CESM Land Model / Biogeochemistry Model
WINTER WORKING GROUP MEETING
February 6-8 2023

Monday, February 6
*All times are MST; **Speakers**: please prepare a 10 minute talk and leave 5 min at the end of your slot for questions.*

Time	Topic	Speakers
Mesa Lab Main Seminar Room & Hybrid		
8:30	**Welcome and logistics**	
8:35	LMWG Overview & Discussion	Will Wieder
	Hydrology	
9:00	Climate impacts on Alaska and Yukon hydrometeorology: a modeling effort guided by Indigenous Knowledge	Yifan Cheng
9:15	Evaluation of WRF-CTSM with the Hillslope Hydrology Configuration	Iris Mužić
9:45	Improving the hydrological performance of CTSM through parameter optimization and large-sample watershed modeling	Guoqiang Tang
10:00	Impact of parameters on runoff sensitivities in CLM	Ahmed Elkouk
10:15	Lake modeling in mizuRoute coupled with CTSM	Naoki Mizukami
10:30	**Break**	
	Datasets and observations	
11:00	CTSM5.2 datasets, workflow and expected changes	Sam Levis, Peter Lawrence
11:20	Improvements in the ILAMB Scoring Methodology	Nathan Collier
11:35	Extreme heat impacts on forest ecosystems	Chris Still
11:50	Using the CLM 5.0 to detect canopy stress patterns in a temperate mixed forest at Weierbach catchment, Luxembourg	Cesar Dionisio Jimenez Rodriguez
12:05	Assessing the Performance of CTSM in Simulating Arctic Permafrost and its Sensitivity to Atmospheric Forcings and Soil Properties	Adrien Damseaux
12:20	**Lunch (on your own)**	
	Land-Atmosphere Exchange	
13:30	A global discrepancy between modelled and observed atmospheric water vapor trends over arid/semi-arid regions.	Isla Simpson
13:45	Improving the desert dust emission representation in CLM5	Danny Leung
14:00	Modeling the effects of subgrid surface heterogeneity on the atmosphere in CESM	Meg Fowler
14:15	Simple Land Model Software as a New Component for CESM	Erik Kluzek
14:30	The effect of forest in dampening the diurnal cycle on land-atmosphere interaction	Yi-Shin Jang

14:45	**Break**	
	Vegetation	
15:15	Improving the ozone damage parameterization in CLM5	Jyoti Singh
15:30	Characterizing leaf phenology of different vegetation types from local to hemispheric scale in the CLM	Xiaolu Li
15:45	Modelling leaf phenology response under climate change	Aya Lahlou
16:00	Testing the CLM-ml multilayer canopy model at a walnut orchard	Gordon Bonan
16:15	**Discussion**	
16:30	*Adjourn*	

Tuesday, February 7
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Time	Topic	Speakers
	Mesa Lab Main Seminar Room & Hybrid	
	FATES	
8:30	FATES round-up and update	Jacquelyn Shuman
8:45	Data-driven approach to represent multiple plant functional types across the wet and dry tropics with FATES	Marcos Longo
9:00	Global Calibration of Demographic Rates and Forest Structure in FATES	Jessica Needham
9:15	Nutrient Dynamics in a Terrestrial Biosphere Model FATES-ELM	Ryan Knox
9:30	The effects of forest management and climate on southern pine plantations over the 21st century in CLM-FATES	Joshua Rady
9:45	Understand ecosystem dynamics and fire regime in California annual grasslands in CLM-FATES	Xiulin Gao
10:00	Using CLM-FATES in the voluntary carbon market	Polly Buotte
10:15	CLM-FATES modelling made easy: the NorESM Land Sites Platform	Eva Lieungh & Lasse T. Keetz
10:30	**Break**	
	Parameter Uncertainty and Calibration	
	CGD Seminar *Mesa Lab Main Seminar Room & Hybrid*	
11:00	**CGD Seminar** - The CLM5 Parameter Perturbation Experiment Youtube link: https://www.youtube.com/c/NCARCGD Questions on Slido.com	Katie Dagon and Daniel Kennedy
12:00	**Lunch (on your own)**	

	Mesa Lab Main Seminar Room & Hybrid	
	Parameter Uncertainty & Calibration + NEON & Single Point	
13:00	Land Parameter Uncertainty Impacts the Mean Climate State	Claire Zarakas
13:15	Scaling up: Can point scale calibration using NEON data improve coupled carbon-water cycle in CLM at a regional scale?	Thomas M. Kavoo
13:30	A NEON Testbed for High Resolution Climate Data Assessment	Montasir Maruf
13:45	PRISM Precipitation: A New NEON/CTSM Data Stream	Teagan King
14:00	Topographic heterogeneity and aspect moderate exposure to climate change across an alpine tundra hillslope gradient	Katya Jay
14:15	Systematic Land Model Calibration	Linnia Hawkins
14:30	**Break**	
	Crop Model	
15:00	Effects of observation-based crop calendars on crop yield and irrigation	Sam Rabin
15:15	Introducing CLM5-FruitTree to model deciduous fruit orchards in CLM5	Olga Dombrowski
15:30	Did the reindeer eat all the shrubs? – Mimicking Arctic big grazers in CLM	Heidrun Matthes
15:45	Impacts of Cropland Intensification on Global Climate	Marian Hsieh
	Urban Model	
16:00	Climate-driven urban humid heat exposure and cooling challenges	Joyce Yang
16:15	Elevated Urban Energy Risks due to Climate-driven Biophysical Feedbacks	Xinchang Li
16:30	Investigating the Direct and Indirect Impacts of Global Urban Expansion on Future Climate Using a Dynamic Urban Scheme	Keer Zhang
16:45	*Discussion*	
17:00	*ADJOURN*	

CESM Land Model / Biogeochemistry Model
Wednesday, February 8
*All times are MST; **Speakers**: please leave 5 min at the end of your slot for questions.*

Time	Topic	Speakers
	Mesa Lab Main Seminar Room & Hybrid	
	Land Biogeochemistry	
8:30	Welcome	Co-Chairs
8:35	Quantifying the Influence of Plant Stomatal Behavior on Photosynthesis in the Amazon	Amy Liu
8:50	A long-term contiguous vegetation index product	Pierre Gentine
9:05	Flexible foliar stoichiometry reduces the magnitude of the land C sink	Emma Hauser
9:20	Land Surface Impacts from a Plausible Global Forestation Scenario	James A. King
9:35	Exploration of a novel carbon dioxide removal option: lighting up tropical forests at night	Xueyuan Gao
9:50	**Break**	
10:20	Much of the zero emissions commitment occurs before reaching net zero emissions	Charlie Koven
10:35	Temperature response of nitrogen fixation: A model intercomparison project incorporating physiological measurements into land models	Thomas Bytnerowicz
10:50	Advancing Understanding of Plant-Drought Responses in North American Ecosystems using Carbon Isotopic Discrimination in the Simple Biosphere Model	Aleya Kaushik
11:05	Responses of ecosystem productivity to aerosols across India: a double-edged sword in climate change	Manoj Hari
11:20	Fast Spin Up of Components of an Earth System Model	Keith Lindsay
11:35	Simulating terrestrial DOC production and export with CTSM	Marius Lambert
11:50	Discussion	
12:00	**Lunch (on your own)**	