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Future Projection of Summer Extreme Precipitation from High Resolution Multi-RCMs over East Asia

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Recently, the frequency and intensity of natural hazards have been increasing due to human-induced climate change. Because most damages of natural hazards over East Asia have been related to extreme precipitation events, it is important to estimate future change in extreme precipitation characteristics caused by climate change. We investigate future changes in extremal values of summer precipitation simulated by five regional climate models participating in the CORDEX-East Asia project (i.e., HadGEM3-RA, RegCM4, MM5, WRF, and GRIMs) over East Asia. 100-year return value calculated from the generalized extreme value (GEV) parameters is analysed as an indicator of extreme intensity. In the future climate, the mean values as well as the extreme values of daily precipitation tend to increase over land region. The increase of 100-year return value can be significantly associated with the changes in the location (intensity) and scale (variability) GEV parameters for extreme precipitation. It is expected that the results of this study can be used as fruitful references when making the policy of disaster management.

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