



## **Analysis of extreme wind speed and precipitation using copula**

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The Korean peninsula is exposed to 1.3 times the average annual typhoon risk. Typhoons are tropical cyclones, accompanied by strong winds and rainfall. It brings complicated socio-economic damage. The classic natural disaster warning system is designed to take wind or rainfall separately. Detecting the dangers of typhoons caused by strong winds and heavy rain does not help. In this study, we analyzed the correlation between annual maximum wind speed and rainfall collected from meteorological observatories in Busan and Jeju Island which correspond to the typhoon danger zone. Observed data were applied to various bonding models through pseudo - observations. The Cramer-von-Mises test was used to test the suitability of the copula model and cross validation was used to select the best model. Several heavy tail distributions have been considered for marginal distribution.