EarthCube – A Community-led, Interdisciplinary Collaboration for Geoscience Cyberinfrastructure

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The US NSF EarthCube Test Enterprise Governance Project completed its initial two-year long process to engage the community and test a demonstration governing organization with the goal of facilitating a community-led process on designing and developing a geoscience cyberinfrastructure.

Conclusions are that EarthCube is viable, has engaged a broad spectrum of end-users and contributors, and has begun to foster a sense of urgency around the importance of open and shared data. Levels of trust among participants are growing. At the same time, the active participants in EarthCube represent a very small sub-set of the larger population of geoscientists. Results from Stage I of this project have impacted NSF decisions on the direction of the EarthCube program.

The overall tone of EarthCube events has had a constructive, problem-solving orientation. The technical and organizational elements of EarthCube are poised to support a functional infrastructure for the geosciences community. The process for establishing shared technological standards has notable progress but there is a continuing need to expand technological and cultural alignment. Increasing emphasis is being given to the inter-dependencies among EarthCube funded projects. The newly developed EarthCube Technology Plan highlights important progress in this area by five working groups focusing on: 1. Use cases; 2. Funded project gap analysis; 3. Testbed development; 4. Standards; and 5. Architecture.

The EarthCube governance implementing processes to facilitate community convergence on a system architecture, which is expected to emerge naturally from a set of data principles, user requirements, science drivers, technology capabilities, and domain needs.