

## STUDY ON THE SEASONAL FORECAST AREA OF BMG

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### Abstract

*Interaction between Asian-Australian monsoon system and equatorial zonally circulation system within the Pacific-Indian ocean, are a major interest of the international scientific communities recently. Being within Asian-Australian monsoon region, and located between Pacific and Indian Ocean, the location of the Indonesia region becomes an important intersection of the two important global phenomena. On the otherhand, internal atmospheric dynamics are complicated. Tall cumulus clouds due to available moisture and energy source may generate deifference kinds of local phenomena within the maritime continent region.*

*Eventhough Indonesian region is moist on relatively have abundant of rainfall, variability of rail fall amount is still one important climate variables to influence human activities in Indonesia. This is due to the fact that agriculture activities remain an important activities for Indonesian people, therefore it also important sector in Indonesian economy. In addition, hydropower plans are the main energy source for electricity. Consequently, industrial sectors are also heavily dependent on the water availability. Therefore, rail fall quantity in specific time and at particular place is closely relative to economic activities, and information on rainfall variability and predictability are important for water management.*

*Rainfall is one important parameters that have a strong relationship with economic activities. Eventhough seasonal variability (dry and wet season) has relatively stable periodicity; in fact, not all the localities within the region indicate clear rainfall seasonalities. Based on Beorema, J.; 1938, it is believed that there are 3 (three) annual rainfall types within Indonesian region, namely monsoon type rainfall (peak of rainy season is in December), equatorial type rainfall (two rainy season with maximum in Mach and in October), and local type (rainfall peak is in July – August). Recent study by Aldrian, E; and H.W.Idodo, 1999 using 84 rainfall station within the region, point out 5 (five) rainfall types within the region.*

*Thirty years monthly rainfall data generate from 102 rainfall station of BMG and Global Hydro Climate Network (GHCM) throughout Indonesia was used to draw spatial monthly rainfall distribution in other to look monthly rainfall propagation. The onset of rainy season starts from West Coast of Sumatra in September, follow with by one in West Coast of Kalimantan in the next month. This fact agrees with the propagation of ITCZ (Schmidten Hoopen K. J. and F.H. Schmidt, 1951. The onset of rainy season start in west coast of northern part of Sumatra (300 – 400 mm) and western coast of Kalimantan (200 – 300 mm) in September. These two areas are the D-type of Aldrian, E. and H. Widodo's classification.*

*In providing service on long-range climate forecast, BMG are using 102 DPM. Not all Indonesian regions are classified. There are some areas in West Coast of Sumatra, central and west cost of Kalimantan that, in west Java could not be classified due to unclear distinction between rainy and dry seasons. Enso risk assessment developed by climate*

*Diagnostic Center of NOAA was applied to DPM data sets (with some modification) to investigate the sensitivity of each DPM to Enso events. SOI was used as an Enso indicator.*

**References:**

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