Effects of the ENSO/IOD on interannual rainfall variability in and around Jakarta

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Effects of the Indian Ocean Dipole (IOD) and El Nino Southern Oscillation (ENSO) on interannual rainfall variations over northwestern Jawa, Indonesia were investigated. IOD events clearly influence interannual rainfall variations from the dry season to the transition season (May-October) in northwestern Jawa. During positive (negative) IOD years, cooler (warmer) SST surrounds the maritime continent and large-scale divergence (convergenc) and lower (higher) atmospheric water vapor content are observed. These conditions tend to suppress (induce) rainfall in northwestern Jawa. Negative IOD years with warmer SST and higher water vapor content around Jawa brought greater rainfall in the dry season compared with La Nina years. On the other hand, interannual rainfall variation in the rainy season (November-April) is not closely related to ENSO/IOD, but rainfall tends to be abundant “neutral” (non-ENSO/IOD) years.

Keywords: IOD, ENSO, maritime continent, rainfall variability