



Community Earth
System Model

**Land Model and Biogeochemistry
Winter Working Group Meetings
February 24–26 2026**

Tuesday, February 24, Mesa Lab Main Seminar Room

** 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	Will Wieder
9:05	CESM cross working group session (NCAR extremes group) CESM workshop, Boulder, June 15-17, 2026 Session abstract Storytelling to craft climate science tools for communities	Laura Landrum
9:10	Land carbon response to zero and negative emissions across Earth system models	Abby Swann
9:25	Tracking Shifts and Uncertainty in Global Climate Space	Adrianna Foster
9:40	Addressing Snowmelt Biases over Glacier National Park in a Variable-Resolution Configuration of CESM	Kyle Nardi
9:55	Unpacking the potential: How proposed reforestation scenarios shape global and regional temperature (remote)	Nora Fahrenbach
10:10	Discussion	
10:20	Break	
10:50	A Multivariate, Multiscale Calibration Framework for Managed Croplands (remote)	Ruparati Chakraborti
11:05	Development of Individual Crop Responses to Increased Ozone Exposure	Will Selvidge
11:20	Crop Model Performance and Projections in the Newly-Updated Community Land Model (CLM) Version 6	Sam Rabin
11:35	CLM overview	Will Wieder
11:55	Discussion	
12:10	Lunch (on your own)	
1:15	Soil moisture anomalies in the US may have affected the 2003 European drought	Jerry Meehl
1:30	Diagnosing Biases in Soil Moisture–Evaporation Coupling Metrics in Earth System Models using Covariance Discriminant Analysis	Nazanin Tavakoli
1:45	Evaluating Drivers of Evapotranspiration Using a Coupled Perturbed Parameter Ensemble	Ben Buchovecky
2:00	Functional diversity in land surface modeling: where and when does it matter for the terrestrial carbon cycle?	Evan Margiotta

2:15	Regional carbon cycle responses to El Nino in CMIP6	Gretchen Keppel-Aleks
2:30	Discussion	
2:40	Break	
3:10	Beyond Stomatal Conductance: Mechanistic Mesophyll Modeling to Resolve Global GPP, Carbon Isotope, and Water Use Efficiency (WUE) Dynamics	Ying Sun
3:25	How stomatal function shapes evapotranspiration in a rising CO2 world	Amy Liu
3:40	Evaluating C4 Photosynthesis Representation at NEON Grassland Sites Using the Community Land Model	Rachel Hallmark
3:55	Multi-site calibrations of CLM6 for water and carbon fluxes – emergence of parameter coherence (remote)	Thomas Kavoo
4:10	Evaluation of different calibration methods using land surface models across 124 flux towers: machine-learning-based emulator vs. traditional methods (remote)	Ignacio Aguirre
4:40	Discussion	
4:45	Adjourn	

Wednesday, February 25, Mesa Lab Main Seminar Room

* 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	Will Wieder
9:05	Learning Urban Climate Dynamics via Physics-Guided Urban Surface-Atmosphere Interactions (remote)	Jiyang Xia
9:20	Local Urban Climate-Aware HVAC Control via Reinforcement Learning (remote)	Junjie Yu
9:35	Advancing CLMU for regional urban climate simulations through WRF coupling: intercomparison with NOAA-SLUCM (remote)	Yuan Sun
9:50	Understanding forest responses to stress using a demographic vegetation model in European Mesic forests (remote)	Cesar Dionisio Jimenez-Rodriguez
10:05	Assessing the leverage of regeneration on forest demography with the FATES Tree Recruitment Scheme	Rachel Ward
10:20	Discussion	
10:30	Break	
11:00	Representing prescribed fire and mechanical thinning in a demographic vegetation model: mechanisms driving forest structure, fuel, and demographic rates in Sierra mixed-conifer forests	Xiulin Gao
11:15	Global Historical Scenarios with ELM-FATES	Charlie Koven
11:30	FATES overview and discussion	Adrianna Foster
11:50	Additional Discussion	
12:00	Lunch (on your own with optional discussion on Workplace Culture and Well-being led by Sam Levis in the Chapman room)	
1:10	Update on Fully Coupling mizuRoute with CESM3	Naoki Mizukami
1:25	Update on hillslope hydrology	Sean Swenson
1:40	Science opportunities and software engineering needs of the CLM-ml multilayer canopy	Gordon Bonan
1:55	Neurosymbolic Translation Pipeline of CLM-ml to JAX (remote)	Aya Lahlou
2:10	Comparing Multiple Stomatal Conductance Models in Multilayer Canopy Simulations	Zhiyi Zhou
2:25	Discussion	
2:30	Break	
3:00	Advancing Integrated Hydrological-Crop-Irrigation Systems Modeling using CLM5	Aman Shrestha
3:15	Assessing the Implication of Mineral Adsorption and Microbial Function Composition on Soil Carbon Emissions Across the CONUS: An integrated AI/ML and the Community Land Model (CLM5.0)	Yang Song

	parameterization (remote)	
3:30	Physics-Informed Neural Networks (PINNs) to improve biological reality of machine-learning-based models of the soil CO ₂ flux in subalpine forests	Yujie Liu
3:45	Shrinking snowpacks and microbial phenology: Exposing knowledge gaps under the snow	Will Wieder
4:00	Exploring carbon cycle dynamics in an observationally constrained CLM6 PPE	Linnia Hawkins
4:10	Discussion	
4:30	Adjourn	

Thursday, February 26, Mesa Lab Main Seminar room

* 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	Will Wieder
9:05	Updates ocean biogeochemistry in CESM3	Kristen Krumhardt
9:20	Source or Sink? Solar Radiation Management and Future Ocean Carbon Uptake	Holly Olivarez
9:35	Comparative ability of soil biogeochemical sub-models in predicting land carbon responses to a climate change experiment	Katie Rocci
9:50	Modeling Volcanic Ash Impacts of the 2010 Eyjafjallajökull Eruption (remote)	Lily Wu
10:05	Global Model Estimates of Atmospheric Al, Ca, Fe, Si, and Ti from Dust and Non-Dust Aerosols Informed by EMIT Surface Mineralogy and Evaluated Against Observations (remote)	Natalie Mahowald
10:20	Discussion	
10:30	Break	
11:00	CGD Seminar CLM-FATES a new terrestrial vegetation scheme for the Norwegian Earth System Model, v3	Rosie Fisher
12:00	Lunch (on your own)	
1:00	CUPID Tutorial, Part 1	Mike Levy & Will Wieder
2:30	Break	
3:00	CUPID Tutorial, Part 2	Mike Levy & Will Wieder
4:30	Discussion	
4:45	Adjourn	