EarthCube Activities: Community Engagement Advancing Geoscience Research

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Providing Direction

EarthCube Governance Bodies are constituted with community members and serve to organize the community, provide a voice, establish policy and coordinate activities.

Tech/Architecture Committee
Facilitates development of EarthCube technology and stewardship of the ongoing architecture.

Science Committee
Maintains the connection between academic and technology communities, ensuring end-user requirements are prioritized.

Leadership Council
The elected voice of the EarthCube community, setting the strategic direction with input from the community and in consultation with NSF.

Engagement Team
Responsible for proactively reaching out to the EarthCube community, encourages involvement and conveys feedback to the Leadership Council.

Liaison Team
Liaison to external cyber-initiatives, collaborations, agencies, associations, and other efforts and programs.

Council of Data Facilities
Provides a voice of member data facilities, identifies & endorses standards & best practices and fosters innovative collaborative projects.

Developing Infrastructure

Several of the EarthCube funded projects directly engage geoscientists to begin building cyberinfrastructure components:

- **Building Blocks** leverage existing resources or introduce new ones, and demonstrate both integration into the EarthCube system and application to the broader geosciences.
- **Integrative Activities** projects are specifically aimed at enabling geoscientists to participate in EarthCube.
- **Research Coordination Networks** (RCNs) advance domain community priorities for cyberinfrastructure development by building and strengthening partnerships between geoscientists and cyber/information specialists.

EC3

EarthCube Oceanography and Geobiology Environmental 'Omics ECOGEO

C4P

CReSCyNT

Sediment Experimentalist Network

iSamples

Curious About EarthCube and How it Will Benefit the Geosciences?

EarthCube is a community-led, NSF-supported effort to build a robust informational and computational infrastructure that enables better science. To do this, EarthCube needs to leverage existing infrastructure components and identify where new ones are necessary. This is being achieved by bringing scientists to the table with technical professionals. Scientists communicate their research drivers and needs; technical professionals translate those needs into requirements representing gaps in the current infrastructure. Together with NSF, the EarthCube community will strategize how to fill those gaps. The result will be an enhanced system of discoverable, freely-accessible, and well-documented data, information, software and tools that will accelerate unprecedented knowledge generation.

This effort hinges on the participation of the geoscientist. Presented here, are highlights of some of the activities (by no means exhaustive) EarthCube is employing to entrain the science community in its development process, with focus on the collection of science-driven use cases as a means of capturing scientific and technical requirements.

Find out more about EarthCube's efforts:
http://earthcube.org/workspace/workspace-home

Traveling, Training, Speaking

EarthCube is developing programs to promote engagement, participation, and learning opportunities for geoscientists.

The Early Career Travel Grants provide reimbursement funds for participation at professional meetings, workshops or conferences held in the United States where EarthCube-related work is to be presented or discussed.

The Distinguished Lecturer Program funds are awarded to help sponsor science lecturers who are willing to briefly speak about EarthCube while giving invited lectures at institutions and universities across the nation.

The Visiting Early Career Scientist Program helps disseminate EarthCube-enabled technology to domain scientists; increase awareness of EarthCube (EC) products; and encourage interactions between the EarthCube Building Blocks and the community.

Achieving Short-term Objectives

Working Groups are *ad hoc* organizational units created in response to a pressing issue, opportunity, activity, or deliverable related to advancing EarthCube goals. Working Groups can emerge from the broad EarthCube community, a Standing Committee, or by the Leadership Council. Working Groups may bridge more than one Committee, and can serve as important mechanisms to foster collaboration and resolve issues between Committees.

Test Bed | Workshops | Gap Analysis

Use Cases | Architecture | Standards | Semantics

WHAT?

Use cases are documented descriptions of objectives, and the corresponding sequence of steps taken to achieve them, along with the people or things involved.

Use Cases Provide:

- Detailed information about the types and nature of geoscience in the near future
- Cyberinfrastructure barriers to achieving research objectives

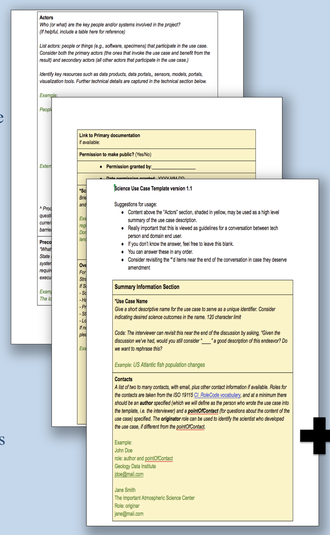
These barriers translate into computational and data needs that represent gaps in the current cyberinfrastructure landscape needed to support novel discipline-specific and cross-disciplinary research.

WHY?

Employing scientific use cases will ensure the user-driven development of EarthCube by providing valuable information that informs the creation of the cyberinfrastructure system needed by the geoscience community.

Use Cases:

- Show how needs can be translated into a set of requirements
- Provide opportunity to fill gaps in existing technologies to facilitate data and information sharing, access, discovery, integration, analysis, and modeling
- Facilitate communication and promote collaboration between geoscientists and cyber-related professionals
- Enable participation from individual scientists (the long tail) and users of Big Data
- Lead to stronger engagement among the EarthCube community.



HOW?

EarthCube Use Case Working Group

The EarthCube Use Case Working Group was assembled to begin collection of end-user scientist use cases.

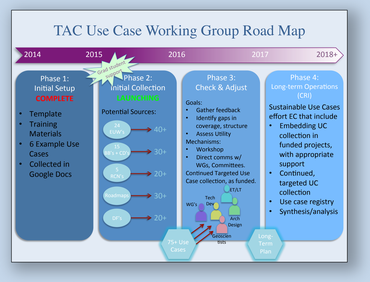
The group is:

- Engaging geoscientists to capture their use cases through interviews
- Using a template developed and agreed upon by the community to document interview information
- Creating a repository of collected geoscience use cases for EarthCube community use

EarthCube Use Case Repository

Visit the Use Case Working Group's webpage to learn more
http://earthcube.org/group/use-cases-wg

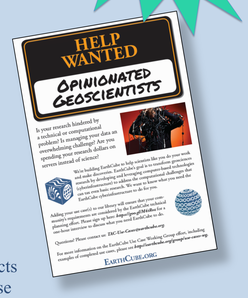
WHAT'S NEXT?



Next steps for the working group include:

- Gather feedback to evaluate
  - Coverage of use cases on both scientific and technical aspects
  - Utility of use case collection. Initial synthesis/analysis of use case collection.
- Long-term, sustainable efforts that incorporate end-scientist use cases into the EarthCube design and development process
- Deliverables: written gap analysis, initial synthesis of use cases, and long-term plan for an EarthCube use case effort.

Look for the Our Use Case Flyer and Contribute!



Visit to contribute:
https://goo.gl.M4tRoz

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http://www.earthcube.org