Field to Model WORKSHOP

An intro to the **E3SM Land Model** for experimentalists

October 17-19 • Doubletree Hotel • Chattanooga, TN

Agenda:

Portions available virtually are highlighted in green. All times are U.S. Eastern Time.

Day 1 (Monday, October 17)

8:00 am	Coffee and greetings, check everyone has the necessary downloads in place from the homework assignment	
9:00 am	Welcome and introduction to workshop goals	Shawn
9:10 am	Introduction to ELM: Land surface models, ELM model structure, steps in a model simulation	Ben
9:30 am	Introduction to the Offline Land Model Testbed (OLMT)	Dan Ricciuto
9:45 am	Introduction to Docker and containers	Shawn
10:00 am	Hands on demo: Running a quick-start ELM simulation in Docker	Shawn, Ben, Fengming
10:30 am	Break (while model performs intermediate simulations)	
11:00 am	Hands-on demo: Plotting model output using Jupyter notebooks	Shawn, Ben, Fengming
12:00 pm	Working lunch: Troubleshoot participant model runs and answer questions in small groups	
1:00 pm	Introduction to Arctic-relevant processes and parameters in ELM (vegetation, biogeochemistry, and hydrology)	Ben and Chuck
1:30 pm	ELM parameters Hands on demo: Restarting a transient run and changing parameter value	Fengming
2:00 pm	Breakout groups: Brainstorm model simulations testing science questions with input from organizers	
3:00 pm	Break	
3:30 pm	Report back from breakout groups. Discuss model simulation plans from each group	
4:30 pm	Summary and adjourn for the day	

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Day 2 (Tuesday, October 18)

8:00 am	Coffee and greetings	
9:00 am	Welcome and recap of Day 1	Shawn, Ben
9:15 am	Input data: what does the model need and at what scale?	Fengming & Ben
9:45 am	Start running model simulations in groups, with troubleshooting help from organizers	
10:15 am	Break	
10:30 am	Continue running and troubleshooting model simulations	
11:30 am	Plenary: Success and challenges from model runs	
12:00 pm	Working lunch: Brainstorm model-data comparison strategies and opportunities	
1:00 pm	Breakout groups: Plotting model outputs and troubleshooting simulations	
2:00 pm	Plenary: Report results from groups. Discuss results and challenges	
3:00 pm	Break	
3:30 pm	Discuss model-data integration strategies based on model runs so far	
4:00 pm	Leveraging novel NGEE-Arctic spatial datasets for ELM initialization, calibration, and evaluation	Shawn
4:15 pm	Strategies for evaluating ELM sub/surface hydrology and testing hypotheses with a containerized model	Rich, Chuck, Katrina
4:30 pm	Summary and adjourn for the day	

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Day 3 (Wednesday, October 19)

8:00 am	Coffee and greetings	
9:00 am	Welcome and recap of Day 2	Shawn, Ben
9:15 am	Brainstorm organizing future/continuing activities (continuing model simulations, model-data integrations, working groups, potential manuscripts, adapting to other ESS projects)	
10:15 am	Break	
10:45 am	Discuss the workshop experience: Success, challenges, what we learned, how to improve, future plans	
11:30 am	Adjourn	