

1. Overview

1.1 Much of the region south of the equator experienced above-normal rainfall during March 2020 (Figure 1). In particular, parts of southern Sumatra, West Papua, and central Sulawesi experienced more intense wetter conditions based on both satellite-derived rainfall estimates datasets (GSMaP-NRT and CMORPH-Blended). For north of the equator, below-average rainfall is experienced in most places (between 0°-15°N) over the sea, over the eastern coasts of land masses (Peninsular Malaysia, Borneo, and the Philippines) and southern Thailand. The observed large-scale rainfall anomaly patterns over the Southeast Asia region during March (i.e. wetter to the south, and drier to the north of the equator) are broadly aligned with the model predictions depicted in the subseasonal weather outlooks for the [first](#) and [second](#) fortnights of March 2020.

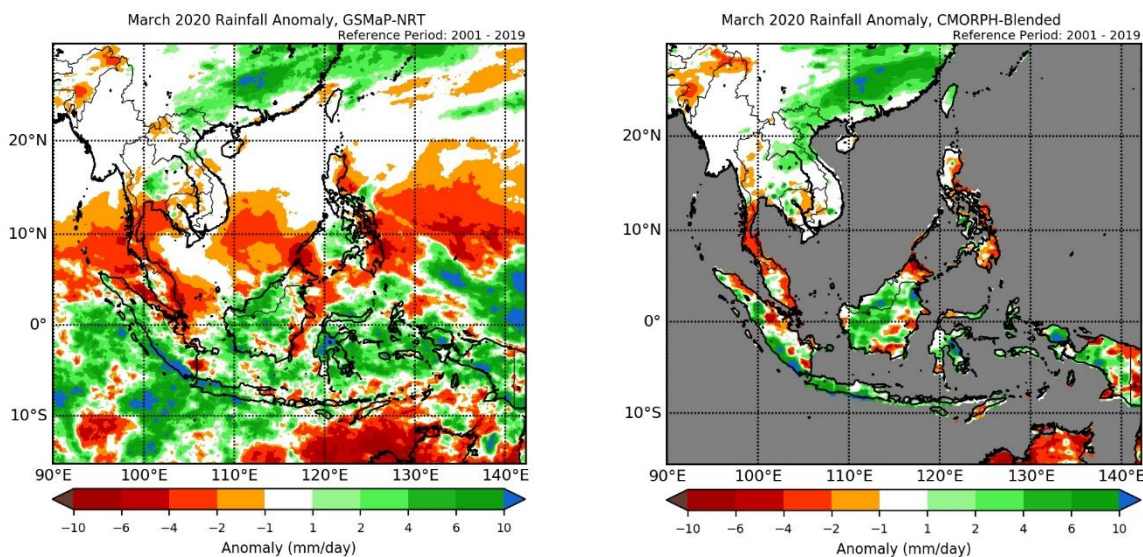


Figure 1: Rainfall anomalies for the month of March 2020 based on GSMaP-NRT data (left) and CMORPH-Blended data (right). The climatological reference period is 2001-2019. Green colour denotes above-average rainfall (wetter), while orange denotes below-average rainfall (drier).

1.2 Most parts of Southeast Asia experienced above-average temperature during March 2020 (Figure 2). The largest warm anomalies occurred over parts of northern and central Viet Nam. Apart from the far eastern, southern, and northern corners, the rest of Myanmar experienced near-normal to below-normal temperature conditions during March 2020.

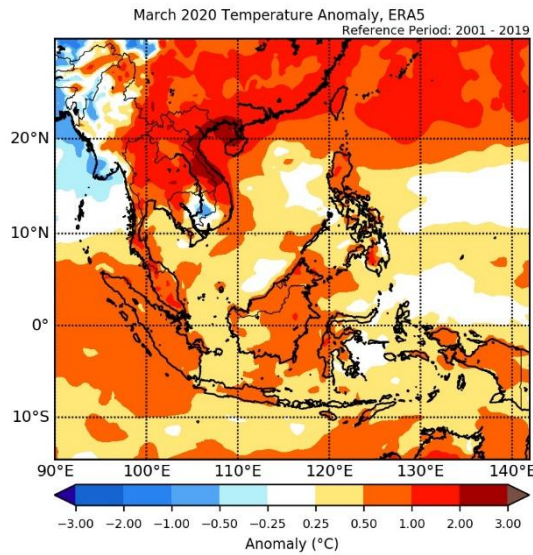


Figure 2: Temperature anomalies for the month of March 2020 based on ERA-5 reanalysis. The climatological reference period is 2001-2019. Red colour denotes above-average temperature (warmer), while blue denotes below-average temperature (colder).

2. Climate Drivers

2.1 The Madden-Julian Oscillation (MJO) was active for much of March 2020. The MJO signal propagated eastwards from Phase 3 (Indian Ocean) to Phase 5 (Maritime Continent) during the first two weeks of March. The MJO then re-emerged in the third week in Phase 2 (Indian Ocean) and continued propagating until the end of March in Phase 4 (Maritime Continent). Generally, the phases the MJO went through (Phases 2-5) in March typically bring wetter conditions to many parts of the Maritime Continent, especially the south.

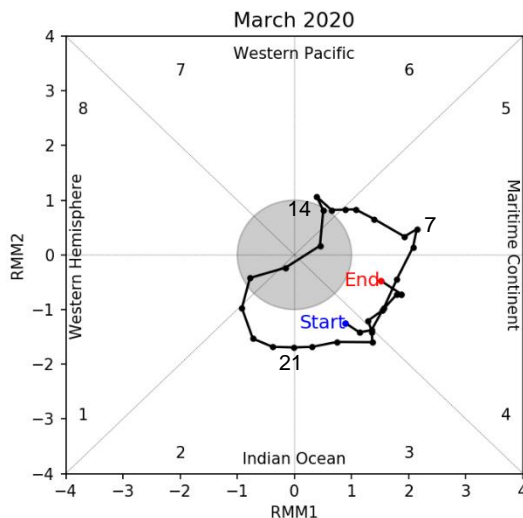


Figure 3: The MJO phase diagram. The diagram illustrates the movement of the MJO through different phases, which correspond to different locations along the equator (denoted in the text with the first day of the month in blue and the last day of the month in red). The distance of the index from the centre 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).