

Chemistry-Climate Working Group

Monday February 26, 2007 - Damon Room

8:00 **Continental breakfast in the Damon Room**

Session 1: State of the Model and Model Development

8:30 Introduction and Meeting Goals and Discussion (Peter Hess, NCAR)

9:00 Model status and news (Hess)

9:20 Update on new physics and model developments (Phil Rasch, NCAR)

9:50 Effect of physics on chemistry (Hess)

10:00 **Break**

10:20 Progress on aerosol indirect effect in CAM (Xiaohong Liu, PNNL)

10:40 New Stratiform Cloud Microphysics and Cloud Aerosol Interactions in CAM
(Andrew Gettelman, NCAR)

11:00 Progress on application of modal aerosol dynamics to CAM (Liu)

11:20 Sensitivity of direct effect to aerosol treatment (Hess)

11:40 Update on CAM/CLM Biogenic VOC Emissions and Secondary Organic Aerosols
(Colette Heald, U CA, Berkeley)

LUNCH

Chemistry-Climate WG continues in the Main Seminar Room

Session 2: Entrepreneurial Research/Science – Main Seminar Room

12:30 **Refreshments** at Main Seminar Room

1:00 New Stratospheric Tropospheric Chemistry (Jean Francois Lamarque, NCAR)

1:20 Clouds and photolysis (Jessica Neu, Univ. CA, Irvine)

1:40 Developments at UCI (Michael Prather, Univ. CA, Irvine)

2:00 CAM with Chemistry at Lawrence Livermore (Philip Cameron-Smith, LLNL)

2:20 Changing emissions and climate CCSP report. (Lamarque)

2:40 Constraining tropospheric CO using ensemble-based data assimilation. (Avelino Arellano, NCAR)

3:00 **Break**

Session 3: Emissions

3:20 POP ocean emissions (Scott Elliot, LANL)

3:40 Historical emissions (Claire Granier, CIRES/CU)

4:00 General Discussion

Chemistry-Climate Working Group

Main Seminar Room

Tuesday, February 27

8:15 **Continental breakfast** at Main Seminar Room

Session 4: Middle Atmosphere Research

8:30 Climate sensitivity and variability with models extending into the middle atmosphere
(Fabrizio Sassi, NCAR)

8:50 Atmospheric response to solar and geomagnetic forcing (Dan Marsh, NCAR)

9:10 Impact of climate change on ozone recovery (Doug Kinnison, NCAR)

9:30 3-D Microphysical Simulations of Meteoric Dust (Charles Bardeen, LASP/CU)

9:50 Catastrophic ozone loss following a regional nuclear conflict (Mike Mills)

10:15 **Break**

Session 5: **Chemistry-Climate** cont'd in Main Seminar Room

10:30-12:00 Discussion

Lunch

Biogeochemistry Working Group

Monday, February 26, 2007 Damon Room

12:30 Refreshments at the Main Seminar room

- 1:00-1:15 Welcome and introductions
- 1:15-1:25 Natalie Mahowald (NCAR): New IPCC approach to carbon cycles
- 1:25-1:40 Keith Lindsay (NCAR) - CCSM-T31 fully coupled runs update
- 1:40-2:00 Peter Thornton (NCAR) – CCSM-T31 updates, comparisons with land/atmosphere runs
- 2:00-2:10 Discussion of CCSM3-T31 runs
- 2:10-2:30 Keith Lindsay (NCAR) – Plans for CCSM3.5 coupling – physical model, spin up procedure, ocean BGC model
- 2:30-2:50 Peter Thornton (NCAR) - Plans for CCSM3.5 coupling: status of CLM-CN simulation
- 2:50-3:00 Discussion of CCSM3.5 coupling
- 3:00 **Break**

Entrepreneurial work presentations

- 3:30-3:40 Keith Moore (UC Irvine) - Improvements in the ocean BEC model iron cycle
- 3:40-3:50 Scott Doney (WHOI) - Ocean acidification from atmospheric deposition of anthropogenic nitrogen and sulfur
- 3:50-4:00 Irina Marinov (WHOI)-Impact of mixing and Southern Ocean winds on atmospheric CO₂
- 4:00-4:10 Cindy Nevison (NCAR) - Evaluating CO₂ in land and ocean models
- 4:10-4:20 Natalie Mahowald (NCAR) - Human perturbations to iron deposition
- 4:20-4:30 Andy Jacobson (NOAA) - Carbon Tracker: a platform for evaluating terrestrial biosphere models
- 4:30-5:00 Additional entrepreneurial talks (please email mahowald@ucar.edu)

