CESM Land Model Working Group Meeting
Tuesday, 15 March 2011
Main Seminar Room, NCAR – Boulder, Colorado

08:00 Coffee

08:30 Bill Large (NCAR) – Welcome
08:35 Dave Lawrence (NCAR) – Introduction and State of CLM Project
09:00 Bob Dickinson (U. Texas at Austin) – Progress Installing 3D Canopy Radiation in CESM/CLM4

Hydrology
09:15 Sean Swenson (NCAR) – Improved Cold Region Hydrological Processes for CLM
09:35 Maoyi Huang (PNL) – Evaluating and Improving CLM Hydrologic Processes for Integrated Earth System Modeling at Regional Scales
09:55 Liang Yang (U. Texas at Austin) – Improvement of CLM4 Soil Hydrology by Introducing Micropores / Macropores to the Soil / Aquifer Coupling
10:15 Sirein Awadalla (MIT) – Interactive Wetlands/Lakes in CLM-RTM and Impact in Nile Region
10:30 Break

11:00 Gautam Bisht (ORNL) – Incorporating 3D Subsurface Hydrologic Processes: Coupling PFLOTTRAN and CLM
11:20 Anna Harper (CSU) – Can We Realistically Represent Tropical Drought Stress in Models?
11:35 Gil Bohrer (Ohio State) – Assessing the Effects of Hydrodynamic Stresses on Stomatal Conductance in Forest Patches with Trees of Difference Structures, Sizes, and Species
11:50 Bill Riley (LBL) – Water Isotopes
12:05 MinHui Lo (UC-Irvine) – Representation of Anthropogenic Effects in CLM: Application of GRACE
12:20 Discussion
12:30 Lunch

13:30 Zack Subin (UC-Berkeley) – Update on a Revised Lake Model for CLM
13:50 Koichi Sakaguchi (U. Arizona) – Recent CLM-related Progress at University of Arizona

DGVM
14:15 Kendra Castillo (Purdue) – Evaluation of the New CNDV Option of the CLM: Effects of Dynamic Vegetation and Interactive Nitrogen on CLM4 Means and Variability
14:30 Eunjee Lee (MIT) – Estimating Vegetation Distribution in the 21st Century: The Role of Meteorology in Plant Migration
14:45 Xiaodong Zeng (Chinese Academy of Sciences) – Model Development and Application using CLM-DGVM
15:00 Sam Levis (NCAR) – 21st Century North Africa as Simulated in the CCSM4/CESM1

15:15 Break

Applications
15:45 Abby Swann (Harvard) – Mid-latitude Afforestation: Consequences for General Circulation and Tropical Precipitation
16:00 Eugul Lee (Lehigh) – Effects of N-limited Downregulated GPP on Stomatal Resistance in CLM-CN during the 21st Century (preliminary experiments)
16:15 Erik Mason (presented by Ben Felzer – Lehigh) A Comparison of Early Holocene Orbital Insolation and Present-day Greenhouse Gas Forcings and Their Influences on Alaskan Ecosystems using CESM
16:30 Jung-Eun Lee (JPL) – Toward the Attribution of Recent Decadal Precipitation Differences over Tropical South America
16:45 Discussion – CLM Development Plans

17:30 Adjourn
CESM Joint Land Model and Biogeochemistry
Working Group Meetings
Wednesday, 16 March 2011
Main Seminar Room, NCAR – Boulder, Colorado

08:00 Coffee
08:30 Synte Peacock (NCAR) – North American Surface Climate Simulation in CCSM4 over 20th C and RCPs
08:45 Forrest Hoffman (ORNL) – The International Land Model Benchmarking Project

IAMs / Land Cover-Land Use
09:00 Bill Collins (LBL) – Adding Integrated Assessment to CESM: Progress and Prospects
09:20 Jiafu Mao (ORNL) – ORNL Progress in the Integrated Earth System Model (IESM) Project
09:35 Adam Schlosser (MIT) – Permafrost, Thermokarst Methane, Climate Policy, and Climate Feedbacks using the IGSM-CLM Framework / Climate-equilibrium Response of Land Use under Different Land-Use Policies
09:55 Peter Lawrence (NCAR) – Land Cover/Land Use Change Carbon Fluxes over 20th C and RCPs
10:15 Xiaoying Shi (presented by Jiafu Mao – ORNL) – The Impact of Climate, CO2, Nitrogen Deposition, and Land Use Change on Simulated Contemporary Global River Flow

10:30 Break
11:00 Lisa Murphy (LBL) – Expansion of Loblolly Pines for Bioenergy Feedstock in Southeastern US: Climate Model Insights
11:15 Andy Jones (LBL) – An Improved Parameterization of Biofuel Cultivation for the Community Land Model
11:30 Steve Edburg (U. Idaho) – The Impact of Bark Beetle Outbreaks on Carbon Cycling in the Western US
11:45 Brendan Rogers (UC – Irvine) – Consequences of Post-fire Succession for Carbon and Energy Fluxes in CLM
12:00 Bob Dickinson (U. Texas at Austin) – Issues Involving Leaf and Soil Carbon and Nitrogen Cycling in CLM4
12:15 David Erickson (ORNL) – Constraining Terrestrial Biosphere CO2 Exchange via Anthropogenic CO2 Emission Seasonality
12:30 Lunch

CESM Joint Land Model, Biogeochemistry, and Chemistry-Climate Working Group Meetings

