Session: B5 Oral presentation

NARCCAP regional climate model simulations of the North American monsoon

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The North American Regional Climate Change Assessment Program (NARCCAP) is producing simulations over North America using 6 regional climate models (RCMs) run at a 50-km resolution given conditions from 4 different global climate models (GCMs) and one reanalysis in order to facilitate climate change impacts research and investigations on uncertainties in the projection of future climate. This study focuses on an assessment of the processes related to and the characteristics of the North American Monsoon system from Arizona and New Mexico, southward over Northern Mexico and the Gulf of California in both reanalysis and GCM driven NARCCAP simulations. At a 50-km resolution, better defined topographic, coastline and land cover features should impart better representation of many key aspects of the NAM climate system such as land-sea breezes, convective circulations and land surface heterogeneity. Thus, we will focus on more than just the characteristics of precipitation in the simulations, but also the physical and dynamical processes behind it. We will quantify some of the important characteristics of precipitation (e.g. spatial distribution, frequency, time of onset, and diurnal cycle), but additional processes, such as land surface fluxes, land-sea breezes, convective circulations and moisture flux patterns will be examined in an attempt to define the credibility of the model's projections of future precipitation through more than just their ability to simulate the characteristics of precipitation.