A Cluster Analysis Using Gridded Temperatures and Precipitation Data in Korea

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The climatological data of South Korea is observed from about 100 ASOS(Automated Synoptic Observing System) and about 500 AWS(Automatic Weather Station). In order to produce the high quality data, quality control is needed to the observed data. Especially, clustering techniques should be used for the spatial differentiation of the observational stations. By the way, the meteorological data might not be reflected uniformly in the climate characteristic of South Korea because of density difference. The grid data of numerical model, on the other hand, is reflected uniformly because it spaced at 5km×5km apart is distributed evenly. In this study, the temperatures and precipitation data of South Korea are analyzed using K-means clustering method with long-term grid data. Based on the result of gridded data clustering, the automated QC techniques by clusters on meteorological data, which are ASOS and AWS data, can be developed.