



## A Governance Roadmap and Framework for EarthCube

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EarthCube is a process and an outcome, established to transform the conduct of research through the development of community-guided cyberinfrastructure for the Geosciences as the prototype for potential deployment across all domain sciences. EarthCube aims to create a knowledge management system and infrastructure that integrates all Earth system and human dimensions data in an open, transparent, and inclusive manner. EarthCube requires broad community participation in concept, framework, and implementation and must not be hindered by rigid preconceptions.

We discovered widely varying interpretations, expectations, and assumptions about governance among EarthCube participants. Our definition of governance refers to the processes, structure and organizational elements that determine, within an organization or system of organizations, how power is exercised, how stakeholders have their say, how decisions are made, and how decision makers are held accountable.

We have learned, from historic infrastructure case studies, background research on governance and from community feedback during this roadmap process, that other types of large-scale, complex infrastructures, including the Internet, have no central control, administration, or management. No national infrastructure that we examined is governed by a single entity, let alone a single governance archetype. Thus we feel the roadmap process must accommodate a governance system or system of systems that may have a single governing entity, particularly at the start, but can evolve into a collective of governing bodies as warranted, in order to be successful.

A fast-track process during Spring, 2012 culminated in a Governance Roadmap delivered to an NSF-sponsored charrette in June with an aggressive timetable to define and implement a governance structure to enable the elements of EarthCube to become operational expeditiously.

Our goal is to help ensure the realization of this infrastructure sooner, more efficiently, and more effectively, by providing a community endorsed Governance Framework, released in September of 2012. The Framework, and corresponding community outreach, maximizes engagement of the broader EarthCube community, which in turn minimizes the risks that the community will not adopt EarthCube in its development and final states. The target stakeholder community includes academia, government, and the private-sector, both nationally and internationally.

<http://earthcube.ning.com/group/governance>