



## **Temporal variability of rainfall erosivity and its teleconnection with various climate indices in South Korea.**

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Rainfall erosivity is one of the affecting factors of soil erosion in the world. Rainfall erosivity values (the R factors) in many regions are expected to be altered due to the changes in rainfall patterns related rainfall intensity, frequency and spatial distribution of rainfall events that may occur with climate change. Many researchers reported temporal and spatial changes in rainfall events in South Korea. The purpose of this study is to improve our understanding in the evolution of rainfall erosivity in South Korea. Thus, we examined temporal variability of the rainfall erosivity and analyzed the relationship between rainfall erosivity and climate indices. We investigated the temporal variability of the rainfall erosivity, trend and change points in the R factors time series. Ensemble empirical mode decomposition with correlation analysis was used to figure out the relation between the rainfall erosivity and climate indices. Use of the Ensemble empirical mode decomposition allows finding the relation between hidden information in time series of rainfall erosivity and climate indices. The result provided insights into the evolution of rainfall erosivity and the understanding of the rainfall erosivity affected by the large climatic circulation.