

**CESM LAND MODEL AND BIOGEOCHEMISTRY
WORKING GROUP MEETING
31 January – 4 February 2022**

Monday, January 31

** All times are MST*

Time	Topic	Speakers
9:00	Welcome and logistics	<i>Will & Adrianna Moderate</i>
9:05	Updates on CTSM and LMWG activities	Will Wieder
9:30	Discussion	
9:40	Biogeochemistry Lightning Talks (5 minutes each)	
	A proposed design for idealized emissions-driven overshoot and climate restoration scenarios.	Charlie Koven
	DOC implementation in CLM progress	Devaraju Narayanappa
	The internal variability of the terrestrial carbon cycle	Gordon Bonan
	Data assimilation of leaf area index and biomass into CLM to constrain carbon dynamics in the Arctic and Boreal region	Xueli Huo
	Incorporating riverine nitrate transport and reaction into the Community Land Model (CLM5)	Yadu Pokhrel
10:05	Biogeochemistry Discussion	
10:35	Break	
10:40	Virtual Coffee Break	
11:00	MIMICS+ Extending the MIMICS decomposition model with additional functional groups	Elin Ristorp Aas
11:15	A New Metric for Evaluating Northern Hemisphere Growing Season Net Flux in Climate Models	Morgan Cheatham
11:30	Model-Aided Adaptation for Future Maize	Jennifer Hsiao
11:45	Discussion	
12:00	Lunch	<i>Rosie & Will Moderate</i>
1:00	Discrepancies between Offline and Fully Coupled CLM5 Simulations	Brendan Clark
1:15	Improving the dust cycle modeling in the Community Atmosphere Model (version 6.1)	Longlei Li
1:30	CO ₂ fertilization of terrestrial photosynthesis inferred from site to global scales	Chi Chen
1:45	Modeled hydrometeorological response to extreme soil conditions during the pre-monsoon season in tropical South America	Yelin Jiang
2:00	Global fire intensification by heat waves	Yue Li
2:15	Discussion	
2:30	Adjourn	

Tuesday, February 1

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Time	Topic	Speakers
9:00	Welcome and logistics	<i>Charlie & Peter Moderate</i>
9:05	Fire driven functional biogeography across the tropics	Jacquelyn Shuman
9:20	Forest Management under Climate Change in the Southeastern US, Early Results	Joshua Rady
9:35	Timing Matters: The Potential For Long Term Changes to Forests with Management Delays	Katie Murenbeeld
9:50	Discussion	
10:00	FATES Lightning Talks (5 minutes each)	
	Simulating the effect of moss on soil temperature and carbon fluxes over Alpine tundra - A study using CLM-FATES with large structural uncertainties	Kjetil Aas
	Towards realistic plant hydraulics in the Arctic-Boreal Zone by modelling cold acclimation in CTSM5-Fates hydro	Marius Lambert
	Climate, CO ₂ , and management effects on changes to the Sierra Nevada mixed conifer forest structure and composition	Polly Buotte
	Simulating Prescribed Fire and Ecosystem Response Under a Changing Climate	Rutuja Chitra-Tarak or Adam Atchley
	Evaluation of a Dynamic Nutrient Cycling Ecosystem Model (FATES-ELM) at a Tropical Testbed	Ryan Knox
10:25	FATES Discussion	
10:55	Break	
11:00	CGD Seminar: Planetary Metabolism in the Anthropocene https://www.youtube.com/c/NCARCGD	Matt Long
	Lunch	<i>Gretchen & Ryan Moderate</i>
1:00	Integrating ecology and Earth system models	Emily Kyker-Snowman
1:15	Use of phenocam data in evaluating and improving the community land model	Alison Post
1:30	A NEON Testbed for High-Resolution Climate Assessment	Montasir Maruf
1:45	FATES capabilities at NEON sites - initialization, calibration, and parameter uncertainty	Adrianna Foster
2:00	Running NEON sites with CTSM in a container: Introduction to capabilities and visualisations	Danica Lombardozzi & Negin Sobhani
2:30	Discussion	
2:45	Adjourn	

Wednesday, February 2 *All times are MST

Time	Topic	Speakers
9:00	Welcome and logistics	<i>Jackie & Polly Moderate</i>
9:05	Evaluating a reservoir parameterization in a vector-based global routing model for Earth System Model coupling.	Inne Vanderkelen
9:20	Development and evaluation of a new irrigation scheme in the Community Land Model	Yi Yao
9:35	Moving complex land-surface models towards actionable science: A novel application of the Community Terrestrial Systems Model across Alaska and the Yukon River Basin	Yifan Cheng
9:50	Comparing Earth System Models under drastic land cover and land management changes for their effects on biogeophysics	Steven De Hertog
10:05	The kids aren't alright	Wim Thiery
10:20	Discussion	
10:40	Break	
10:45	Virtual Coffee Break	
11:10	Land Use and More Lightning Talks (5 minutes each)	
	Parameters matter - improving soil and air temperature representation in an Arctic RCM using improved vegetation and soil boundary parameters	Heidrun Matthes
	Do extreme precipitation events alleviate drought and fire weather conditions?	Danielle Touma
	Weakening of land-use change driven cooling in a warming climate	Arshdeep Singh
	Integrating LCLM feedbacks into climate models: an emulator approach	Shruti Nath
11:30	Land Use and More Discussion	
12:00	Lunch	
1:00	New Model Features Lightning Talks (5 minutes each)	<i>Abby & Will Moderate</i>
	Leveraging Community Consensus to Assess Subjective Benchmarking Choices	Nathan Collier
	Adding prescribed sowing dates and maturity criteria to crops in CLM5	Sam Rabin
	Implementing CLM-NEON simulation tool in the classroom	Sanjiv Kumar
	Reach-based river model for CTSM - recent progress	Naoki Mizukami
	Update on hillslope hydrology	Sean Swenson
1:30	New Model Features Discussion	
2:00	Adjourn	

Thursday, February 3

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Time	Topic	Speakers
9:00	Welcome and logistics	<i>Danica & Adrianna Moderate</i>
9:05	On the role of intraspecific variability of plant hydraulic traits to model plant water use strategies at two forested sites in Europe	Cesar Dionisio Jimenez-Rodriguez
9:20	Understanding local urban climate change at a large scale using CESM/CLMU	Lei Zhao
9:35	Canopy temperatures in a warming world: do models capture observed dynamics?	Chris Still
9:50	Importance of diffuse radiation fertilization effect for accurately modeling gross primary productivity and global terrestrial evapotranspiration	TC Chakraborty
10:05	Break	
10:20	Atmospheric Feedbacks Mediate Plant Traits' Influence on Land Surface Fluxes	Claire Zarakas
10:35	Understanding responses of summer continental daily temperature variance to perturbations in the land surface evaporative resistance	Wenwen Kong
10:50	The CLM5 Parameter Perturbation Experiment	Daniel Kennedy, Katie Dagon, Dave Lawrence
11:20	Discussion	
12:00	Adjourn	