

CCSM Atmosphere Model Working Group Meeting Report
The Village at Breckenridge, Breckenridge, Colorado
Tuesday, 20 June 2006

In a joint meeting with the Ocean Model Working Group (OMWG), the Atmosphere Model Working Group (AMWG) discussed issues related to tropical biases in the coupled ocean-atmosphere system. A major goal over the next several months will be to configure CAM in a way that will reduce some of the key biases in the tropical simulation. Changes to the closure for the CAM cumulus parameterization (use of an entraining plume with ice; closing by balancing non-convective changes in convective available potential energy generated only outside of the planetary boundary layer; triggering changes) and incorporation of cumulus momentum transport address some of the key biases, including problematic tropical seasonal cycles and ENSO periods. AMWG co-chairs will propose a configuration likely to incorporate some of these changes by late summer.

After the joint session, the AMWG met to discuss diagnostics and the CAM development plan. In addition to high-priority reductions in tropical coupled biases, incorporation of warm-cloud indirect effects (and required associated changes in aerosols microphysics) will be pursued intensively, with a goal of developing this capability within the next year. Experiments with boundary layer, shallow clouds, radiation, cloud fraction, and dynamical formulation will also continue. Improvements on current formulations of all of these processes are anticipated. A development plan for the next generation CAM was presented to the AMWG outlining the timeline, and the process for assessing suggested improvements, and integrating promising contributions into the next generation CAM. Coupled integrations will be assessed relatively frequently (quarterly to bi-annually) between now and the end of 2007 with the goal of producing a candidate configuration for coupling with biogeochemistry and carbon cycle simulations at that time.

Attendees:

Phil Rasch, NCAR
Leo J. Donner, GFDL
Andrew Conley, NCAR
Aiguo Dai, NCAR
Adrienne Middleton, NCAR
Arthur Greene, IRI
Andrew Wittenberg, GFDL
Andrew Gettelman, NCAR
Anjali Bamzai, DOE
Avelino Arellano, Jr., NCAR
Yoshihiro Asaoka, CRIEPI
Adam Phillips, NCAR
David Bader, Lawrence Livermore National Lab
Govindasamy Bala, Lawrence Livermore National Lab
Charles Bardeen, CU
Bin Guan, University of Maryland
Uma Bhatt, University of Alaska, Fairbanks
Grant Branstator, NCAR

Chris Bretherton, University of Washington
Brian Medeiros, UCLA
Bruce Anderson, Boston University
Nikolaus Buenning, CU
Chih-Chieh Chen, NCAR
Clark Kirkman, IV, University of Washington
Curt Covey, Scripps Institution of Oceanography
David Noone, CU
Simon de Szoeki, University of Hawaii
David Lawrence, NCAR
Don Anderson, NASA
Donifan Barahona, GaTech
John Drake, Oak Ridge National Lab
Brian Eaton, NCAR
Louisa Emmons, NCAR
Erik Kluzek, NCAR
Eunjo Jung, Scripps Institution of Oceanography
Falguni Patadia, University of Alabama, Huntsville
John Fasullo, NCAR
Forrest Hoffman, Oak Ridge National Lab
Steve Gollmer, Cedarville University
Jerry Potter, Lawrence Livermore National Lab
Richard Grotjahn, University of CA, Davis
Gunilla Svensson, CU
Guang Zhang, NCAR
Haishan Chen, GaTech
Peter Hess, NCAR
Huilin Gao, GaTech
Jon Egill Kristjansson, University of Oslo
Rob Jacob, Argonne National Lab
Jason English, CU
Jeff Lee, NCAR
Jay Fein, NSF
Jim Hurrell, NCAR
J. Keith Moore, University of CA, Irvine
Jeff Kiehl, NCAR
Jeff Yin, NCAR
Karen Shell, NCAR
Charlotte DeMott, Colorado State University
Marat Khairoutdinov, Colorado State University
Rachel McCrary, Colorado State University
Lixin Lu, Colorado State University
Lisa Murphy, University of Maryland
Li Zhang, NSF
Natalie Mahowald, NCAR
Mark Taylor, Sandia National Lab

Mark Flanner, University of CA, Irvine
Minghuai Wang, University of Michigan
Arthur Mirin, Lawrence Livermore National Lab
Dave Mitchell, Desert Research Institute
Megan Linkin, University of Maryland
Kgakgamatso Mphale, University of Botswana
Mat Rothstein, NCAR
Matt Wyant, University of Washington
Jerry Oleson, NCAR
Francis Otieno, Ohio State University
Philip Cameron-Smith, Lawrence Livermore National Lab
Kevin Raeder, NCAR
Rashmi Mittal, Indian Institute of Technology
Ram Nair, NCAR
Rich Neale, NCAR
Rune Graversen, Stockholm University
Steve Vavrus, University of Wisconsin, Madison
Steve Ghan, Pacific Northwest National Lab
Silverio Vasquez, NCAR
Tianyi Pan, CU
Bob Tomas, NCAR
Taotao Qian, NCAR
Joe Tribbia, NCAR
Tracy Twine, University of Alaska, Fairbanks
Victor Paulis, University of Central Florida
Bill Large, NCAR
Dave Williamson, NCAR
Xiaoqing Wu, Iowa State University
Xiaohong Liu, Pacific Northwest National Lab
Yan Huang, GaTech
Yi Huang, Princeton University
Yongxin Zhang, Los Alamos National Lab
Xiaolu Yu, University of Toronto
Minghua Zhang, Stony Brook University