EarthCube Enterprise Governance Draft Charter

Version 1.0 05/06/2014

Highlighted sections are areas of specific interest during the community review period.
Questions on these sections are included in the Survey available at:
http://workspace.earthcube.org/test-governance/charter-review

PREAMBLE

EarthCube Enterprise Governance comprises the leadership, strategic direction, operations, and all other formalized activities of EarthCube. This charter provides the structure of Enterprise Governance. It is a living document, which can be amended or adjusted upon vote of the contributing members.

EARTHCUBE VISION, MISSION AND GOALS

Vision: EarthCube enables transformative geoscience by fostering a community committed to providing unprecedented discovery, access, and analysis of geoscience data.

Mission: EarthCube streamlines the path to scientific discovery by overcoming social, institutional, and technical barriers to data sharing and access through a network of interoperable, computations resources. This will be developed and supported by a community of practice consisting of academic geoscientists and related communities.

Goals:

EarthCube will accomplish its mission by:

- Facilitating new opportunities for transformative geoscience by lowering current social, technical, and institutional barriers to data and information sharing.
- Maintaining a knowledge base to guide the development and maintenance of the system and to assist users
- Making it easy and more productive to share, identify, access, use and evaluate quality data, streamlining the path to scientific discovery.
- Enable data-driven hypothesis testing that would be intractable without EarthCube resources
- Answering questions that require access to multiple types and sources of data.
- Enabling trust in data and software.
- Developing and implementing interoperable software along with hardware resources in a sustainable environment.

- Seeking opportunities to build technological and social interfaces to other related efforts, and jointly identifying capability gaps that need to be fulfilled with further research and development.
- Facilitating geosciences cyberinfrastructure projects that put EarthCube practice into action.

GOVERNANCE STRUCTURES

EarthCube governance will be implemented through the following structures and organizational units, which are more fully described in the sections to follow and visually displayed in Attachment A:

- Steering Committee
- Office
- Partnership Program
- Standing Committees
- Teams
- Working Groups
- Contributing Members
- Participants
- Special Interest Groups

STEERING COMMITTEE

The Steering Committee is the elected voice of the members, participants, and partners, setting the strategic direction for EarthCube and making decisions critical to the success of EarthCube.

Primary Functions

The Steering Committee will fulfill the following functions:

- Setting and revisiting as needed the strategic direction, plan, and Annual Meeting (including monitoring metrics such as end user feedback associated with EarthCube's success and adjusting course as needed).
- Ensuring consistency and transparency in policies, procedures, and decision-making including providing multiple ways for people to participate in the process of making decisions
- Enabling communication between governance structures to close gaps, eliminate duplication, and build synergies
- Establish and manage subcommittees and working groups as needed to perform Steering Committee functions

- Fostering business models to sustain and maintain the infrastructure of EarthCube, including seeking continued funding
- Establishing, facilitating, and maintaining policies and procedures (including legal issues)
- Overseeing a public dispute resolution process
- Proactively managing risk and conflicts of interest
- Coordination with and recommendations to the NSF and other funding agency

Operations

- Meetings: The Steering Committee will meet at least quarterly.
- Decision Making: Decisions must receive a 2/3 majority to pass. Steering Committee members may either vote or abstain. A quorum for decision making is at least 2/3 of the steering committee.
- Communications: Communications may occur telephonically, via e-mail, or other electronic mechanisms. Quarterly meetings may be held virtually or in-person. To ensure transparency, agendas and meeting minutes of the Steering Committee will be made publicly accessible.
- Compensation:
    - Steering Committee members are compensated for their time through salary support or volunteers.
    - They will receive stipends for participation in full day activities.
    - Their travel expenses will be reimbursed.
    - The Chair will be fully compensated for EarthCube responsibilities.
- Subcommittees: oversight of subcommittees including:
    - Working Group Approval Committee: Review and approval of working groups including allocation of budget and staffing resources.
    - Chair Nominating Committee: Seeks out candidates for the position of chair. Self-nominations from contributing members will also be accepted. Composed of Steering Committee members and outside participants (as determined by the Steering Committee). Reforms every two years for elections.
- Voting Committee Members:
    - Chair and Incoming or Outgoing Chair:
        - Nominated by the Chair Nominating Subcommittee composed of Steering Committee members (and outside participants as

