

The Southern Region Water Resource Project

*Applying Knowledge to Improve Water
Quality*



Michael D. Smolen, Ph.D.

*1988 - 2011 Member,
Southern Region Water Planning Committee*

The National Land Grant-USDA Water Quality Initiative (1987 – 2000)

- 1987 USDA-ES initiated the Water Quality Initiative. This included:
 - Water Quality Coordinators at LGUs, one per state.
 - State Water Quality Programs - formula funds
 - Hydrologic Unit Area projects – joint CES/SCS watershed projects
 - Water Quality Demonstration Projects – CES
- 1988 Southern Region Directors approved the Southern Region Extension Water Quality Planning Committee (SREWQPC) - 13 states plus VI and PR
- Under threat of losing formula WQ funding, the WQ Coordinators formed a cohesive network with shared USDA-CES leadership.

FY 2000 - Section 406

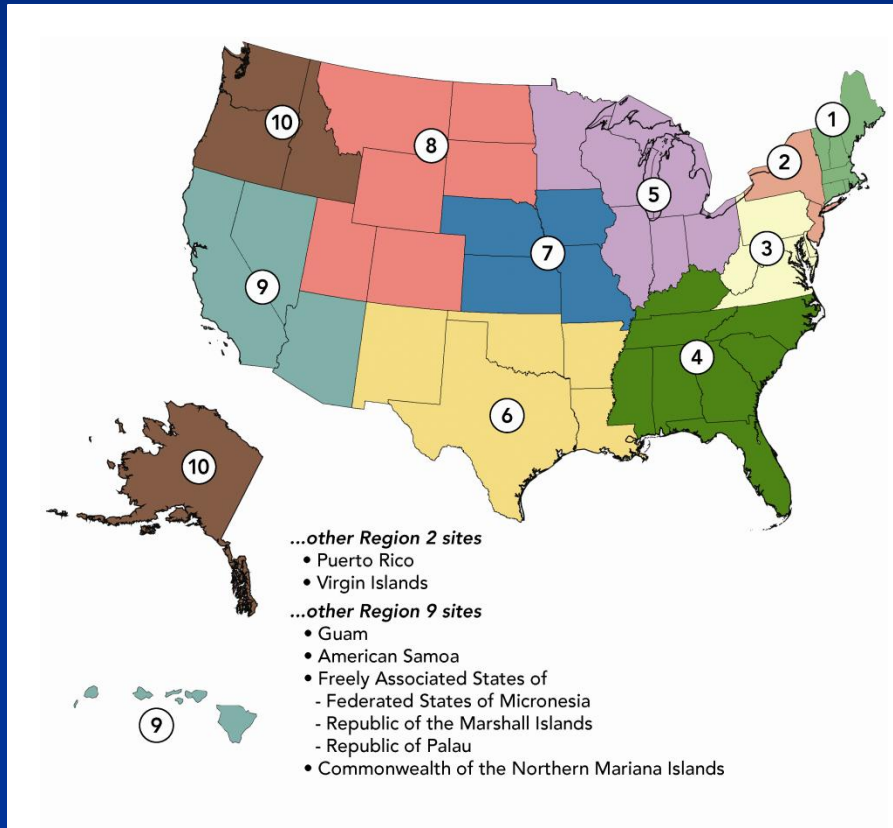
- AREERA Sec. 406: Competitive grants for Integrated Research, Extension and Education replaced formula funding.
- 4 major funding categories:
 - National Facilitation
 - Regional Water Resource Coordination
 - Extension Education
 - Integrated Research, Extension and Education Projects
- USDA formed the Committee for Shared Leadership

NIFA 406 Integrated Program Funding (since 2000)

Competitive Funding

➤ National Facilitation:	\$ 6,670,000
➤ Extension :	\$ 9,745,300
➤ Integrated (Res/Ext/Ed):	<u>\$53,378,245</u>
Total	\$69,793,545
Regional Coordination: (approx.)	\$60,000,000
Southern Region :	\$30,159,249

