ABSTRACT

Diagnoses of Annular Mode Variability

in the IPCC Twentieth Century Simulations

Principal Investigator: Ron Miller, NASA Goddard Institute for Space Studies

rmiller@giss.nasa.gov

Annular modes make a significant contribution to extratropical climate variability at the surface. Forced changes to the annular modes in the coming century could have substantial regional impacts upon climate. The PIs will diagnose annular mode variations for the period 1880-2000 as simulated by 4 coupled general circulation models (CGCMs) whose forecast of 21st century climate will be included in the next assessment of the Intergovernmental Panel of Climate Change (IPCC). They will examine to what extent the simulated annular modes reproduce observed behavior, including spatial extent, decadal variability and trends, and linkage of surface and stratospheric variations. They will also examine the relation of the modes to forcing by volcanic aerosols and stratospheric ozone loss.

This is a grant under the U.S. Climate Change Science Program’s CLImate VARiability and Predictability Program (CLIVAR).