



An Assessment of Performance of CMIP5 Simulations for Turkey

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GCMs are the advanced tools essential for simulating the climate and changes in the climate system, however their performances in simulating the regional climate characteristics could be highly different from each other. Thus, it could be wise, first, to evaluate the performances of the GCMs to decide on which ones to proceed with in a dynamical downscaling study if downscaling does not involve enough number of them warranting an uncertainty analysis. The present study aims to determine the superior performances for Turkey among all CMIP5 simulations in terms of temperature and precipitation. Thus, temperature and precipitation outputs of CMIP5 simulations were analyzed for Turkey using Taylor diagrams. For the observational data, high-resolution gridded CRU (Climate Research Unit) datasets were used. The 30-year period between 1971 and 2000 was considered in the analysis. Models that showed superior results for temperature were MIROC4h of Center for Climate Systems Research (CCSR) and CMCC-CM (The Centro Euro-Mediterraneo sui Cambiamenti Climatici Climate Model), and for precipitation EC-Earth earth-system model of The European Centre for Medium-Range Weather Forecasts (ECMWF) and CESM1-CAM5 of National Center for Atmospheric Research (NCAR). The analysis is currently being extended to come up with a ranking that combines both temperature and precipitation performances.