



## **Contrasted features of the coastal heavy precipitation and their environment captured by a series of field campaign "YMC-Sumatra"**

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The Maritime Continent (MC) is well known by the overcasting vital atmospheric convections backgrounded by the mixture of high-temperature ocean and complex landmasses. Among the MC, the western coast of Sumatra Island is found in the previous studies to be one of the most heavily-precipitating zones with diurnally-migrating cloud systems. To reveal the nature and mechanism of the precipitating systems and environmental factors in the area, we deployed observation network, which consisted land-based sites and the oceanic research vessel / buoy / vehicle, for two times in the boreal winter in 2015 and 2017.

In 2015, diurnally offshoreward-propagating precipitating system were well captured before the convectively active phase of Madden-Julian Oscillation (MJO). In contrast, in 2017, MJO appeared to be active over MC in the beginning of the observation period. Under the continuous strong westerly in the lower troposphere, precipitation was lesser in amount, shorter in tallness, later in nighttime peak in diurnal cycle, and lesser significant offshoreward-propagation, than those observed in 2015.

In the presentation, we'll further introduce details of captured characteristics of the atmospheric and oceanic variations.