



Forest Carbon Codefest - March 12-14, 2024 Agenda

Challenge: Forests have the potential to regulate a changing climate through uptake of carbon dioxide. However, this function is being compromised by increasing wildfires and other disturbances, particularly in the western U.S. The goal of the Forest Carbon Codefest is for teams to use cyberinfrastructure and a curated set of data to define their own scientific questions that advance our understanding of aboveground forest carbon dynamics as they relate to forest disturbance. Teams will then collaboratively answer that question in the form of a fully open, reproducible, and complete code script. Available datasets will include remotely sensed data covering the Southern Rocky Mountains ecoregion from active and passive sensors, geospatial data on land management legacies and disturbance events, and more.

Examples of potential research questions include: How does spatial and temporal scale of disturbance impact aboveground forest carbon in both the short and long term? How do interactions between multiple disturbances impact forest carbon recovery trajectories? How do disturbances drive ecosystem transformations, and how can we best model the impacts of future transformations on aboveground carbon stocks? What are the ways in which we may best improve aboveground carbon datasets and models?

At the end of the event, projects will be judged by the participant community and facilitation team, with a prize awarded to each member of the winning team.

Objectives: The objectives of the codefest are to:

- Promote inclusion and scientific innovation
- Establish new collaborations to promote community building and knowledge exchange
- Provide training on Environmental Data Science and data-intensive forest carbon research
- Create purposeful playtime for exploration and evaluation of compiled forest carbon and disturbance data through ESIL cyberinfrastructure
- Provide space and structure for collaborative, data-driven science from ideation through to a finished analysis or product

Participants & Facilitation Team: See bottom of agenda for full list of participants and facilitation team

March 12 (Tuesday): Day 1 (9am-3pm)

8:30am: [*SEEC S372, Optional*] Morning snacks & coffee available

9:00am: [*SEEC S372, Whole group*] Welcome!

- Different ways of knowing
- Logistics
- Project evaluation & documentation

9:30am: [*Various locations, Teams*] Team time

- Get to know each other in person, establish team norms
- Explore the available data and begin refining research ideas from virtual event
- Bring back a draft research question to present at lunch

Noon: [*SEEC S372, Whole group*] Lunch provided

- 12:30-1:15: Presentations on forest carbon perspectives
 - *Max Joseph: Planet's Forest Carbon Diligence products and perspectives from a commercial data provider*
 - *Sarah Hart: Forest Ecology & Disturbance*
 - *Ashley Woolman: Colorado Forest Carbon Inventory*

1:15pm: [*Various locations, Teams*] Team time

2:45pm: [*SEEC S372, Whole group*] Wrap up

3-5pm: Flex time to spend as your team has decided based on team norms

6pm: [*Optional*] Dinner at Avanti in Boulder (food hall in Boulder)

March 13 (Wednesday): Day 2 (9am-3pm)

8:30am: [*SEEC S372, Optional*] Morning snacks & coffee available

9:00am: [*SEEC S372, Whole group*] Welcome back

9:10am: [*Various locations, Teams*] Team time

Noon: [*SEEC S228, Whole group*] Lunch provided

- 12:30-1: Presentations on forest carbon perspectives
 - *Alex Vierod: The role of remote sensing in the voluntary carbon market*
 - *Nayani Ilangakoon: Beyond the Burn: Rethinking Recovery Metrics in the Age of Remote Sensing*

1pm: [*Various locations, Teams*] Team time

2:45pm: [*SEEC S372, Whole group*] Wrap up

3-5pm: Flex time to spend as your team has decided based on team norms

6pm: [*Optional*] Dinner at Rosetta Hall (food hall in Boulder)

March 14 (Thursday): Day 3 (9am-1pm)

8:30am: [*SEEC S228, Optional*] Morning snacks & coffee available

9:00am: [*SEEC S228, Whole group*] Any final questions?

9:05am: [*Various locations, Teams*] Team time

- Finalize your products!

9:50am: PRESENTATIONS & REPOS DUE [*SEEC S228, Whole group*] Come back together

- Ensure that all code and products are finished and pushed

10:00am: [*SEEC S228, Whole group*] Presentations & community evaluation

Noon: [*SEEC S228, Whole group*] Wrapping up

12:30pm: [*SEEC S228, Whole group*] Close

Participant list

First name	Last name	Email	Team
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Facilitation team

FIRST	LAST	EMAIL	POSITION	ROLE	PRIMARY CODING LANGUAGE
Jennifer	Balch	jennifer.balch@colorado.edu	ESIIL Director	Facilitator	n/a
Min	Chung	mingon.chung@colorado.edu	Postdoc	Coding, data, and CI resource	R
Max	Cook	maxwell.cook@colorado.edu	Graduate student	Coding and data resource	R & Python
Katie	Ellis	kael1099@colorado.edu	Undergraduate research assistant	Logistics resource	n/a
Nayani	Ilangakoon	ginikanda.ilangakoon@colorado.edu	Earth Lab Postdoctoral Associate	Facilitator, coding and data resource	R & Python
Nathan	Korinek	nathan.korinek@colorado.edu	Graduate student	Coding and data resource	Python
Tyler	McIntosh	tyler.l.mcintosh@colorado.edu	Earth Lab Forest Disturbance Project	Facilitator, coding, data, and CI resource	R

			Manager		
Ming	Posa	ming.posa@colorado.edu	ESIIL Executive Assistant	Logistics resource	n/a
Ty	Tuff	ty.tuff@colorado.edu	Earth Lab / ESIIL Data Scientist	Coding, data, and CI resource	R
Erick	Verleye	erick.verleye@colorado.edu	Earth Lab / ESIIL Software Developer	Coding and CI resource	Python
Carol	Wessman	carol.wessman@colorado.edu	Professor Emeritus, CU Boulder	Facilitator	n/a