

Rainfall pattern in the middle of Indochina Peninsular during 2009-2010 summer monsoon

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Rainfall patterns during summer monsoon in 2009 and 2010 in the middle of Indochina Peninsular (ICP) are investigated using daily radar rainfall (DRR). The DRR is calibrated using rain gauge data before proceeding to further analysis. The empirical orthogonal function (EOF) analysis applied to DRR shows that the first three modes explain 40% of the total rainfall variance. The first mode shows only positive value over the radar observation area with high value near the foot of Annam range in the east of radar site. The second and third EOF show dipole patterns and explain 7% and 6% of total variance, respectively. The Cumulative Density Function (CDF) is applied to the score of the EOF results in order to find a physical meaning of EOF modes. A composite analysis of reanalysis data is employed by selecting dates above and below 90% and 10% of CDF in each EOF modes. The first and second modes are consistent with vorticity and wind directions. The third EOF mode indicates a suppression of rainfall by topography.

Keywords: monsoon, indochina peninsular, rainfall pattern, radar rainfall, EOF