

Prediction of Future Precipitation over the Southeast Asian Region – A WRF Study

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It has become certain that climate change is likely to alter precipitation patterns across the globe but what remains uncertain is its extent of regional influences. This, in turn, is likely to make the adaptive measures very difficult for developing nations and especially over Southeast Asia, where many regions are prone to strong climate vulnerability. Hence, it becomes necessary to investigate climate change in the future with respect to precipitation so that suitable adaptation measures could be devised. In that order, this paper describes the dynamical downscaling study undertaken over the Southeast Asian region using the Weather Research and Forecast (WRF) model which is the next generation of the Regional Climate Model (RCM) developed at the National Center for Atmospheric Research (NCAR), USA. Results of 30 year (2070-2100) ensemble integrations of the RCM driven by the lateral boundaries from the IPCC AR4 are described. This study also highlights the magnitude of uncertainties that arise from these RCM experiments and hence its implications for climate change are discussed.

Key words:

Climate change, dynamical downscaling, IPCC emission scenarios, uncertainties.