EPSCoR Information provided to Jan Poley,
Gene Eidson, Ph.D.
Director, Clemson University Center for Watershed Excellence
Clemson University
President, Southeastern Natural Sciences Academy
Augusta, Georgia

Our nation's watersheds are at risk. Throughout this nation, many watersheds are being impacted by uncontrolled development and rapid economic growth. There is reduced local, state, and federal funding for water quality monitoring and watershed-scale planning. There is a disconnection between stakeholders and their watersheds, resulting in poor environmental stewardship. Yet, the greatest potential influence for public policy related to watersheds and sustainable natural resources may be among stakeholders.

For ten years, Dr. Gene Eidson, founder of Southeastern Natural Sciences Academy, a community-based nonprofit serving Georgia and South Carolina, has been actively working with regional stakeholders to determine the reasons and causes for this disconnect. His findings suggest the public at large is disengaged with local and regional environmental issues due to:

- a lack of community vision and spirit, an emotional disconnect;
- a lack of readily accessible and understandable information, a data disconnect;
- the complexity of watershed issues, a science understanding disconnect; and
- the belief of stakeholders that their input is not valued by agencies, a trust disconnect.

A key step in addressing watershed issues is improving community awareness of local and regional natural resources issues and developing a working trust among stakeholders. As noted by G. Evelyn Hutchinson, the natural world is "the ecological play in the evolutionary theater" (Alpert and Keller, 2003), with many players where humanity has assumed the position of director and manager. With busy lifestyles, society to a great extent has transferred the responsibility of solving environmental problems to scientists and agencies (Rogers, 2006). Even with high levels of scientific and policy expertise, there remain shades of "The Tragedy of the Commons" (Hardin, 1968) in managing our watersheds - as society continues to assume our growing natural resource limitations will always have technological solutions. Rogers (2006) summarized the real challenge in managing rivers [and watersheds] 'as developing collective understanding and integrations of knowledge, within and between scientists, citizens, and [regulatory] agencies.'

Clemson University, through establishment of an EPA Region 4 sanctioned Center for Watershed Excellence seeks to engage the public on watershed issues and lessen the disconnection between stakeholders and their watersheds. Solving this disconnection is imperative for sustainability of water resources because watershed impacts are local in nature and are best addressed through a spirit of cooperative conservation among local universities, schools, community-based organizations, governments, and stakeholders.

In the 2007 Yale Center for Environmental Law and Policy Survey on American Attitudes on the Environment, nearly two-thirds (62%) of Americans believe the environment in the United States is getting worse. In that poll, scientists at major universities ranked the highest (76%) as the most-trusted sources of information about environmental issues. This poll suggests there is a great opportunity for universities to foster multi-party collaboration to reduce the barriers to understanding complex scientific issues.

Clemson University, through its Center for Watershed Excellence, seeks to use enhanced cyber infrastructure to bring together university scientists, public and private schools,

community-based organizations, and the general public as a working team, particularly in rural, remote, and less developed areas of South Carolina. By building on Clemson University's statewide public service program and Southeastern Natural Sciences Academy's innovative river research and community outreach programs, the university will create a watershed-scale river research program that incorporates state of the art remote sensing technology. This effort will provide accessible and understandable scientific data to a broad audience, using K-12 programming as the catalyst to bring science to an underserved population. Kids will engage their peers and parents into their learning program and stimulate community-based resource management - using contemporary data provided through enhanced cyber-infrastructure to address relevant watershed issues.

K-12 students will participate in webcasts with scientists in the field to experience science in action. Rural stakeholders, in areas underserved by web access, will be able to view real-time watershed data using the internet. The local community will be able to gain a greater understanding of science by viewing contemporary data with emerging geoWeb tools that make scientific data understandable through visualization.