

EarthCube Working Group Proposal for EarthCube Tech Hands Meeting

Section 1: Background Information

1. Working or Special Interest Group title:

EarthCube Tech Hands Meeting Working Group (THM WG)

2. Statement of Purpose

The initial purpose of this working group is organize and conduct a 3-day meeting – to be called the “Tech Hands” Meeting – which will provide an opportunity for:

- PIs (or their representatives) of funded EarthCube projects to give technical (mid-level to low-level) presentations on the resources they are developing, the requirements they fulfill, the standards they are using/extending, the interfaces/APIs they are providing, etc.,
- EarthCube TAC working groups to discuss relevant technical aspects of the funded projects
- Technical discussions, with the goal of identifying opportunities for better technology coordination between projects, exploration of alternate approaches/standards, gaps and synergies, and architecture
- Creation of technical executive summary documents for EarthCube-funded projects, all based on a common template.

While most of the prior EarthCube meetings have focused on governance, this meeting will focus on technology coordination. It will be open to all interested parties, not just representatives of projects funded by EarthCube. There will be a particular focus on Building Block (BB) projects (whether in their first or second year) and Conceptual Design (CD) projects, and the requirements they address for RCNs and other EarthCube science users. The role of the recently formed EarthCube Council of Data Facilities will also be discussed.

A draft web-page template for “technical executive summaries” will be created ahead of the meeting to describe funded EarthCube projects at a technical level, including standards, interfaces/APIs, links to documentation, anticipated products, dependencies, known connections to other projects etc. These forms will include questions developed by the EarthCube TAC WGs. Projects will be asked to draft their summaries prior to the meeting. Participants will then be asked to comment on the template and to complete a revised version for their project over the course of the meeting.

This working group will organize a physical Tech Hands Meeting, expected to take place over a 3-day period, April 8th to 10th, 2015, with the following tentative agenda:

Day 1 Agenda:

- Technical presentations (20 to 40 minutes each) on each of the funded EarthCube Building Block (BB) projects and Conceptual Design (CD) projects, including ample time for questions/discussion after each presentation. Short presentations on compelling technology evolution and innovation will also be encouraged.

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Day 2 Agenda:

- Open discussion to categorize, prioritize and understand the technical issues facing the funded EarthCube projects and the overall EarthCube initiative. Key questions to be discussed are:
 - What science requirements and use cases are being addressed?
 - What are the cross-cutting technical issues that require convergence?
 - What are the gaps and synergies?
 - Which issues are considered most important to the success of EarthCube?
 - What standards are being employed by the funded projects?
 - What types of interfaces are needed for interoperability between subsystems?
 - Which pairs or groups of projects require or will benefit from coordination?
 - What architecture constructs are being or should be considered?
- Breakout groups to discuss cross-cutting issues and possible approaches to coordination.
- Open discussion to develop design criteria (including performance goals) and a draft blueprint for the EarthCube architecture. This will build on the presentations by the Conceptual Design projects and other inputs. It will also include a discussion of strategies for how to evaluate and measure interoperability and system performance (e.g. testbeds).

Day 3 Agenda:

- Breakout groups for specific pairs or groups of funded projects to discuss how best to coordinate, or achieve interoperability, between their respective technologies and products. This will provide an opportunity to finalize joint project demonstrations that are to be presented at the EarthCube All Hands Meeting in May 27-29, 2015, and to discuss new joint project demonstrations. Other breakout groups will be devoted to architecture, science use cases, and other topics of interest to participants.
- Reports from the breakout groups, with specific recommendations for actions that can be taken by project PIs to achieve better technology convergence and interoperability.
- Finalize concrete plans and timelines for coordinated demonstrations at the AHM
- Meeting wrap-up.

A proceedings report, including minutes of the meeting will be published. The proceedings will include summaries of technical discussions and also recommendations for current and future EarthCube technology requirements and developments.

Planning and implementation of this meeting will be coordinated with existing EC Governance working groups.

