 and 5) during the first two weeks of February 2020 (Figure 3). The signal propagated eastwards with the main precipitation envelope reaching the western tip of Western Pacific (Phase 6). By the end of the second week, however, this MJO signal stalled, before weakening and becoming indiscernible in the third week of February. Broadly, Phases 4 and 5 normally bring wetter conditions for much of Southeast Asia in February, while Phase 6 brings a mixture of wetter and drier conditions.

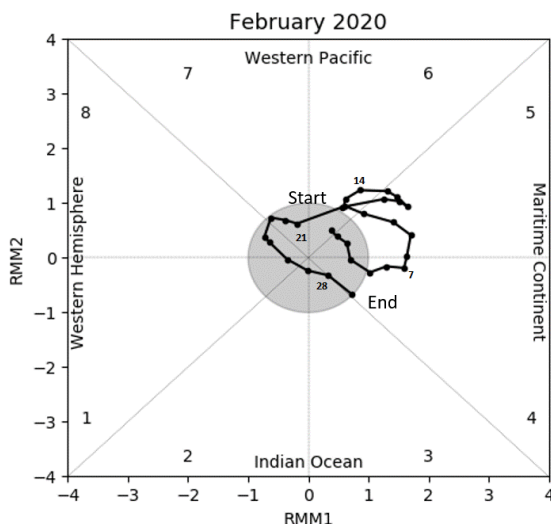


Figure 3: The MJO phase diagram. The diagram illustrates the movement of the MJO through different phases, which correspond to different locations along the equator (denoted in the text). The distance of the index from the centre of the diagram is related to the strength of the MJO. Values within the grey circle are considered weak or indiscernible (data from the Bureau of Meteorology, Australia).

2.2 The strong positive Indian Ocean Dipole (IOD) event from 2019, which had been weakening since November 2019, continued to weaken and returned to the neutral state in January 2020. The IOD typically remains in the neutral phase during the season from January to April.