determined by the Steering Committee) will seek out candidates for the position and self-nominations will also be accepted.
        - Voted into office based on an election open to all contributing members.
        - Position includes one year of being an Incoming Chair, two years as the Chair, and one year as the Outgoing Chair.
        - The nomination process may include a candidates' forum prior to voting, leveraging existing annual meetings
    - Standing Committee Representatives: One representative per committee, selected by the committee per their charter
    - Partnership Program Representative: One representative from the Partnership Program as defined by that program's charter
    - Four At Large Representatives: Four representatives self-nominated and elected by all members
- Non-Voting Steering Committee Members:
    - A representative from the funding agency
    - Office Manager/Director

OFFICE

The Office is the support arm of EarthCube governance, responsible for supporting and implementing assigned functions from the Steering Committee, Standing Committees, working groups and general EarthCube membership and participation. The Office will implement the Partnership Program. The Office may exist entirely in a physical office location, virtually in a distributed team, or through some combination of the two.

Primary Functions

The Office will be responsible for the following functions:

- Implementing the Partnership Program
- Public Relations and Marketing
- Development and Support for the EarthCube Community Website and other Online Resources
- Committee Support and Logistics
- Annual Meeting Coordination
- Tracking Metrics
- Budget Management
- Overseeing and Supporting the Election Process

PARTNERSHIP PROGRAM

The Partnership Program is responsible for ensuring that EarthCube proactively engages with related efforts, including participating in their activities and identifying ways to leverage and partner. It may include formalized partnerships (e.g. MOUs), informal connections when a workgroup is engaging in an activity that is related to a partner, or liaisons to partner activities to ensure alignment with EarthCube.

The design of the Partnership Program will be developed by a temporary Working Group established by the Steering Committee during Year 2 of Test Governance.

Functions

The Partnership Program will fulfill the following functions:

- Connections: Establish partnerships to the organizations and initiatives and leverage existing resources, which includes:
    - Managing and maintaining formal and informal relationships (revisiting formal agreements and MOUs as needed)
    - Facilitating partner-workgroup engagement and collaboration
    - Reaching out to new potential partners

Relationship to Steering Committee

The relationship between the Steering Committee and Office is not yet defined. This will include responsibilities, authority, organization, and review processes that govern the relationship between these two bodies.

STANDING COMMITTEES

EarthCube will have four standing committees in the initial governance each, of which has responsibility for specific functions. Additional committees will be created based on functions that are identified as critical to EarthCube and EarthCube Governance.

Each standing committee will be empowered to create its own charter by its original members, including defining decision-making and leadership functions. However, all standing committees will have in common a basic structure that include:

- Open-membership to anyone who falls within the parameters identified in the committee's charter as an appropriate member.
- Leadership as defined by the committee's charter, inclusive of a representative to the Steering Committee that is elected from the membership. Leadership of the committee should include a two-year term, similar in structure to the Steering Committee, with committee voting occurring approximately one-month following the conclusion of the Annual Meeting.

- Coordination with the Steering Committee and responsiveness to the strategic direction
- Monitoring and coordinating working groups
- Sponsorship of ad hoc working groups that emerge from the general membership, described in more detail in the Working Groups section.
- A plan for engagement with related funded projects.
- Coordination with the Partnership Program.
- Coordination with other Standing Committees.

Relationship to Steering Committee

Each chair of the Standing Committee has a voting seat on the Steering Committee. Further relationships between the Steering Committee and Standing Committees is not yet defined. This will include responsibilities, authority, organization, and review processes that govern the relationship between these two bodies.

Technology/Architecture Committee

To oversee the development of the architecture and technology that is part of EarthCube including stewardship of the ongoing reference architecture.

Functions:

- Ensuring the connection between scientific process and technical functions (Coordinate test-beds, and other mechanisms for evaluation of CI components; identifying and prioritizing use cases)
- Maintaining alignment of the funded projects (interoperability, connections to end users) including with end user needs
- Stewardship of a reference architecture: Identify what data, software, infrastructure, standards, etc. is in alignment with EarthCube and incorporating it into EarthCube CI (including meeting specific criteria, going through technical reviews, and/or testing)
- Identifying gaps in coverage of needed cyberinfrastructure capabilities, and determine recommendations on how to fill them
- Ensuring, improving, and monitoring the user experience
- Serving as an emissary between software developers, the science community, and infrastructure, as well as educators
- Encouraging, engaging, and enabling the next generation of EarthCube technology leadership
- Coordination with the Technical Awardee Team (the funded projects).