Biogeochemistry Working Group (continued)

Tuesday, February 27, 2007 Damon Room

8:15 **Continental Breakfast** at the Main Seminar

- 9:00-9:30 Jim Randerson (UC Irvine) - CLAMP introduction, methodology and metrics
- 9:30-9:45 Forrest Hoffman (ORNL) - Update on status
- 9:45-10:00 Presentation of results
- 10:30-11:00 Discussion of results:
 - Other datasets/methodologies to use? Carbon tracker
 - Implications for models? Ideas for model improvements?
- 10:30 **Break**
- 11:00-12:00 More CLAMP discussion
- Lunch

Tuesday afternoon – February 27, 2007 - MAIN SEMINAR ROOM
Joint Session Land, Chemistry, Biogeochemistry Working Groups
1:00 pm Refreshments

Surface hydrology (lakes, wetlands, rivers, irrigation) and methane

- 1:15 Introduction and opening remarks
- 1:30 Inez Fung (UC Berkeley) – modeling methane
- 2:00 Jay Famiglietti (UC Irvine)– river routing
- 2:20 Gopi Goteti (UC Irvine) - catchment-based modeling
- 2:30 Reed Maxwell/Stefan Kollet (LLNL) – groundwater and overland flow
- 2:40 Cindy Nevison (NCAR) - riverine transport of nutrients
- 2:50 Beth Holland/Julia Lee-Taylor (NCAR) – hydrology and nitrogen diffusivity
- 3:00 Break

- 3:30 Bill Sacks (U Wisconsin) – impacts of irrigation on climate
- 3:40 Peter Lawrence (CIRES) - irrigation
- 3:50 Zong-Liang Yang (U Texas) irrigation
- 4:00 Discussion

Land use / Land cover

- 4:40 Johann Feddema (U Kansas)
- 5:00 Atul Jain (U Illinois) – biogeochemical and economic model drivers
- 5:10 Discussion (led by Jim Randerson)

Biogeochemistry working group Adjourns

RECEPTION FOR ALL

Tuesday February 27, 2007

5:30-6:30 (light snacks served) Damon room

CCSM LAND WG MEETING
Wednesday, 28 February 2007
Damon Room, Mesa Lab

This day and session only - Telephone Conferencing Instructions:

Within the U.S., dial this access number: 1-800-516-9896

Outside the U.S., dial this access number: +816 650 0725

*Participant code: Enter this code –**73858**– at the prompt, followed by #.*

8:30 – 9:00 Continental breakfast

CLM4

Community hydrology project

9:00 Dave Lawrence (NCAR) – CLM development activities and plans

9:20 Nan Rosenbloom (NCAR) – swiki, software engineering update

9:30 Dave Lawrence (NCAR) - hydrology project update

9:45 Peter Thornton (NCAR) – BTRAN, effective nitrogen limitation

10:00 Reto Stockli (ETH) – tower sites

10:20 Discussion on new hydrology and CLM3.5

10:30 **Break**

Other CLM4 developments

11:00 Mark Decker (U Arizona) – Richard’s equation, canopy roughness in semi-arid

11:20 Dave Gochis (NCAR) – fine mesh

11:40 Sam Levis (NCAR) and Forrest Hoffman (ORNL) – Prognostic canopy airspace

12:00 Lunch

Snow

1:00 Sam Levis (NCAR) – snow cover impact on climate sensitivity

1:20 Mark Flanner (UC Irvine) – snow radiation and snow age

1:40 Guo-Yue Niu (U Texas) – snow cover fraction, snow interception

2:00 Mark Decker (U Arizona) – snow burial fraction

2:20 Discussion on proposed snow changes and integration with snow in CICE

2:45 **Break – refreshments served**

3:15 Dave Lawrence (NCAR) – organic soil and deeper soil column

3:35 General discussion about CLM4

4:30 Adjourn