406 Regional Projects



- 9 Regional Projects
- Southern Project - combines the 13 states in EPA Regions IV and VI

Southern Region Water Resource Project

Formed in 2000 from the existing Southern Region Extension Water Quality Planning Committee (SREWQPC)

- Approved by the Southern Directors in 1988
- Strong history of collaboration, resource sharing, and information transfer.
- Shared programming
- Membership: 1862 and 1890 Institutions



Southern Region Water Conferences

Training opportunities, Research updates, information sharing, and networking opportunities – attendance typically 200 to 400

- | | |
|---------------------|-------------------|
| 1987 Washington, DC | 2001 Tampa |
| 1989 Birmingham | 2003 Ruidoso |
| 1991 Atlanta | 2005 Mobile |
| 1993 Charleston | 2007 Lexington |
| 1995 New Orleans | 2009 Fayetteville |
| 1997 Tulsa | 2011 Athens, GA |
| 1999 Raleigh | |



Southern Region Water Resource Planning Committee - leadership

- **Chair:** one-year term (Eve Brantley, Auburn)
- **Vice Chair:** elected annually (Maifon Silitonga, Alcorn State)
- **20 Voting Members:** 13 from 1862s, 7 from 1890s
- **Project Director:** 2000-2012 (Mark McFarland, Texas AgriLife Extension Service)
- **Representatives to Committee for Shared Leadership:** Mark McFarland, Greg Jennings, Cass Gardner
- **8 Program teams** – special projects, emerging issues

Southern Region Water Resource Project

➤ Primary Goals:

- Promote information sharing and resource exchange
- Technology transfer, training/capacity building
- Enhance delivery of LGU resources to clientele
- Coordinate resource development
- Build/strengthen external partnerships with Federal, state and local agencies and organizations (industry/commodity)

Integrated, Multi-Disciplinary Involvement

Extension, Research, Teaching

Ag/Biosystems Engineering
Ag Economics
Animal Science
Extension Education
Family & Consumer Sciences
Forestry and Natural Resources
Horticulture

IPM
Plant Sciences
Range Management
Rural Sociology
Soil Science
Wildlife Management
4-H and Youth

Southern Region Water Resource Project

➤ Outcomes:

- Research-based solutions to critical and chronic water resource problems. (pfiesteria, hypoxia, TMDLs, stormwater, etc.)
- Increased knowledge and positive actions of clientele.
- Improvement and protection of water resources at the local, watershed level.
- Emergency Response to Disasters like hurricanes Andrew, Katrina



8 Program Teams and Leadership

- Animal Waste Management – UT, UGA, OSU, AR
- Nutrient Management – NCSU, TAMU, UF
- Irrigation Water Management – NMSU, UF
- Water Policy and Economics – OSU, UF
- Drinking Water and Rural/Urban Interface Education – ASU, TAMU
- Watershed Education and Restoration – NCSU, Auburn, UAPB
- Watershed Assessment and Modeling – AAMU, UA
- Youth Water Education – UK, UGA

Special Projects Grants

➤ Purpose:

- Support the work of program teams
- Address multi-state issues
- Enhance leveraging of external funds

➤ To date:

- 46 projects have been funded since 2003
- \$1,323,000 distributed to program teams
- For 09-10, 12 projects: 41 faculty at 16 institutions

Nutrient Management Team

Leader: Deanna Osmond (NCSU)

Co-Leader: Rao Mylavarapu (UF)

Co-Leader: Mark McFarland (TAMU)

Members

Charles Mitchell (AU)

Teferi Tsegaye (AAMU)

Mike Daniels (UA)

Dirk Phillip (UA)

Andrew Sharpley (UA)

Morteza Mozaffari (UA)

Gene McAvoy (UF)

Cass Gardner (FAMU)

Sunil Pancholy (FAMU)

Leticia Sonon (UGA)

