

Past and Future Temperature and Precipitation Changes over Korea using MM5 Model

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Abstract:

. Long term observational analysis by climatologists has confirmed that the global warming is no longer a topic of debate among scientists and policy makers. According to the report of IPCC-2001 (Intergovernmental Panel on Climate Change), the global mean surface air temperature is increasing gradually. The reported increase of mean temperature is by 0.6 degree in the end of twentieth century. This could represent severe threat for property losses especially due to increase in the number of extreme weather arising out of global warming.

period of model integration from 2001 to 2100 using output of ECHAM4/HOPE-G of Max Planck Institute of Meteorology (MPI) for IPCC SRES (Special Report on Emission Scenarios).

The main results of this study indicate increase of surface air temperature by 6.20C and precipitation by 2.6% over Korea in the end of 21st century. Simulation results also show that there is increase in daily maximum and minimum temperatures while decrease in diurnal temperature range (DTR). DTR changes are diminished mainly due to relatively rapid increase of daily minimum temperature than that of daily maximum temperature. It has been observed that increase in precipitation amount and decrease in the number of rainy days lead to increase of precipitation intensity. Keywords: Temperature, Precipitation, Global Warming, Climate Change, Regional Climate Model.

References

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