

USGS Powell Center - Soil Carbon Stabilization Workshop Agenda

I. **Monday** -----

Morning

08:00 to 08:30 - Gather for informal continental breakfast at the Powell Center

08:30 to 09:00 - Welcome from Jill Baron and Leah Colasuonno

09:00 to 10:30 - Overview of workshop

- Authorship and participation
- Agenda overview
- Sub-groups - how and why
- Describe templates for product outline

10:30 to 11:00 - Break

11:00 to 12:00 - Revisit Goals - Orient members to the

- Data synthesis/Data Products
- Conceptual structure of pools
- Methods Recommendations
- Model-data integration

12:00 to 13:30 - Working Lunch (@ Powell Center)

- Update from members on related group activities

Afternoon

13:30 to 15:00 - Group Discussion - Prioritize Questions and Deliverables

15:00 to 15:30 - Break

15:30 to 17:00 - Sub-group Outlines - First meeting to discuss product outlines

17:00 to 17:30 - Debrief (group to discuss thoughts on the process/ progress)

18:30 to 20:00 - Dinner Out

II. **Tuesday** -----

Morning

08:00 to 08:30 - Gather for informal continental breakfast at the Powell Center

08:30 to 10:15 - Group Discussion - Data Synthesis and Database Products

10:15 to 10:30 - Break

10:30 to 12:00 - Sub-group Activity - Database template and entry/discussion

12:00 to 13:30 - Lunch Out

Afternoon

13:30 to 15:30 - Sub-group Outlines

15:30 to 16:30 - Debrief

16:30 to 18:00 - Free time

18:30 to 20:00 - Dinner Out

III. **Wednesday** -----

Morning

08:00 to 08:30 - Gather for informal continental breakfast at the Powell Center

08:30 to 10:30 - Group Discussion - Models and Model Structure

10:30 to 11:00 - Break

11:00 to 12:00 - Sub-Group Outlines

12:00 to 13:30 - Sub-group Activity (Working Lunch)

Afternoon

13:30 to 14:30 - Debrief

14:30 to 15:30 - Free time

15:30 to 20:00 - Field Trip (Brewery Tour & Dinner Out)

IV. Thursday -----

Morning/Afternoon

- 08:00 to 08:30 - Gather for informal continental breakfast at the Powell Center
- 08:30 to 10:30 - Group Discussion - Data Synthesis and Database Products
- 10:30 to 16:30 - Field Trip (Hiking in RMNP!)
- 16:30 to 17:30 - Free time
- 17:30 to 20:00 - Sub-group Outlines (Working Dinner @ Powell Center)

V. Friday -----

Morning

- 08:00 to 08:30 - Gather for informal continental breakfast at the Powell Center
- 08:30 to 09:30 - Group Discussion – What are the next steps?
- 09:30 to 11:00 - Sub-groups (Planning for productivity)
- 11:00 to 13:00 - Final Debrief (Working Lunch)
 - Summarize progress, goals, plans

Translating overarching goals of workshop to problem statements: As much as possible we intend all activities to be problem/product driven. We hope to have outlines for at least 3 products by the end of this first meeting. A first task will be to decide on the working title/problem statement for these products, which will align with the overarching goals of the workshop

Goal 1: Revise our conceptual representation of soil C pools

1. How do we improve agreement of functional vs. measured C pools?
2. Where are the models going with regard to C pool structure? Are our measurements inline?
3. Is there a “nested” approach for characterizing C pools that can provide a more scalable dataset?

Goal 2: Review methodological approaches and make recommendations with broad applicability, cross-site comparisons, and scaling in mind

4. Can we provide a standardized set of methodologies to capture soil C pools across different soil types and spatial scales?
5. How can we assess the relative importance of mineral protection across different soil ecosystems and spatial scales?

Goal 3: Apply model-data-synthesis to address relevant questions

6. Which soil C pools are most vulnerable to land use and climate change?
7. In terms of measuring and modeling soil C stocks, how do we deal with deep soil?
8. Where and when do nutrients constrain soil C sequestration?

Group Discussions. These will be targeted toward specific overarching topics. We expect the focus of these discussions will shift somewhat depending on the results of the sub-group work. Our first group discussion will focus on deciding the working title/problem statement for the 3 product outlines. Other topics may include:

1. Templates, database, and essential parameters for database. This discussion will follow the first meeting of sub-groups. Each sub-group should generate a list of parameters considered essential to addressing their problem statement.

2. Measured vs. Modeled vs. Reality (as we currently perceive it). This discussion item aligns with goal 1.
3. Scaling soil carbon pools in space and time. This discussion item aligns with goal 2.
4. Combining synthesized data and models to address specific research question goal 3 (i.e., what soils/soil pools are most sensitive to disturbance?)
5. Integrating quantitative and semi-quantitative data.

Sub-group Outlines. Sub-groups will periodically meet to work on outlining three different products (i.e., manuscripts) using a pre-developed template. We expect to modify the process (and template for outlining products) as needed. This is accomplished through the debriefing process.

Sub-group Activities. Sub-group activities are meant to be a change of pace and as such will enforce a shuffling of groups for these activities. We have developed a list of possible activities (below) but will allow these timeslots to be replaced with other activities recommended by the group during debriefings. For example, if a sub-group that is working on one of the outlines decides they need some specific input – they can request one of the activity slots be used for that purpose.

1. Attempt template data entry and add to the list of datasets we should include.
2. Controlled vocabulary! (Maybe this is combined with the activity above)
3. Brainstorm simple methods for pool characterization (citizen science or classroom exercises).
4. Outreach: Write a press release for popular media (NYtimes science or EOS) describing the goals/relevance of the working group
5. Application: Rank the most promising management strategies for increasing soil C sequestration
6. Metadata lesson plan: Draw up a lab/lecture class activity (for upper level undergrad or lower level grad) that involves each student filling out a data template (each class could focus on a particular fractionation scheme or ecosystem, etc.) and teaching them about data quality, data synthesis, and some basic statistical explorations of the data.

Debriefings. Periodic meetings of the whole group to discuss progress, problems, and recommend any changes to the agenda or other aspects of the meeting.