Geophysical Research Abstracts,
Vol. 11, EGU2009-3879, 2009
EGU General Assembly 2009

The North American Regional Climate Change Assessment Program (NARCCAP): Status and results

R. Arritt and the NARCCAP Team

Iowa State University, Agronomy, Ames, Iowa, United States (rwarritt@bruce.agron.iastate.edu)

NARCCAP is an international program that is generating projections of climate change for the U.S., Canada, and northern Mexico at decision-relevant regional scales. NARCCAP uses multiple limited-area regional climate models (RCMs) nested within multiple atmosphere-ocean general circulation models (AOGCMs). The use of multiple regional and global models allows us to investigate the uncertainty in model responses to future emissions (here, the A2 SRES scenario). The project also includes global time-slice experiments at the same discretization (50 km) using the GFDL atmospheric model (AM2.1) and the NCAR atmospheric model (CAM3). Phase I of the experiment uses the regional models nested within reanalysis in order to establish uncertainty attributable to the RCMs themselves. Phase II of the project then nests the RCMs within results from the current and future runs of the AOGCMs to explore the cascade of uncertainty from the global to the regional models. Phase I has been completed and the results to be shown include findings that spectral nudging is beneficial in some regions but not in others. Phase II is nearing completion and some preliminary results will be shown.