The Global Methane Cycle
13:45 Peter Hess (Cornell) – Introduction to Biogeochemistry-Climate / Chemistry Joint Session
14:05 Bill Riley (LBL) – Modeling Wetland Methane Emissions
14:25 Lei Meng (presented by Peter Hess – Cornell) – Constrained Estimate of Methane Emissions
14:45 Scott Elliott (LANL) – Arctic Marine Clathrate Destabilization
15:05 Philip Cameron-Smith (LLNL) – Methane Chemistry Experiments in CESM
15:25 Break
16:00 Jean-Francois Lamarque (NCAR) – Methane Lifetime in CESM
16:20 Discussion: Future Collaboration, Methane ‘Flying leap,’ Nitrogen Cycle, Ozone
17:00 Reception
08:30  Coffee

09:00  B. Large (NCAR) – Welcome
09:05  A. Fiore (NOAA), P. Hess (Cornell), J.-F. Lamarque (NCAR) – General Introduction
09:15  R. Neale (NCAR) – CAM5 and Low Resolution CAM
09:40  J. Bacmeister (NCAR) – Middle Atmosphere CAM
10:00  J.-F. Lamarque (NCAR) – Updates to CAM-chem

10:30  Break (with LMWG, BGCWG)

11:00  S. Tilmes (NCAR) – New Datasets: GEOS5 / MERRA / HIPPO / Ozone
11:30  S. Tilmes / F. Vitt (NCAR) – Running CAM-chem
12:00  Open Discussion on Model Development

12:45  Lunch
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Presenter</th>
<th>Organization</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30</td>
<td>Coffee</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09:00</td>
<td>J.-F. Lamarque (NCAR) – CSL Proposal</td>
<td>J.-F. Lamarque</td>
<td>NCAR</td>
<td></td>
</tr>
<tr>
<td>09:10</td>
<td>S. Tilmes (NCAR) – GeoMIP</td>
<td>S. Tilmes</td>
<td>NCAR</td>
<td></td>
</tr>
<tr>
<td>09:30</td>
<td>J. English (CU) – Geoengineering with CARMA</td>
<td>J. English</td>
<td>CU</td>
<td></td>
</tr>
<tr>
<td>09:50</td>
<td>P. Young (NOAA) – HNCO</td>
<td>P. Young</td>
<td>NOAA</td>
<td></td>
</tr>
<tr>
<td>10:10</td>
<td>Break (with LMWG / BGCWG)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:40</td>
<td>S. Elliott (LANL) – Ice Algae Emissions</td>
<td>S. Elliott</td>
<td>LANL</td>
<td></td>
</tr>
<tr>
<td>11:00</td>
<td>A. Fiore (NOAA) – Pollution Events</td>
<td>A. Fiore</td>
<td>NOAA</td>
<td></td>
</tr>
<tr>
<td>11:20</td>
<td>L. Emmons (NCAR) – POLMIP</td>
<td>L. Emmons</td>
<td>NCAR</td>
<td></td>
</tr>
<tr>
<td>11:35</td>
<td>C. Heald (CSU) – National Park Project</td>
<td>C. Heald</td>
<td>CSU</td>
<td></td>
</tr>
<tr>
<td>11:45</td>
<td>Discussion on Existing Projects / Computational Requests</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:30</td>
<td>Lunch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13:30</td>
<td>A. Conley (NCAR) – Radiative Forcings using PORT</td>
<td>A. Conley</td>
<td>NCAR</td>
<td></td>
</tr>
<tr>
<td>14:10</td>
<td>J.-F. Lamarque (NCAR) – Model Release</td>
<td>J.-F. Lamarque</td>
<td>NCAR</td>
<td></td>
</tr>
<tr>
<td>14:30</td>
<td>Doug Kinnison (NCAR) – VSL Halogen Chemistry in CAM-CHEM</td>
<td>Doug Kinnison</td>
<td>NCAR</td>
<td></td>
</tr>
<tr>
<td>15:30</td>
<td>Adjourn</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CESM Biogeochemistry Working Group Meeting  
Thursday, 17 March 2011  
Main Seminar Room, NCAR – Boulder, Colorado

08:00  Coffee

**BGC Analysis and Development**
08:30  Keith Lindsay (NCAR) – Coupled Carbon Simulations  
08:50  Matt Long (NCAR) – Ocean Carbon Sink Dynamics in CESM1  
09:10  Kazuhiro Misumi (CRIEPI/NCAR) – Does Bio-Refractory Dissolved Organic Matter Control the Global Oceanic Dissolved Iron Distribution?  
09:30  Keith Moore (UC-Irvine) – BGC in x3 Ocean Model  
09:50  Keith Lindsay (NCAR) – Ocean Model BGC Ongoing Developments  
10:10  Break

10:50  Peter Thornton (presented by Gautam Bisht – ORNL) – Evaluating Modeled Carbon State and Flux Variables against Multiple NACP Observational Datasets  
11:05  Rosie Fisher (NCAR) – Optimization-based Approaches to Simulating Canopy Leaf Area Investigated using CLM-CN  
11:25  Charlie Koven (LBL) – Addition of Long-lived Soil Carbon to CLM-CN  
11:45  Wrap-up BGC Discussion – CMIP5, Coordinated Land / BGC Development, Validation of Carbon Model

12:30  Adjourn