Engagement & Advocacy Committee

To engage stakeholders in EarthCube, educate and otherwise disseminate knowledge, and establish connections between different stakeholders to advance EarthCube's goals.

Functions

- Dissemination & Communication: Branding to easily trace results (connection to metrics) back to EC and broad dissemination of EC information across academic, private sector, and government. Using a variety of tools including a forum/commons for community discussion. Actively share information about resources included in EarthCube (data, workflows, software, etc.)
- Engagement: End user and stakeholder (e.g. professional societies, publishers, government, commercial) engagement and support, including onboarding new audiences to EarthCube (attracting new users)
- Connections: Serving as an emissary between software developers, the science community, and infrastructure, as well as educators
- Advocate and engage the community in the management of geoscience cyberinfrastructure assets
- Encouraging, engaging, and enabling the next generation of EarthCube stakeholder leadership
- Connections to the education and workforce development stakeholders engaged in EarthCube

Science Committee

To ensure the connection between NSF supported US academic geoscience and technology in EarthCube, ensuring the user requirements are prioritized.

Functions

- Ensuring the connection between scientific process and technical functions (Coordinate test-beds, and other mechanisms for evaluation of CI components; identifying and prioritizing use cases)
- Ensuring, improving, and monitoring the user requirements
- Connections: Serving as an emissary between software developers, the science community, and infrastructure, as well as educators
- Maintaining alignment of the funded projects (interoperability, connections to end users) including with end user needs
- Encouraging, engaging, and enabling the next generation of EarthCube science leadership
- Coordination with the Science Awardee Team, which will initially include the RCN projects.

Council of Data Facilities

To serve in a coordinating and facilitating role among NSF and other agency funded data facilities to advance five goals (collective voice, promoting standards, shared infrastructure, fostering innovation, collaborating) related to EarthCube and support the functions below.

Functions

- Connections to existing data facilities
- Connections: Serving as an emissary between software developers, the science community, and infrastructure, as well as educators
- Advocate and engage the community in the management of geoscience cyberinfrastructure assets
- Explicit connection between scientific process and technical functions (Coordinate test-beds, and other mechanisms for evaluation of CI components; identifying and prioritizing use cases)
- Stewardship of a reference architecture: Identify what data, software, infrastructure, standards, etc. is in alignment with EarthCube and incorporating it into EarthCube CI (including meeting specific criteria, going through technical reviews, and/or testing)
- Identify gaps in coverage of needed cyberinfrastructure capabilities, and determine recommendations on how to fill them
- Engagement: End user and stakeholder (e.g. professional societies, publishers, government, commercial) engagement and support, including onboarding new audiences to EarthCube (attracting new users)
- Encouraging, engaging, and enabling the next generation of EarthCube data facilities leadership

TEAMS

Ongoing groups called "Teams" will be the coordinating mechanism for the funded projects. Initially, two teams will be formed, a "Technical Awardee Team" and a "Science Awardee Team." As of May, 2013 there are three active award types to be considered: Building Blocks, Conceptual Designs, and Research Coordination Networks. Building Blocks and Conceptual Designs will be part of the Technical Awardee Team and Research Coordination Networks will be part of the Science Awardee Team.

The Steering Committee is responsible for identifying whether future awards fit into the existing Teams or if a new team under a different Standing Committee is needed.

Functions

- Maintaining alignment of the funded projects (interoperability, connections to end users) including with end user needs

WORKING GROUPS

Working Groups will serve as ad hoc structures created to respond to:

- A pressing issue or opportunity related to EarthCube's goals
- An activity or deliverable related to EarthCube's goals

Working Groups can be initiated by any Contributing Member and composed of a mix of Contributing Members and EarthCube Participants. There will be resources available from the Office to support Working Groups including staff time, access to collaboration resources (e.g. webinars and conference lines) and funding for non-salary activities, such as travel support.

