

Meeting 1: SESYNC Soil as a Social-Ecological Feedback Inaugural Meeting

Overarching goal: Overall, the modeling and synthesis activities proposed in this project will **improve our understanding of the complex processes** that are in place at human institutional as well as diverse spatial scales, which are **impacting soil health** and encouraging (or, in some instances, discouraging) **adoption of conservation practices across the United States**.

Meeting 1: During the first meeting, emphasis will be on initial group collaboration, and providing feedback on and revisions to the SEM modeling effort (**a beta version will be developed prior to the meeting so we have something to work with**). The team will initially discuss whether we have all the requisite datasets, and assess whether model construction, model design and framework adequately represent the relationships of interest as we tease out this notion of soil acting as a social-ecological feedback loop.

DAY ONE: BIG PICTURE AND TEAM BUILDING

9am-10:30am: (Session One) Outline rest of the day and get into team-building activities
(Facilitators: Gabrielle and Andrea)

Goal: Introductions and set expectations for the meeting

10:30am-10:45am: Morning Break

10:45am-12:30pm: (Session Two) (Project overview (Facilitated by: PI's)

Goal: Overview of the project, discussion of goals

12:30pm-1:30pm: Lunch provided by SESYNC

1:30pm-3:30pm: (Session Three) Toolbox activity (Facilitated by Nicole Motzer)

Goal: Get to know each other, break down disciplinary walls, explore working epistemologies and working definitions, identify problem statement and conceptual mapping of soil as a SES Feedback

3:30pm-3:45pm: Break

3:45pm-5pm: (Session Three) Continue with Toolbox activities (Facilitated by Nicole Motzer)

Goal: Develop individual and group conceptual mapping of soil as a SES Feedback and foreshadow the conceptual framework and variables we are using to shape our modeling work.

Optional- 6:30pm: Dinner

DAY TWO: MODELING

9am-10:30am: (Session Four) Discuss conceptual framework using concept mapping exercise and original Conceptual Framework developed for the proposal, build off of conversation from yesterday (Facilitators: Erich and Gabrielle.)

Goal: Deepen conceptual framework discussion from yesterday, settle on good working model to inform SEM

10:30am-10:45am: Break

10:45am-12:30pm:(Session Five) Modeling Tools and Data: Explore modeling options and techniques, also explore data management tools (Facilitators: Erich and SESYNC)

Goal: Explore modeling techniques and options; Discuss portal, software, tools, website, how will we work together in online environment

12:30pm-1:30pm: Lunch

1:30pm-3:30pm: (Session Six) Advisory Group meeting: (Facilitator: Andrea Basche)

Goal: Introductions of team to advisory group, discussion of actionable science resulting from the project

3:30pm-3:45pm: Break

3:45pm-4:45pm: (Session Seven) Beta version of Structural Equation Model (Facilitators: Erich and Gabrielle)

Goal: Run beta model and go over SEM as a tool, discuss methodology, explore benefits, challenges, and other options for modeling

4:45pm-5:15pm: Parking lot issues and check-in before last day (Facilitator: Gabrielle)

Optional- 6:30pm-8pm: (Session Eight) Group Event (TBD)

DAY THREE: WORKING GROUPS

9am-10:30am: (Session Nine) Big picture vision of the project and planned outputs (All PI's contribute)

Goal: Discuss outputs and working group process, group buy-in, group process for staying engaged, timeline, roles, and expectations

- Review:
 - Modeling
 - Meta- review
 - Story Map
 - Policy/Ed Briefs
- Team operational logistics (how will we get it done): *Using the website and slack (virtual meeting options)*
- Setting roles/expectations for how we are going to work together

10:30am-10:45am: Break

10:45am-12:30pm: (Session ten) Break-out sessions: Discuss working group concept, workload, visual timeline (All PI's)

Goal: Get some work done on the different aspects of project, consolidate working groups

- Charlene Brooks on travel reimbursement from SESYNC
- Discuss the topics/foci for the breakout groups- (Gabrielle lead)
 - Meta Review
 - Modeling- methods and data
 - Modeling- relationships and theory

Groups can be modified as we revise our process and folks should feel free to self-select

Soil Health Meta Review

Andrea Basche (lead PI)

Stefan Gailans

Dave Huggins

Jen Moore-Kucera

Stephen Machado

Kate Tully

Maria (?)

Modeling- Data manipulation and management (methods-based)

Erich Seamon (lead PI)

Nora Alvarez-Berrios
Andrea Basche
Gabrielle RM
Julian Reyes

Modeling- Relationships, variables, conceptual integration (theory-based)

Gabrielle Roesch-McNally (lead PI)
J. Arbuckle
Tabitha Brown
Laura Lengnick
Rachel Schattman
Jen Moore Kucera

Reminders:

- **Between meetings 1 and 2:** Efforts will be made to work on two manuscripts outlined in our pursuit proposal: 1. Meta-review linking soil health outcomes to conservation practices and 2. Summary of the structural equation modeling and spatial analysis based on an integration of multiple factors outlined above. Additionally, during this time, we will work to revise the model based on the group discussion as there may be additional editing that will need to be done. For example, input information from workshop attendees may enable more effective modeling outputs, by including additional datasets, refining modeling parameters, or extending/limiting spatial and/or temporal extents. This engagement will be supported by online team interaction between workshops using collaboration tools (website, social media).
- **Meeting 2:** The second meeting will focus on review and evaluation of modeling results that were refined during Meeting 1 and between meetings; however, the focus will move towards creating the narrative content within the StoryMap structure. We will emphasize the development of a publicly facing website using a Story Map framework which would be used as an online educational and visualization tool. The Story Map also allows for the integration of regional case studies already developed via various conservation networks (e.g., National Association of Conservation District Soil Health Champions and NRCS Soil Health leaders). The StoryMap refinement process will also include identifying differing visualization/data pathways of information for scientists, farmers/practitioners and policymakers, all based on the common SEM modeling output

12:30pm-1:30pm: Working Lunch

1:30pm – 2:30pm: (Session Ten) Reporting back from breakout groups (Facilitator: Andrea)

- Discuss action items/next steps, timeline, leadership roles

2:30pm- 3:30pm: (Session Ten) Get back to break-out groups and keep working

3:30pm-3:45pm: Break

3:45 pm-5:00 pm: (Final Session) Parking lot issues and wrap-up (Facilitator: Gabrielle)

Goal: Debrief full meeting and think about what needs to be changed, consider PI next steps

5:00 pm: Group departs