

CESM Land Model and Biogeochemistry Working Group Meetings  
11 – 13 February 2019  
National Center for Atmospheric Research – Boulder, Colorado  
Mesa Lab – Main Seminar Room

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

**Monday, 11 February**

***CLM5 Updates***

9:00	State of CLM and CESM	Dave Lawrence
9:30	Model structure and climate data uncertainty in historical simulations of the terrestrial carbon cycle (1850-2014)	Gordon Bonan
9:50	Carbon cycle variability (or lack thereof) in CLM	Will Wieder
10:10	Plans for accounting for observational uncertainty in ILAMB	Nate Collier

10:30 *Break*

11:00	Machine learning for parameter estimation in CLM5	*Katie Dagon
11:20	Update on BGCWG activities	Keith Lindsay
11:40	CLM5.0 Matrix Model: Computational Efficiency, Diagnostics, and Improvement with Data	Yiqi Luo
12:00	Modeling the biosphere in 2050: Successes and failures, consensus and controversies	Gordon Bonan
12:20	Discussion	

12:30 *Lunch (on your own)*

***FATES***

1:30	Who wins: testing competitive ability resulting from leaf plasticity responses to elevated CO2 using FATES	Abby Swann and Marlies Kovenock
1:50	Fire, fuels and competition: capturing tropical forests and savannas with FATES-SPITFIRE	Jackie Shuman
2:10	Multi-Assumption modeling of photosynthesis	Anthony Walker
2:30	Plans for LULCC in FATES	Charlie Koven
2:50	FATES plans discussion	

3:15 *Break*

***CTSM updates***

3:45	CTSM status	Dave Lawrence
4:00	NWP configuration	Mike Barlage
4:15	Software update	Bill Sacks
4:35	LILAC	Joe Hamman
4:50	Mizuroute	Naoki Mizukami
5:10	Discussion of CTSM plans	
5:30	<i>Working Group Information Exchange (Damon Room)</i>	

## Tuesday, 12 February

### *LULCC*

- 8:30 Crop model updates and plans Danica Lombardozzi
- 8:40 Update on land use and land cover change datasets for CLM Peter Lawrence
- 9:00 Parameterization of perennial bioenergy crops in CLM5 Y.Cheng/M.Huang
- 9:20 Forest Management in space and time, when it matters and when it doesn't \*Joshua Rady
- 9:40 Modelling the impacts of climate and land use change on the emission and transport of rust spores \*Marje Prank
- 10:00 The GLACE-Hydrology Experiment- Investigating the remote and local responses of the land-atmosphere coupling on soil moisture predictability Sanjiy Kumar
- 10:20 Discussion
- 10:30 *Break*
- 11:00 CGD Seminar: Teasing apart the impact of historical vegetation change on climate: the relative importance of albedo, evaporative resistance, and surface roughness Marysa Laguë
- 12:00 *Lunch (on your own)*
- 1:10 Modeling ammonia volatilization in CLM: global agricultural emissions and their atmospheric impacts Julius Vira
- 1:30 Impact of land use and Land cover change on regional climate over the contiguous United States using variable-resolution CESM2 \*A.Devanand
- 1:50 Differing responses in diurnal cycle of land surface and air temperature to deforestation \*David Benson
- 2:10 Using the CESM to review mitigation strategies for urban emissions and heat islands Johann Feddema
- 2:30 Global radiocarbon observations suggest a reduced soil carbon sink in the Energy Exascale Earth System Model \*Paul Levine
- 2:50 Discussion
- 3:00 *Break*
- Water cycle*
- 3:30 Drought vulnerability in CLM5 Daniel Kennedy
- 3:50 Update on hillslope hydrology Sean Swenson
- 4:10 Global river responses to rising CO<sub>2</sub>: separating the effects of physiological and radiative changes on streamflow and flooding \*Megan Fowler
- 4:30 The impact of reservoirs on the climate: towards representing reservoirs in CLM \*Inne Vanderkelen
- 4:50 Discussion
- 5:00 Adjourn, dinner in Boulder

## Wednesday, 13 February

### *Carbon and plants*

- 8:30 Applications of CLM Carbon Physics in NASA GMAO Modeling Studies Fanwei Zeng  
8:50 Addressing Arctic-Boreal plant function type biases in carbon cycling in the community land model \*Lea Birch  
9:10 Northern Hemisphere patterns of land surface phenology in the community land model \*Grace Li  
9:30 Regional attribution of CO<sub>2</sub> seasonal cycle amplification in Northern high latitude \*X.Lin/G.Keppel-Aleks  
9:50 Biomass partitioning using and optimization approach from economic theory Beth Drewniak

10:10 *Break*

- 10:40 How can biosphere models grow enough vegetation biomass in the mountains of Western United States? Implications of meteorological forcing \*H. Duarte  
11:00 Modeling vegetation composition and biomass of the sagebrush ecosystem in the Reynolds Creek Experimental Watershed (RCEW) for different CO<sub>2</sub> and fire conditions, using the Ecosystem Demography (EDv2.2) Model \*Karun Pandit  
11:20 Tracking changes in the timing and duration of the vernal window Liz Burakowski  
11:40 Quantifying impacts of soil fabric changes on water and biogeochemical fluxes at the continental scale using CLM5.0 C-N \*Caroline Nash  
12:00 Simulating the terrestrial sink of tropospheric ozone with a global land model and its influence on ozone pollution \*Olivia Clifton  
12:20 Discussion  
12:30 *Adjourn*

*\* Indicates that presenter is eligible for the Andrew Slater award given to best student or postdoc performance at the meeting*