The following requirements are placed on all Working Groups:

- Required to have a *Statement of Need and Work* that is publicly available
    - End goal/deliverable
    - List of Working Group Participants
    - Timeline
    - Risk assessment (what might lead to failure and how to mitigate the risks)
    - Alignment with EarthCube goals and/or Standing Committee priorities
    - Resource and budget needs
- Required to have a minimum commitment to complete the Statement of Need as well as work from at least three participants from at least three separate organizations.
- Statement of Need is publicly available when submitted for approval, announcement of approval, during work period, and the final product includes *Statement of Work Completed* based on original *Statement of Need and Work.*
- Office is responsible for monitoring progress and will check-in with Work Groups halfway or at least every six months through their stated time period. Office will report on progress to the Steering Committee during their standing meetings.

Working Groups are approved in the following manner:

- May emerge from the Steering Committee itself, or Standing Committees (which are then recommended to the Steering Committee during quarterly review meetings for approval).
- May emerge from the membership more broadly (which requests approval from the Steering Committee during quarterly review meeting).

- Approval and resource allocation process for Working Groups:
    - Resources allocated to working groups fall under two categories:
        - Staff and logistics support
        - Direct funding
    - Working Groups that emerge from Standing Committees are reviewed by the Standing Committee with support from the Office to conduct due diligence. The Standing Committee makes recommendations to the Steering Committee.
    - Working Groups that are not associated with a Standing Committee are reviewed by the Steering Committee with support from the Office to conduct due diligence.
    - Due diligence includes a review of:
        - The resource and budget in light of the request and the overall available resources and budget for the work groups.
        - The alignment of the working groups with partner efforts (through the Partnership Program)
    - Budgets can support:
        - Domestic travel support
        - Meeting space rental and associated costs
        - Basic materials and supplies
        - Publications and document dissemination costs
- Budgets may not support:
    - Salaries, wages, or fringe benefits for Working Group Participants
    - Indirect Costs or Facilities & Administration Costs

PARTICIPATION & MEMBERSHIP

General participation in EarthCube will remain open to the community. Participation in EarthCube entails open and free access to EarthCube documents, data and data resources, tools, and software. No registration is needed to participate in and access the resources of EarthCube.

Participation in EarthCube Governance and any of the structures mentioned above requires membership in EarthCube. There are three Membership Types: Participating Members, Contributing Members, and Partner Organizations.

EarthCube Membership:

- Participating Membership Includes:

- Ability to contribute to forums, discussion posts, and other publicly accessible areas of the EarthCube website.
- Ability to form a Special Interest Group (described below)
- Ability to propose session to the Annual Meeting

- Contributing Membership Includes:
  - Annual Subscription
  - Voting in EarthCube Governance Activities
  - Ability to form Working Groups
  - Ability to be nominated for leadership roles
  - Requirement to accept the EarthCube Terms & Conditions
- Partner Organizations
  - Partners include organizations identified through the Partnership Program

Operations

Special Interest Groups

- Any EarthCube participant can create a special interest group focused on any topic relevant to EarthCube. There is no formal review or approval process. Special Interest Groups have the ability to request a page be created on the EarthCube website to explore their topic and engage other participants. No other resources are available to special interest groups nor will products be EarthCube products.

DEMONSTRATION INITIATION PLAN

A modified election process will be needed to initiate the Steering Committee and Standing Committees during the Demonstration Year. The following process is suggested:

- June – Sept 2014: Contributing Member status will be automatically awarded to everyone who has been participating on the EarthCube websites up to Sept 2014.
- Ongoing: Open call for new Contributing Members
- June – August 2014: Open call for participation in Standing Committees
- July – Oct 2014: Standing Committees are organized and select their chairs (who will be representatives on the Steering Committee)
- Oct – Nov 2014: Nominations to the Steering Committee, options include:

1. Set up a process for a fair nominating committee at the All-Hands meeting. The nominating committee would include representatives from all geoscience domains plus computer science domains, allowing the EarthCube community to elect their nominating committee members OR
2. Allow volunteers to self-nominate to the nominating committee, leaving the final selection to the current EarthCube Test Governance Advisory Committee OR
3. Use an existing group from the EarthCube Test Enterprise Governance Planning Team such as the Secretariat

- Dec 2014: Voting on Steering Committee chair and members
- Jan – June 2015: Partnership Program working group convened by the Steering Committee and develops the design of the program
- January – August 2015: Governance model implemented and tested