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Daily Rainfall Simulation and Evaluation Using Hidden Markov Model

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Many studies on the climate change have been done for future hydrologic analysis. However, it still has limitations to make use of research result because of its uncertainty. Therefore, the studies on long-term climate change as well as short-term change in natural climate systems such as El Niño and La Niña have been underway. In this study, we predicted the occurrence of rainfall with monthly GEO data in IRI using GCM model data for 4-7 month forecasts. We chose the Geum River basin in Korea as the study area and simulated daily rainfall using HMM(Hidden Markov Model) to consider seasonal rainfall variability. The results of this study can be used to suggest a new methodology to improve the accuracy of prediction of natural disaster through rainfall simulations.