ABSTRACT

Monsoon break (MB) is known as a period with a mean rainfall of > 5 mm day^{-1} for at least three (3) consecutive days during the monsoon season. This atmospheric phenomenon remains relatively underexplored in the Philippines, including its underlying mechanisms and drivers. One of the possible drivers is the Madden-Julian Oscillation (MJO) because of its significant influence on the monsoon variability, therefore, the researchers investigate its role in the mechanism(s) surrounding the MB occurrences during the southwest monsoon (SWM) season. In this study, MB events from 1988 to 2023 within 21°N - 5°N, 118°E - 127°E will be identified according to the adapted rainfall index and categorized into three duration classifications: (1) short (3-4 days), (2) medium (5-8 days), and (3) long (9 days) monsoon breaks from Olaguera et al. (2023) & Singh & Bhatla (2019). These identified MB occurrence dates will be then sorted according to which MJO phases they coincided with, wherein their frequency, duration, and present atmospheric conditions will be further examined and analyzed. As the hypothesis of the study, the researchers expect that most of the MB occurrences will coincide with the suppressed phases of the MJO wherein the atmospheric conditions are relatively more conducive for these events to occur. In addition, the majority of the identified MB occurrences will be short, followed by medium, and long duration. The proposed research aims to contribute valuable insights into the nuanced influence of the MJO on the monsoon breaks during the SWM season over the Philippines, contributing to the present knowledge concerning the monsoonal variability over the region.