

## **An Ensemble Projection of Regional Climate Change in East Asia for Summers of 2040-50 and 2090-2100**

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Projection of future climate change is a challenging task. In this research, we have employed three regional climate simulation outputs initiated by the same global circulation model (GCM) for summers of 2040-50 and 2090-2100. The three regional models used are MM5 (The Fifth-Generation NCAR / Penn State Mesoscale Model), NCEP RSM (NCEP Regional Spectral Model), and PRM (Purdue Regional Model), while the GCM data are obtained from ECHAM4/OPYC3. The simulation domain covers 105-135°E and 10-43°N. The SRES A2 scenario outlined by IPCC (Intergovernmental Panel on Climate Change) is adopted in these simulations. Since each regional model will result in different simulation outcome due to the differences in individual structure and response to the same dynamic and radiative forcing. Ensemble approach is commonly applied to merge the outputs of these simulations in order to provide a statistically reasonable projection. To do so, the performance of super-ensemble techniques for the period of 1990-2000, when the observation data are available, has been checked first. Then these techniques are applied to future simulation datasets.