

Observational Challenges in Evaluating Climate Models

M. Collins, K. Achuta Rao, K. Ashok, S. Bhandari, A. K. Mitra, Satya Prakash, R. Srivastava
and A. Turner

Activities such as the Coupled Model Intercomparison Project (CMIP) have revolutionized climate modelling in terms of our ability to compare models and to process information about climate projections and their uncertainties. The evaluation of models against observations is now considered a key component of multimodel studies. Although there are a number of outstanding scientific issues surrounding model evaluation, notably the open question of how to link model performance to future projections, here we highlight a specific but growing problem – that of uncertainties in the observational data that are used to evaluate the models. We illustrate this using an example obtained from studies of the South Asian monsoon, but we believe the problem is a generic one that arises in many different areas of climate model evaluation and requires some attention by the community.