



## Weather regimes in South East Asia: Sub-seasonal predictability of the regimes and the associated high impact weather

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This work considers the sub-seasonal predictability of two sets of weather regimes for South East Asia: a two-tiered assignment, that first considers large-scale patterns and then assigns synoptic-scale regimes, and a flat classification, which only considers the synoptic scale. In the two-tiered approach, the tier 1 large-scale regimes, which capture ENSO and seasonal variations, are each partitioned into South East Asia regional clusters that capture synoptic variability.

The sub-seasonal predictability of both the standard and tiered regimes is assessed using UKMO GloSea5 hindcasts and forecasts for lead times of up to 5 weeks. We find that the GloSea5 system presents an accurate representation of the regimes' climatology and a good level of skill for their assignment. Nonetheless, the predictability depends on the specific regimes and some significant forecast drifts are also identified. Additionally, the predictive skill of high impact precipitation events obtained statistically from the prediction of the regimes is assessed and compared with the probabilistic precipitation forecasts of the GloSea5 ensemble.

A description of the regime classification methodology and their connections to seasonal and synoptic phenomena will be discussed in a separate presentation, titled "Weather regimes in South East Asia: connections with synoptic phenomena and high impact weather" and presented by Emma Howard.