Melony Wilson (UGA)

G.B. Reddy (NCA&T)

Robert Flynn (NMSU)

Hailin Zhang (OSU)

Desh Duseja (TSU)

Sam Dennis (TSU)

Dharma Pitchay (TSU)

Fred Moore (BASF)

Larry Oldham (MSU)

Mike Bira (EPA)

Forbes Walker (UT)


Nutrient Management Team

- Multi-state nitrogen research
- Multi-state phosphorus index analysis and publications
- Collaboration with SERA 17 to develop regional P management factsheets
- Regional e-newsletters and on-line publications database
- Regional soil test webpage and streaming video demonstration of sampling

Drinking Water and Rural Interface Team


Alabama Water Quality Information System - Frequently Asked Questions

Applying knowledge to improve water quality



Alabama State Water Program

A Partnership of USDA CSREES & Land Grant Colleges and Universities



— Frequently Asked Questions —

This database is a compendium of Frequently Asked Questions (FAQs) on a wide variety of water related topics. The questions are sub-categorized under General Information or one of the eight current USDA/CSREES Water Quality Themes. In addition to the following FAQs, we have links to many web based water quality information in our [Publications](#) and [Links](#) sections.

Listed below are two ways to find Questions and Answers to many Water Quality Related Issues! We call this our FAQ database!

#1 Questions arranged by primary topic and subject areas:

1. General Water Information
2. Waste and Wastewater Management
3. Drinking Water and Human Health
4. Environmental Restoration
5. Nutrient and Pesticide Management
6. Pollution Assessment and Prevention
7. Watershed Management
8. Water Conservation and Management
9. Water Policy and Economics



#2 Conduct a quick search based on a keyword(s):

Enter a keyword or keywords

* If the information you are seeking is not located within our database and you would like to see it added, please inform us via [Contact Us](#).

<http://www.aces.edu/waterquality/faq/faq.htm> (1 of 2)3/1/2007 3:57:28 PM

Alabama Cooperative Extension System
Your Experts for Life



Drinking Water FAQ Database

- 2200 questions/answers
- **Over 4,000 hits per day**
- Basis for the drinking water CoP in eXtension

Down-well camera – well water education program

- Water Conservation with the 40 gallon challenge
- Septic System Education

Watershed Environmental Restoration Team

- 22 stream restoration workshops in 9 states
- over 1,200 participants

Introduction to
Morphology,
Classification, and
Bioassessment



*Stream Restoration
Workshop*

October 24-25, 2006

Weeks Bay Reserve

Fairhope, Alabama



Other Program Teams

- **Water Policy and Economics**
 - Water Rights and Water Law Forum in Oklahoma City
 - Survey of Water Conservation Tools
 - Survey of public attitudes and behavior and effect of information sources
- **Watershed Assessment and Modeling** – GIS/GPS training for Ag and Natural Resource Educators in South Carolina and Oklahoma.
- **Animal Waste Management** –
 - Videos on alternative treatment processes.
 - Sociology of Nutrient Management Planning
- **Youth Water Team** – Environmental Education, Water Camps

Impacts of 406 Loss

- \$12 million per year supports base WQ programs in most states.
- Loss of regional, multi-disciplinary collaborations (20 Southern Region institutions participating).
- ~53 faculty and support positions endangered
- >\$10 million in leveraged funds at risk
- Collapse of emerging programs (particularly in 1890s)
- Default on partnerships – industry, communities, partner agencies

Current Situation

406 line in NIFA budget = Zeroed

406 line in Pres. Budget = Zeroed

Risk of losing the network of LGU water programs across states, regions and the nation.

March 28th News!

