

CESM Joint Land Model and  
Societal Dimensions Working Group Meeting  
8 – 10 February 2016  
National Center for Atmospheric Research – Boulder, Colorado  
Center Green Auditorium (North and Center Bays)

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

MONDAY, 8 February

8:00 *Coffee*  
8:30 Welcome and Introductions

**Mitigation-related talks**

8:40	Investigating climate stabilization scenarios using ESM, EMIC, and IAMs: An introduction of our activity in Program for Risk Information on Climate Change	Kaoru Tachiiri
9:00	Can we bet on negative emissions to achieve the 2°C target even under strong carbon cycle feedbacks?	Katsumasa Tanaka
9:20	Beyond RCPs: Mitigation options to avoid severe climate change	Ben Sanderson
9:40	Climate outcome of combined mitigation and geoengineering scenarios between 2040 and 2200	Simone Tilmes
10:00	<i>Continental breakfast</i>	
10:30	A probabilistic analysis of cumulative carbon emissions and long-term planetary warming	Jeremy Fyke
10:50	Evaluation of long-term bioenergy penetration considering uncertainties in allowable carbon emissions and technology	Diego Silva Herran

**Methods-related talks**

11:10	The use of Community Earth System Model output in human dimensions climate work	Emily Laidlaw
11:30	Pattern scaling: A recent development in larger plans	Claudia Tebaldi
11:50	Bidirectional coupling of earth system models with social science models: New motivations and a proposed path	John T. Murphy
12:10	<i>Lunch (on your own)</i>	

**Impacts-related talks**

1:30	Update on and next steps for the Benefits of Reduced Anthropogenic Climate Change (BRACE) project	Brian O'Neill
1:40	Increasing risk of record-breaking summer temperatures under global warming and the potential for mitigation	Flavio Lehner
2:00	The potential impacts of 21 <sup>st</sup> century climatic and population changes on human exposure to the virus vector mosquito <i>Aedes aegypti</i>	Andy Monaghan
2:20	Consequence of climate mitigation on the risk of hunger	Tomoko Hasegawa
2:40	<i>Break</i>	
3:10	Collaborative research to support civil engineering	Chris Anderson
3:30	Climate change information dashboards for water managers	Caspar Ammann

**Computing projects**

3:30	Current projects and SDWG proposal process	Co-chairs
4:00	Update and outlook for new computing proposals	Jean-François Lamarque
4:10	Discussion about computing projects	
4:30	Working group business / wrap-up discussions	
5:00	<i>Adjourn</i>	

TUESDAY, 9 February

**Joint Land Model, Biogeochemistry, and Societal Dimensions Working Groups**

8:00 *Coffee*

8:30 Welcome and Introduction

Co-chairs

**Crops, wood harvest, and land use**

8:35 Using the CLM Crop Model to assess the impacts of changes in climate, atmospheric CO<sub>2</sub>, irrigation, fertilizer, and geographic distribution on historical and future crop yields Peter Lawrence

8:50 Simulating the United States county level crop yields in Community Land Model with an optimized fertilizer scheme Guoyong Leng

9:05 Winter wheat in CLM4.5 Yaqiong Lu

9:20 Modeling the interaction between climate and timber harvest: A fully coupled approach Matt Sloggy

9:35 Deforestation and peatland fires in Rupat Island Hut Prayato

9:50 Discussion

10:00 *Continental Breakfast*

10:30 Evaluating the need for integrated land use and land cover analysis for robust assessment of climate adaptation and mitigation strategies Alan DiVittorio

10:45 Threshold behavior in surface response to afforestation Marysa Lague

11:00 Discussion

**CESM1.2**

11:10 Results from CESM1.2 BGC simulations Keith Lindsay

11:30 Discussion

11:45 *Lunch (on your own)*

**CLM5 Description and Assessment**

1:00 State of CLM David Lawrence

1:20 Hydrology Sean Swenson

1:35 Validating MOSART in CLM5 Beta in comparison with ACME-MOSART Hongyi Li

1:50 Snow metric and snow analysis Andrew Slater

2:05 Climate simulations with respect to land cover change in CLM45 and CLM50 Liang Chen

2:20 Revisions to land cover dataset Peter Lawrence

2:30 Discussion

2:50 *Break*

3:20 FACE, ED update Rosie Fisher

3:40 Nitrogen Will Wieder

4:00 Soil Carbon Charles Koven

4:15 PFT-level analysis and crop model assessment Danica Lombardozzi

4:30 Dynamic root impacts on productivity and evapotranspiration Beth Drewniak

4:45 Plant hydraulics Daniel Kennedy

5:00 Discussion

5:30 *Adjourn*

WEDNESDAY, 10 February

8:00 *Coffee*

**Joint Land Model and Biogeochemistry Working Groups**

8:30	Multi-layer canopy	Gordon Bonan
8:45	Hillslope hydrology	Justin Perket
9:00	Representing lateral groundwater flow dynamics improves hydrologic and carbon cycle simulations in an Amazonian basin: Application with PAWS+CLM	Bill Riley
9:15	Using reactive transport codes to provide mechanistic biogeochemistry representations in global land surface models: Progress and challenges with CLM-PFLOTRAN 1.0	Richard Mills
9:30	Soil nutrient competition: Theories, observations, and implementation in earth system land model	Qing Zhu
9:45	Improvements and scientific validation of CLM in the framework of the Terrestrial Systems Modeling Platform (TerrSysMP)	Prabhakar Shrestha
10:00	<i>Continental Breakfast</i>	

**Applications**

10:30	The impact of SO <sub>2</sub> emissions reductions on US carbon uptake	Gretchen Keppel-Aleks
10:45	An observational constraint on stomatal function in forests: Evaluating coupled carbon and water vapor exchange with carbon isotopes in CLM 4.5	Brett Raczka
11:00	Climate impacts of plant structural acclimation in response to climate change	Marlies Kovenock
11:15	Extending assessment of climate teleconnections to account for diverse ecological responses	Elizabeth Garcia
11:30	Using ARM observations to evaluate land-atmosphere coupling in CAM5.1/CLM4 hindcasts on the U. S. Southern Great Plains	Tom Phillips
11:45	Atmosphere-land surface coupling diagnostics for CESM and CMIP5 models	James Randerson
12:00	<i>Adjourn and lunch (on your own)</i>	