

The Asian Summer Monsoon: An Intercomparison of CMIP5 vs. CMIP3 Simulations of the Late 20th Century

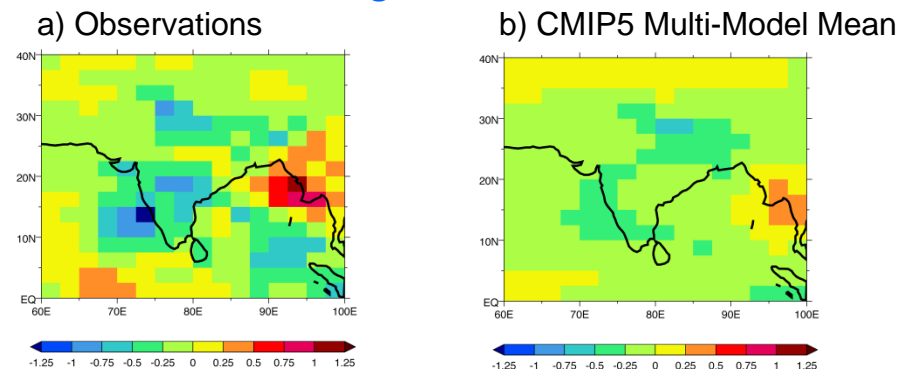
Objective

- Intercompare CMIP5 and CMIP3 models to ascertain if there has been improvement in the simulation of the Asian summer monsoon
- Interpret model performance against multiple sources of observations

Approach

- Evaluate the June-September climatology, annual cycle, interannual, and intraseasonal variability (ISV)
- Generate diagnostics using composite analysis, EOF, and regression techniques
- Apply metrics to assess the skill of the individual models and the CMIP5 multi-model mean (MMM) vs. the CMIP3 MMM

Compared to observations (a), the CMIP5 MMM (b) captures the below-normal rainfall over India and the above-normal rainfall over Burma during El Niño



Results/Impact

- The CMIP5 MMM is more skillful than the CMIP3 MMM, indicating improvement in simulating the Asian summer monsoon
- Improved skill may lead to more robust estimates of climate change projections
- Improved intraseasonal skill may lead to a better understanding of ISV processes