



LAND MODEL/BIOGEOCHEMISTRY 2025 WINTER WORKING GROUP MEETING

Monday, February 24th

** All times are MST; **Speakers:** please prepare a 12 minute talk and leave 3 min at the end of your slot for questions.*

Time	Topic	Speakers
9:00	Welcome and logistics	
9:05	LMWG Overview and Outlook	Will Wieder
9:30	Discussion	
9:40	Investigating the limited role of land on atmospheric predictability in CESM2	Meg Fowler
10:00	Validation of CESM Land–Atmosphere Coupling Using Observationally Derived Metrics	Nazanin Tavakoli
10:15	How robust are modeled non-local temperature effects of historical land use changes really?	Felix Jäger*
10:30	Discussion	
10:40	Break	
11:10	CGD Seminar -	Susannah Burrows
12:00	Lunch (on your own)	
13:00	Trait-Based Vegetation Optical Properties Impact Future Climate Projections	Renato Braghieri*
13:15	Soil Moisture Depletion Experiments to Study Teleconnections in the Western United States	Lily N. Zhang*
13:30	The underestimated runoff decline to warming in climate models	Hanjun Kim*
13:45	Deriving historical dust emission variability with sedimentary core records using an inverse analysis approach	Danny Leung
14:00	Do Earth System Models misrepresent surface water availability in arid/semi-arid regions?	Isla Simpson
14:20	Discussion	
14:30	Break	
15:00	Photosynthetic responses to changes in plant water use strategy depend on atmospheric feedbacks & modify the magnitude of response to elevated CO ₂	Amy Liu*
15:15	Robust Impacts of Land Use Land Cover Change on Regional Precipitation	Montasir Maruf*
15:30	Stem heat storage in broad-leaved forests: modeling using ground lidar, and its role in the energy balance closure	Martin Beland*
15:45	The Chemistry–Climate Biogeophysical Response to Tree Restoration	Robert Allen
16:00	Thoughts on modeling plant canopies: Insights from the Canopy Horizontal Array Turbulence Study (CHATS)	Gordon Bonan
16:20	Discussion & Adjourn	

Tuesday, February 25th

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Time	Topic	Speakers
8:55	Welcome and logistics	
9:00	FATES Land use change and model initialization updates	Charlie Koven
9:20	FATES-SP Calibration at NEON tundra sites	Katya Jay
9:35	Model validation and sensitivity analysis on tropical dry forest response to nutrient fertilization	Shuyue Li
9:50	The Impact of Plant Water Stress and Stomatal Conductance Configurations on Canopy Transpiration in Temperate Needleleaf Evergreen Trees	Zhiyi Zhou
10:05	Discussion	
10:15	Break	
10:45	Overlooking plant physiological processes in land surface models: how lumping tree species across scales undermine key information of forest functioning under stress	Cesar Jimenez-Rodriguez*
11:00	Enhancing Global-scale Urban Land Cover Representation Using Local Climate Zones in the Community Earth System Model	Yuan Sun*
11:15	Large-scale Agrivoltaics Provide a Sustainable Solution for the Food-Energy-Water Nexus in the Midwestern United States	Mengqi Jia*
11:30	Simulating impacts of cropland management on heat extreme exposures	Marian Hsieh
11:45	Discussion	
12:00	Lunch (on your own + optional discussion in Damon Room)	
13:30	Improving land model simulation of natural streamflow through sensitivity analysis and parameter optimization	Ahmed Elkouk*
13:45	Sparse data and explainable machine learning to evaluate Earth System Models	Abby Shaum*
14:00	Understanding the role of different parameterizations and parameters in calculating evapotranspiration: Insights from 140 flux towers.	Ignacio Aguirre Belmar
14:15	Discussion	
14:25	Break	
14:45	Leveraging the CLM5 PPE to Select Parameters for a Coupled CESM PPE	Ben Buchovecky
15:00	Parameter Perturbation Shows the Importance of Functional Diversity in Moderating Ecosystem Biogeochemistry	Evan Margiotta
15:15	Tuning CLM6	Linnia Hawkins
15:35	Discussion	
15:45	Break	

16:00	Tracers in river model - concept, implementation, and example run	Naoki Mizukami
16:15	Embracing your Inner Research Software Engineer (RSE); Working Together with CTSM RSE's to improve CTSM Science	Erik Kluzek
16:30	"Off-Off"-line Testing of Your Model: Why and How you Should Do it	Adrianna Foster
16:45	CUPiD updates for CESM and the LMWG	Teagan King, Mike Levy, others
17:05	Discussion	
17:15	Adjourn	

Wednesday, February 26th

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Time	Topic	Speakers
8:55	Welcome and logistics	
9:00	Evaluating carbon dioxide removal approaches in integrated assessment models	Scott Doney*
9:15	The constraint of denitrification and nitrogen leaching fluxes in the CLM	Jinmu Luo*
9:30	Evaluating Responses of CO2 Fertilization on Volcanically Active Tropical Ecosystems	Lianlei Fu*
9:45	Modeling Terrestrial Mercury Dynamics with SiBCASA: Implications for the Earth System	Christine Olson
10:00	Assessing the influence of soil biogeochemistry on reproducing land carbon stocks in response to an interactive global change experiment	Katie Rocci
10:15	Discussion	
10:25	Break	
11:00	Emissions-Driven CESM for Investigating Carbon and Climate Responses to Historical and Future Scenarios	Peter Lawrence
11:15	First results from CESM-HOPE	Nikki Lovenduski
11:30	Land carbon sinks under zero emissions and decarbonization	Abby Swann
11:45	Tracking the imprint and impact of spatiotemporal variability of emissions	Gretchen Keppel-Aleks
12:00	Discussion	
12:15	Lunch (on your own)	
13:30	Optional: Tutorial on emission driven simulations. Available for in person participants only	