Community Land Model (CLM) Tutorial
NCAR Mesa Lab, Boulder, CO
Nov 16-19, 2026

Mesa Lab Seminar Room

Daily 8:15am -4:45 pm.

Topical Lectures - 45 minutes (30min presentation + 15min questions)
Specialized Lectures - 30 minutes (20min presentation + 10min questions)

Practical Labs:

- Day1, CLM basics (compsets, including FATES):	Morning 45 min +	afternoon 85 min
- Day2, Modifying your experimental design:	Morning 85 min +	afternoon 120 min
- Day3, Single point (supported towers & more):	Morning 75 min +	afternoon 115 min
- Day4, Diagnostics lab:		afternoon 120 min

The overarching goal of the tutorial is to introduce the science and practice of using CLM as a research tool. Lecture and practicals aim to link science, model assumptions or hypotheses, and code structure.

As a result of attending the CLM Tutorial, attendees will:
• Gain a foundational scientific understanding of CLM and its features.
• Be able to run and modify the model and use the output.
• Have opportunities to network with peers and CLM scientists.
• Attain an understanding of High Performance Computing (HPC) needed for CLM.
• Perceive the tutorials to be an inclusive learning environment.

Key resources:
- 2026 CLM tutorial event page
- Presentations
- Practical guide

Monday, Nov 16

8:15-8:30 Welcome, Intro & Logistics (*Will Wieder & Sam Levis*)
8:30-9:15 CESM overview and intro to land modeling (*Dave Lawrence*)
9:15-9:30 Break (coffee)
9:30-10:15 Land Modeling I: Biogeophysics (*Will Wieder*)
10:15-10:30 Break (light snacks)
10:30-11:00 NCAR HPC environment (*Brett Neuman*)
11:00-11:15 Intro to Lab: Basics of CLM (*Will Wieder & Sam Levis*)
11:15-12:00 Lab exercises (**Library**) Prerequisites for success and Basics (including CTSM Workflow)

12:00-1:15 Lunch on your own + activities (**Cafeteria**)

1:15-2:00 Land Modeling II: Biogeochemistry/ecosystems (*Adrianna Foster*)
2:00-2:15 Break
2:15-2:45 Github and CLM resources (*Erik Kluzek*)
2:45-2:55 Lab exercise check in (*Will Wieder & Sam Levis*)
2:55-4:20 Lab exercises (**Library**) Your first CLM run
4:25-4:35 Daily debrief
4:45 Adjourn

Tuesday, Nov 17

8:25-8:30 Daily logistics
8:30-9:15 Hillslope Hydrology (+snow & general hydrology intro) (*Sean Swenson*)
9:15-9:30 Break (coffee)
9:30-10:00 Lake and River (*Naoki Mizukami*)
10:00-10:15 Break (snacks)
10:15-10:30 Intro to Lab: Modifying your experimental design XML & namelist changes (*Adrianna Foster*)
10:30-12:00 Lab exercises (**Library**)

12:00-1:15 Lunch on your own + activities

- 12:15-1:00: Meet an expert (**Breakout rooms to be assigned**, *Will Wieder, Adrianna Foster, Sean Swenson, Erik Kluzek*)

1:15-1:45 CLM Urban Model (CLM-U) (*Keith Oleson*)
1:45-2:00 Break
2:00-2:20 Lab exercises check in
2:20-4:20 Lab exercises (**Library**)
4:25-4:35 Daily debrief
4:45 Adjourn
6:00 Optional Tutorial Dinner @ Avanti (or another location TBD)

Wednesday, Nov 18

8:25-8:30 Daily logistics
8:30-9:15 Spinup and Data assimilation (*Daniel Kennedy* & Brett Raczka**)
9:15-9:30 Break (coffee + snack)
9:30-10:15 Machine Learning for Land Modeling (*Linnia Hawkins & Katie Dagon*)
10:15-10:30 Break (snacks)
10:30-10:45 Intro to Lab: Single point (*Sam Rabin*)
10:45-12:00 Lab exercises (**Library**)

12:00-1:15 Lunch on your own + activities

- 12:00-1:00: ML Public tour (Meet at noon **front door**)
- 12:15-1:00: Meet an expert (**Breakout rooms to be assigned**, *Dave Lawrence, Linnia Hawkins, Sam Rabin, Katie Dagon, Sam Levis*)

1:15-2:00 Fire, MEGAN, Dust, Ozone (*Sam Rabin & Danica Lombardozzi*)
2:00-2:15 Break
2:15-2:25 Lab exercises check in
2:25-4:20 Lab exercises (**Library**)
4:25-4:35 Daily debrief
4:45 Adjourn

Thursday, Nov 19

8:25-8:30 Daily logistics
8:30-9:15 CLM-FATES global implementation: opportunities and plans (*Rosie Fisher**)
9:15-9:30 Break (Group photo)
9:30-10:15 Crop model, LULCC (including FATES) (*Danica Lombardozzi & Greg* / Ryan**)
10:15-10:30 LMWG engagement (*Will & Erik*)
10:30-11:00 Break (CGD Social)
11:00-12:00 CGD Exchange (*Will Wieder & Jessie Needham**)

12:00-1:15 Lunch on your own

1:15-1:45 Why do we model? (*Gordon Bonan*)
1:45-2:00 Break
2:00-2:20 Intro to Lab: Diagnostics (*Sam Levis*)
2:20-4:20 Lab exercises (**Library**)
4:25-4:35 Wrapup
4:45 Adjourn