Atmosphere Model Working Group
CESM 2010 Workshop

Tuesday, June 29th
8:30am-12pm
CCSM4 and CESM1 Model Release

April 1, 2010 – CAM4

Community Climate System Model

ABOUT CCSM 4.0

The Community Climate System Model (CCSM) is a coupled climate model for simulating the earth’s climate system. Composed of four separate models simultaneously simulating the earth’s atmosphere, ocean, land surface and sea-ice, and one central coupler component, the CCSM allows researchers to conduct fundamental research into the earth’s past, present and future climate states. Please see the brief overview of the notable model improvements.

MODEL OUTPUT DATA AND DIAGNOSTICS

- Model Output Diagnostic Plots
- Model Output Data (BSG)
- Post Processing Utilities

MODEL DOCUMENTATION

- Complete Coupled System
  - CCSM4.0 User’s Guide
- Atmosphere Models
  - Community Atmosphere Model (CAM4)
  - Climatological Data Model (DATAM)
- Ice Models
  - Community Ice Code (CICE)
  - Climatological Ice Model (DICE)
- Land Models
  - Community Land Model (CLM4)
  - Climatological Data Model (CLM4)
- Ocean Models
  - CCSM POP (POP2)
  - Climatological/Slab Ocean Data Model (DOCN)
- Coupler
  - CCSM Coupler (CPL2)

June 25, 2010 – CAM4/CAM5

Community Earth System Model

ABOUT CESM 1.0

The Community Earth System Model (CESM) is a coupled climate model for simulating the earth’s climate system. Composed of four separate models simultaneously simulating the earth’s atmosphere, ocean, land surface and sea-ice, and one central coupler component, the CESM allows researchers to conduct fundamental research into the earth’s past, present and future climate states. Please see the brief overview of the notable model improvements.

MODEL OUTPUT DATA AND DIAGNOSTICS

- Model Output Diagnostic Plots
- Model Output Data (BSG)
- Post Processing Utilities

MODEL DOCUMENTATION

- CESM1.0
  - User’s Guide
- Atmosphere Models
  - Community Atmosphere Model (CAM5)
  - Climatological Data Model (DATAM)
- Land Models
  - Community Land Model (CLM5)
  - Climatological Data Model (CLM5)
- Sea Ice Models
  - Community Ice Code (CICE)
  - Climatological Ice Model (DICE)
- Ocean Models
  - CESM POP (POP2)
  - Climatological/Slab Ocean Data Model (DOCN)
- Land Ice Models
  - Community Ice Sheet Model (Glimmer – CESM)
  - CESM Coupler (CPL2)
## CAM Evolution

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Atmosphere Model Working Group (AMWG)
Tuesday AM1, June 29 2010

8:30 am - Introduction (Rich Neale)
CAM4/CCSM4

8:35 am - CAM4/CCSM4 configuration and simulations (Rich Neale)
CAM5/CESM1

9:00 am - CAM5 configuration (Phil Rasch)

9:15 am - CAM5 simulations (Cecile Hannay)

9:30 am - CESM1-CAM5 coupled simulations (Rich Neale)

9:45 am - Climate sensitivity in CCSM4/CESM1-CAM5 (Andrew Gettelman)

10:00 am - CAM strategic plan (Minghua Zhang)

10:10 am - Discussion (lead Minghua Zhang)

10:30 am - Break

AMWG Virtual Poster Session After Lunch

**** SPEAKERS PLEASE SIGN WEBCAST RELEASE FORM ****
Atmosphere Model Working Group (AMWG)
Tuesday AM2, June 29 2010

Short contributions (5 mins each - strictly enforced)
11:00 Art Mirin  Progress on advanced dynamical cores for CAM
11:05 Kate Evans  Progress in the development of a high-resolution spectral and spectral
   element atmospheric capability in the CCSM4
11:10 Sungsu Park  A CPT for improving the representation of stratocumulus to cumulus
   transitions in the Community Atmosphere Model.
11:15 Andrew Gettelman  A CPT for cloud parameterization and aerosol indirect effects
11:20 Peter Caldwell  Using a statistical representation of subgrid cloudiness to
   improve the Community Atmosphere Model
11:25 Joe Tribbia  A neural network approach to parameterization
11:30 Donald Lucas  CAM Uncertainty Quantification
11:35 Phil Rasch  Porting and evaluating the CAM5 physics suite into Weather Research and
   Forecasting Model
11:40 Julio Bacmeister  High resolution CAM5 simulations with and without parameterized deep
   convection
11:45 Tao Zhang  An evaluation of ENSO asymmetry in the Community Climate System
   Models: A view from the subsurface
11:50 Jen Kay  The Arctic climate response to 2xCO2 and present day aerosol forcing
   in CAM4 and CAM5 slab ocean model experiments
11:55 Brian Medeiros  Climate feedbacks in Aqua-planet CAM4 and CAM5

12 pm – End

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