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Observation of crop productivity fluctuation based on precipitable water in Indonesia

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Indonesian agriculture is considered as sensitive to ENSO (El Nino-Southern Oscillation) since rain fluctuations can upset established cropping patterns. Previous researches have shown the linkage between El Nino events and drought in Indonesia. However, most of these researches use data from ground-based observatory for their analysis. In this research, we use precipitable water to observe its relationship with crop productivity in Indonesia. Long-term correlations were calculated from annual crop productivities to mean precipitable water of November to January (NDJ) and of April to June (AMJ). As a result, positive correlations between precipitable water and NDJ appear periodically. In contrast, positive and negative correlations between precipitable water and AMJ appear alternately.

Keywords: Indonesia, Precipitable water, Crop productivity