



## **Indonesian Rainfall Characteristic Based on the EAR and WPR Data Analysis**

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As one of the most real product of the joint research between RISH (Research Institute for Sustainable Humanosphere) of Kyoto University, Japan with the National Institute of Aeronautics and Space (LAPAN), is being applied the Equatorial Atmosphere Radar (EAR) at Kototabang, Bukittinggi, West Sumatera that has already operated since June, 2001. The other one, since March 2007, has also operated the other radar that called as WPR (Wind Profiling Radar) at Pontianak and Biak station under the JAMSTEC (Japan Marine Science Technology), Japan. Those radars give a good chance for the Indonesian young scientist to apply those data in applicable research for many people. One of them is the behavior of Indonesian rainfall variability over Kototabang, Pontianak, and Biak, respectively. This is very important, since rainfall is one of the most important parameter that has direct effect to daily living, not only in wet season (suspected related to flooding) or dry season (suspected related to drought) than normal condition. We understood that until now, no many significant result obtained from those data, especially from WPR, not only since that data is still new one, but also related well to the limitation of the other support data, facility (hardware and software), also the man power (reseracher) working on that data analysis. Based on this condition, the main purpose of this study is to investigate the Indonesian rainfall behavior, especially over Kototabang, Pontianak, and Biak, respectively. The others are we would like to investigate the pattern of zonal wind variation along the Indian Ocean passing away to Indonesia region, to investigate the MJO (Madden Julian Oscillation) phenomenon, and to investigate the relationship or correlation between rainfall and zonal wind variation. The results show that in the wet season (DJF=December-January-February), Kototabang and surrounded area is dominated by the Westerly wind that mostly contains of water vapor. While, in the dry season (JJA=June-July-August), the Easterly wind dominates this area. This condition, is a little bit different with Pontianak that mostly is dominated by the Westerly wind, both in wet and dry season. While, in Biak, the Easterly wind dominates, both in wet and dry season. We found also the zonal wind propagation over those cities, Kototabang, Pontianak, and Biak are about 45 days, 45 days, and 55 days oscillation. Although, we found a small positive correlation between the zonal wind variation with rainfall intensity over those area (below than 0.5), but it is still significant statistically.

Keywords : EAR, WPR, HARIMAU, and Rainfall