



Future change of climate classification over South Korea in multi regional climate simulations

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Regional climate simulations for the CORDEX East Asia domain were conducted between 1981 and 2100 using five models to produce climate change projection based on RCP26, 45, 60, 85 scenarios. In this study using the ensemble of five model results, future changes in climate zones of South Korea were investigated according to Köppen-Trewartha's classification criteria. Four periods, historical (1981~2005), early future (2021~2040), middle future (2041~2070), and late future (2071~2100) were analyzed to examine future changes. In historical (1981~2005) period, the subtropical zones are only dominant in the south coastal regions and Jeju island, while those tend to expand in the future periods. Depending on the RCP scenarios, the more radiative forcing results in the larger subtropical zone over South Korea. The expansion of the subtropical zone in metropolitan areas is more evident than that in rural areas. In addition, the enlargement of subtropical zone in coastal regions is more prominent than in inland regions. Particularly, the subtropical climate zone for the late future period of RCP85 scenario is significantly dominant in most South Korea.

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