Abstract:
We have evaluated the simulation of Indian summer monsoon and its intraseasonal oscillations in the National Centers for Environmental Prediction (NCEP) climate forecast system model (CFS) version 2 (CFSv2). Currently in India the CFSv2 model is used to provide seasonal and extended range forecast of Indian summer monsoon. The dry bias over the Indian landmass in the mean monsoon rainfall is one of the major concerns. In spite of this dry bias, CFSv2 shows a reasonable northward propagation of convection at intraseasonal (30-60 day) time scale. In order to document and understand this dry bias over the Indian landmass in CFSv2 simulations, a two pronged investigation is carried out on the two major facets of Indian summer monsoon: one, the air-sea interactions and two, the large scale vertical heating structure in the model. We posit that the model significantly underestimates the simulation of synoptic scale variance over the tropics as a whole and the Indian domain in particular, leading to a drier than observed Indian summer monsoon.