Selection of Representative Climate Models for Central America's Temperature Pattern

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Abstract

Climate models are one of the most important tools for understanding climate changes. It is an important advantage that there are many climate models and the results of these alternative models are presented to climate scientists. However, determining the model(s) with least errors and most accurate results is an important issue because future forecasts, investments, studies and measures are shaped according to outputs of these models. Furthermore, different climate models, when used for sub-regions of a continent or a country, produce results with different accuracy. Therefore, a method has been proposed for the selection of climate models that will give more accurate results for a specific region. In the CORDEX Project, precipitation data of 15 climate models simulating Central America will be used as model data and CRU as observation data. Spatially, the t-test will be applied for each season at each grid point between 1976 and 2005 at the 95% confidence interval. Models that have more points that pass the test in the observed region than other models will be considered as the ones that give more accurate results. Moreover, the performances of the models in the representation of precipitation distribution over sub-regions of the Central America will be tested. Conducting climate studies in the aforementioned regions with these more representative models will give more accurate results to users, decision makers and climate scientists.

Keywords: CORDEX, Temperature, Central America, Climate Model

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