

Southern Extension and Research Activity (SERA) 43

I. Activity Title: Southern Region Water Network

II. Statement of Issues and Justification: SERA 43 advances interdisciplinary innovations to transform understanding and management of water resources in the face of changing climate, land use, and populations over the next 50 years. SERA 43, through the Southern Region Water Resource Network and collaborators, works to engage the research, extension, and teaching capacities of the Land Grant University (LGU) system in the Southern US region (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA) in efforts that strengthen regional connections between LGUs, decision-makers, and citizens working together to address critical water management issues.

III. Objective:

Foster multi-state, multi-disciplinary collaboration addressing priority water issues by:

- 1) Developing more effective linkages between extension and research personnel at LGUs and with external partners,
- 2) Establishing priorities for LGU efforts regarding southern water resource issues, and
- 3) Facilitating collaborative, multi-state proposals and programs addressing key issues.

IV. Expected Outcomes and Impacts:

- 1) New and innovative multi-disciplinary approaches to solve key water challenges in the South through capacity building between LGU research and extension faculty.
- 2) Increased number of cross-institutional research and extension collaborations that result in more effective planning and action to enhance, conserve, and protect water resources.
- 3) More resilient partnerships with key external entities engaged in water resource planning and management, e.g., federal and state water resource agencies, NGOs, and business/industry.
- 4) Increased awareness and knowledge of water resource issues and increased adoption of science-based management practices for water conservation and water quality protection.

V. Procedures and Activities: Three subject matter workgroups have been established by faculty representing 20 participating 1862 and 1890 institutions to address key issues facing the Southern Region: 1) Water Quality, 2) Water Quantity/Availability and 3) Ecosystem Services. Critical water resource issues are targeted through integrated research, teaching, and outreach program efforts. For example:

Water Quality

- Innovative management of nutrients, tillage, and drainage structures that minimizes nutrient loss and limits tradeoffs between production and environmental goals.
- Social, economic, and programmatic factors affecting producer adoption of water quality Best Management Practices (BMPs).

Water Quantity

- Identify spatial and temporal factors influencing the value of water and the efficient allocation of resources in the face of binding constraints.
- Determine the impact of climate variability (drought, floods, temperature) on water resources and sector demand shift to meet critical needs.

Ecosystem Services

- Efficient management of agricultural and urban water needs to protect and sustain essential ecosystem services.
- The impact of human-altered hydrologic flows on aquatic biota, habitats, and ecological services provided.

VI. Regional Coordinator: As reported in a presentation by Drs. Henning and Moore during an ASRED, SAAESD Session at the recent Joint Spring Meeting (<http://saaesd.ncsu.edu/docs/EPSON001.PDF>), SERA Administrative Advisors responded that the most important predictor of SERA productivity is strong, committed leadership. The North Central Region Extension Directors have also recognized that an effective multi-state partnership needs a strong champion and they have provided pilot support for a regional coordinator for the North Central Region Water Network (<http://northcentralwater.org/>). Similar to the key role of the regional coordinator for the highly successful North Central Region Water Network, the regional coordinator for the Southern Region Water Network would have two overarching roles: 1) leadership and inspiration - helping the region focus on a shared vision and 2) practical logistics of a highly visible, coordinated effort among faculty and staff at 20 LGUs.

We propose that the Southern Region Directors provide pilot support for a Southern Region Water Network regional coordinator who would:

- Facilitate communication and network development among LGU educators, researchers, and partners. A regional website, expansion of virtual learning opportunities, social media, and one-on-one communications are examples of potential communication and network development activities.
- Organize resources around regional priorities, including supporting the development of new grants, contracts, and gifts.
- Convene a regional Administrative Council and ad-hoc initiative teams to set and take action on regional priorities.
- Serve as a resource on water-related issues to Extension administration and partners, including partners at the national level as appropriate.
- Maintain focus and accountability by guiding program planning and evaluation at the network and initiative levels.
- Maintain communication and provide project status updates to the Directors.

Potential funding sources will be pursued by SERA 43 workgroups and team members to address target issues. The SERA 43 website will serve as a clearinghouse for water resources information and tools that can be accessed, adapted, and employed by member institutions, partner entities, and citizen stakeholders throughout the region (<http://sera43.soil.ncsu.edu>). Listservs created for the membership and workgroups and will be utilized for routine communication. The annual meeting serves as a venue for sharing information and resources among members, which is then communicated and/or distributed by members to all participating states, territories, and partner entities as appropriate. The biennial conference serves as a broader opportunity to provide training and share information, resources, and lessons learned.