3. Name, affiliation and email address of WG/SIG leader and at least three additional participants:

Scott D. Peckham, University of Colorado at Boulder, Scott.Peckham@colorado.edu, chair

David K. Arctur, University of Texas at Austin, david.arctur@utexas.edu

Steve Diggs, UCSD/Scripps, sdiggs@ucsd.edu

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Jay Pearlman, jay.pearlman@jandfent.com

4. Operational timeline: The meeting itself is planned for April 2015, but related activities will take place from date of approval to May 2015 (All Hands meeting).

5. Are funds required to support WG/SIG activities?

YES (if YES please complete **Section 2** below)

Section 2: Budget Justification

6. Alignment with EarthCube goals and/or Committee/Team priorities:

This working group will identify and nurture opportunities for coordinating activities, concepts, methodologies and technology across the funded projects. The working group will also generate a written report in the form of either a Technical Paper or Discussion Paper that summarizes the results of the meeting, to be completed prior to April 20. In addition, 6 to 8 representatives from the EarthCube BB and CD projects will be identified to attend the EarthCube “Feasibility Workshop” that is tentatively scheduled to take place at Berkeley, April 23-24. Based on outcomes of the Tech Hands meeting, including the report, this group will establish clear connections between the specific needs that science end-users have articulated and the EarthCube technologies being developed to address these needs.

The Tech Hands meeting is timed to be complementary to the EarthCube All Hands meeting (May 27-29, 2015) and is in no way to be viewed as an alternative or substitute for attendance at the All Hands Meeting. This point will be underscored at the meeting.

This WG is complementary with the work of other ongoing WGs, which will be invited to participate in the proposed workshop. It is synergistic with the TAC WGs.

7. Meeting mechanisms and expected frequency:

- A physical Tech Hands Meeting held for 3 days, which will enable technology coordination or convergence between funded EarthCube projects. This meeting will allow all the funded projects to learn about each other in technical detail, leading to more and better-quality areas for interdisciplinary collaboration and technology coordination.
- Bi-weekly telecons/webex meetings to plan the Tech Hands meeting and to develop a web-page template for the “Technical Executive Summaries” that will describe funded EarthCube projects at a technical level.

8. Expected time commitments and level of involvement:

- Attendance to a 3-day working meeting by some Leadership Council members and many representatives of funded projects. This meeting will take place in April, before the EarthCube All Hands meeting, to allow outcomes to be shared at the All Hands meeting.
- Working group members will spend approximately 6 to 12 hours to plan the meeting (telecons, emails, etc.) and to prepare the “EarthCube Project Technical Summary” draft template.
- Working group members will spend approximately 4 to 12 hours preparing a written meeting report in the form of a Technical Paper or Discussion Paper.

9. Risk assessment (what might lead to failure, how to mitigate those risks):

There is significant risk in not setting up this working group, since there has not yet been a meeting for technology coordination among the funded EarthCube projects. There is a clear consensus that such a meeting is critical to the success of EarthCube as there are currently many separate Building Block projects and 3 Conceptual Design projects, with little formal coordination. Some RCNs are coordinating with Building Blocks and Conceptual Design projects, and this meeting will help foster such interactions.

10. Resources available to the working group (e.g., datasets, people, IT, etc.):

Technical discussions that have already taken place between funded project PIs, funded project assets (e.g. lists of resources to be integrated, conceptual design work) and virtual meeting support. Staff support as coordinated by EarthCube Office staff.

11. Requested total estimated budget and brief (<250 word) budget justification:

Based on past experience, the estimated budget is \$50K. This would cover travel and meeting expenses for 30 to 40 participants (mostly from funded projects, but open to others) to meet for 2-3 days. It is expected that some participants will not stay for the third day.

12. Host (who will be committed to respond to inquiries about the group):

Scott D. Peckham, University of Colorado at Boulder, <Scott.Peckham@colorado.edu>