

**CESM Atmosphere Model Working Group Meeting**  
**10 – 12 February 2014**  
**Mesa Lab, Main Seminar Room**  
**National Center for Atmospheric Research – Boulder, Colorado**

>>>> *Webcast: [www.fin.ucar.edu/it/mms/ml-live.htm](http://www.fin.ucar.edu/it/mms/ml-live.htm)* <<<<<

**MONDAY, 10 February:**

**Recent CAM Parameterization Development**

- 9:00 Co-chairs welcome and logistics
- 9:15 Cecile Hannay – Coupled simulations with CAM5 spectral element
- 9:30 Pete Bogenschutz – Recent progress and developments with CAM-CLUBB
- 9:45 Andrew Gettleman – Cloud microphysics: An overview of revisions to cloud microphysics and coupling of microphysics to the rest of CAM
- 10:00 Sungsu Park – An update on the CAM Unified Convection Scheme (UNICON)
- 10:15 Kate Thayer-Calder – Subcolumns in CAM sampled from a higher order closure moist turbulence parameterization
- 10:30 *Break*
- 11:00 David Mitchell – Parameterizing ice particle mass and area in ice clouds: Towards a self-consistent treatment of ice microphysics and radiation
- 11:15 Xiaohong Liu – Ice nucleation in cirrus clouds
- 11:30 Minghua Zhang – Cloud water inhomogeneity parameterization
- 11:45 Peter Caldwell – Using macro+microphysics as a testbed for improved time-integration methods
- 12:00 *Lunch (on your own)*

**Time, Resolution, Dynamics, Physics and Ensemble Sensitivity Studies**

- 1:00 Brian Mapes – Nudged-to-reanalysis runs: Visualizations and interpretations of 4D nudging tendencies in light of other processes.
- 1:15 Thomas Toniazzo – Using low-resolution CAM in NorESM-L and dealing with large-scale coupled biases
- 1:30 Wei-Liang Lee – Development of Taiwan Earth System Model based on CESM
- 1:45 Zhun Guo – A sensitivity study of cloud properties to CLUBB parameters in the Single Column Community Atmosphere Model (SCAM5)
- 2:00 Hui Wan – An efficient method for discerning climate-relevant sensitivities in AGCMs
- 2:15 Dave Williamson – A formulation error in energy in CAM
- 2:30 Colin Zarzicki – The impacts of high-resolution refinement in variable-resolution CAM-SE on regional climate in CESM
- 2:45 Bereket Habtezion – Analysis of time step sensitivity in the Community Atmospheric Model using single-column and global simulations
- 3:00 *Break*
- 3:30 Oyvind Seland – AMIP-type horizontal resolution experiments with NorESM
- 3:45 Julio Bacmeister – The implications for nudging in CAM
- 4:00 Kate Evans – Implicit time stepping methods in the CAM dycore: When are they a "win"?
- 4:15 Travis O'Brien – Scale-dependent horizontal velocity fields drive vertical velocity resolution dependence
- 4:30 Day-1 discussion
- 5:00 *Reception (AMWG and Chemistry Climate WG) – Damon Room*

## **TUESDAY, 11 February:**

### **Joint Session: AMWG and Chemistry Climate Working Group**

- 9:00 Manish Shrivastava – Representation of secondary organic aerosols in the CESM model as a part of the SciDac ACES4BGC project.
- 9:15 Alma Hodzic – Extension of the representation of SOAs in CAM
- 9:30 Alex Avramov – Radiative forcing and climate response in coupled CESM/MARC simulations
- 9:45 Peter Lauritzen – CAM dynamics update
- 10:00 Po-Lun Ma – Evaluating the resolution dependence of aerosol-cloud interactions using A-Train satellite observations
- 10:15 Guangxing Lin – Global modeling of secondary organic aerosol with an explicit scheme
- 10:30 *Break*
- 11:00 Ryan Neely – A new and improved coherent prescribed parameterization of the stratospheric aerosol for all flavors of CESM
- 11:15 Scott Elliott – Dynamic marine aerosol emissions for Earth System Models
- 11:30 Discussion
- 12:00 *Lunch (on your own)*

### **Climate Diagnostics Studies**

- 1:00 Yun Qian – Parametric sensitivity analysis of precipitation at global and local scales in the Community Atmosphere Model CAM5
- 1:15 Mark Taylor – CAM5-SE coupled simulations at 1/4 and 1/8 degree resolutions
- 1:30 David Williamson – Examination of the CAM East Tropical Pacific precipitation bias via CAPT forecasts
- 1:45 Kevin Raeder – Comparing CAM-FV and CAM-SE in a 'perfect model' data assimilation environment
- 2:00 Guang Zhang – Convective microphysics and aerosol-convection interaction in CAM5
- 2:15 Charles Jackson – Multivariate metric of model-observational differences
- 2:30 Rich Neale – Tropical influences on mid-latitude, high-pressure blocking statistics in CESM
- 2:45 Kevin Trenberth – Earth's energy imbalance in CCSM4
- 3:00 *Break*
- 3:30 CGD Seminar – Leo Donner – Cumulus convection, climate sensitivity, and heightened imperatives for physically robust cumulus parameterizations in climate models
- 4:30 Day-2 discussion

## **WEDNESDAY, 12 February:**

### **CAM Application Activities**

- 9:00 Brian Medeiros – Initialized experiments using CAM
- 9:15 Jim Benedict – Developments in global AMR simulations with CHOMBO
- 9:30 Kevin Reed – Rotating and non-rotating global radiative-convective equilibrium in CAM
- 9:45 Hsi-Yen Ma – The summertime warm bias over the central U.S. as examined in the short-term hindcast approach
- 10:00 Jen Kay – The CESM large ensemble project
- 10:15 De-Zheng Sun – ENSO asymmetry in CMIP5 models
- 10:30 *Break*
- 11:00 Discussion (AMWG development and strategic planning)
- 12:00 *Lunch (on your own)*

### **Joint Session: AMWG and Whole Atmosphere Working Groups**

- 1:15 Curt Covey – The QBO in satellite microwave observations and climate models
- 1:35 Karen Smith – SC-WACCM: A dynamics-only version of WACCM (with specified chemistry)
- 1:55 Yaga Richter – Effects of increased vertical resolution on the simulation of mean climate and the Quasi-Biennial Oscillation
- 2:15 Mike Mills – Toward a prognostic representation of stratospheric sulfate aerosol in CESM
- 2:35 Pengfei Wu – Building a sectional aerosol model in CAM5
- 2:55 Eric Larson – CAM angular momentum conservation on slow rotators
- 3:15 *Break*
- 3:45 Discussion (Vertical resolution development, model top, momentum parameterization, prognostic volcanic aerosols)
- 5:00 *Adjourn*