Adjustment of Radar Precipitation Estimation Based on the Local Gauge Correction Method

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A growing possibility of the disaster due to the severe weather need disaster prevention and water management measures in South Korea. In order to prevent a localized heavy rain, the rainfall must be observed and predicted quantitavely. In this study, we developed an adjustment algorithm to estimate the radar precipitation applying to the local gauge correction (LGC) method which uses geostatistical effective radius of errors of the radar precipitation. We adjusted radar precipitation for four heavy rainfall events based on LGC method. The effective radius was determined from the errors of radar rainfall using geostatistical method. Errors were decreased by about 40% and 60% in adjusted hourly rainfall accumulation and adjusted total rainfall accumulation, respectively. An adjustment algorithm developed in this study is appropriate to be used in estimating radar precipitation for localized heavy rain events in summer.