Environmental Issues Americans Worry About*

Environmental Issue	Great deal/Fair amount	Not much/Not at all
Contamination of soil and water by toxic waste	79%	20%
Pollution of rivers, lakes, and reservoirs	79%	22%
Pollution of drinking water	77%	23%
Maintenance of nation's water supply	75%	24%
Global warming	51%	48%

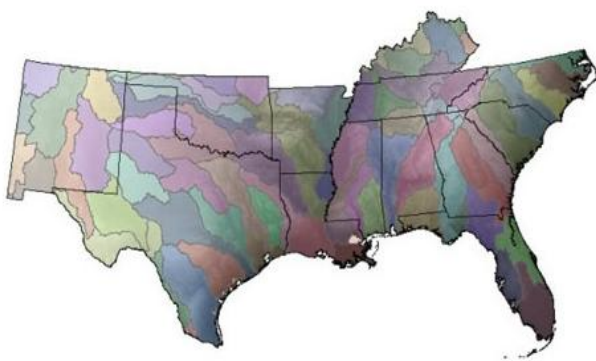
*Gallup Poll of 1,021 adults, March 3-6, 2011

Home About Us Calendar National Site Search Publications Regionwide:

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Research, Extension & Education Water Quality Programs through the Land Grant University System

Select a state for links to water information



Upcoming Events

3/24/2011 - 3/25/2011: Certified Professional in Storm Water Quality (CPSWQ) designation review and exam, Atlanta, GA; Take the next step in your storm water professional career by attending and obtaining this nationally recognized credential. The Georgia Chapter of the Soil & Water Conservation Society is sponsoring a CPSWQ review course and exam. For more information regarding the event go to www.gaswcs.org.

4/11/2011 - 4/13/2011: 2011 Georgia Water Resources Conference - Sustaining Georgia's Water Resources, The University of Georgia, Athens. Call for abstracts.

9/13/2011 - 9/16/2011: Southern Region Water Conference at the Georgia Center, Athens, GA. Mark your calendars. This year, in addition to a full schedule of sessions, tours, workshops and a

PROGRAM INFORMATION

- Program Areas
- Target Themes
- Reports and Resources
- Success Stories
- Regional Links
- Contacts
- Partners
- Youth
- Volunteer
- Proceedings
- Other National Water Program Projects
- Funded Projects

HOT TOPICS

- Watershed Assessment Tools for Extension and Research
- Climate Change Resource Center
- Watershed News (EPA)
- R6-EPA Seminar Series

For more information, please visit our website

<http://srwqis.tamu.edu>

Mike Smolen, Ph.D.
1988 – 2011, Member Southern Region Water Quality Planning Committee

Southern Region Water Program

- We are in our the 23rd year.
- The program is strong, but funding could be a serious problem, particularly for Extension.



*Southern Region Water Conference:
"innovations and Partnerships for Clean Water"*
September 13-16, 2011 Athens, GA



THANK YOU

On behalf of the Southern Region Water Program



Team POW

- Share information and resources
- Identify critical issues
- Interact with federal/state partners
- Seek opportunities to collaborate
 - Multi-state, regional

Special Projects Grants

➤ Process

- Proposals submitted for Committee review
- Proposals ranked/as many topped-ranked funded as possible

➤ History

- A total of 30 projects have been funded from 2003-2009.
- \$638,330 invested
- For 08-09, 41 individuals at 16 institutions were funded.

Nutrient Management Team

- Regional planning conference
- Produced summary of regs, training resources and P-indices
 - Available at <http://srwqis.tamu.edu/>
- Regional assessment of status of soil test calibration



Nutrient Management Team

Objectives for 2009 - Implement 3 Special Projects that will:

1. Compile agricultural BMPs and BMP efficiencies for the Southern states.
2. Capture soil fertility/nutrient management presentations for shared for use regionally.
3. Quantify contacts and contact hours for nutrient management education in 8 target states.
4. Evaluate knowledge gained through nutrient management training via a survey instrument.
5. Continue work to minimize differences among states in P indices.

Watershed Assessment and Modeling Program Team

Issues:

- Increasing user demand
- Economic development
- Limited and highly variable water resource
- Competing demands
- Unknown resource quantity
- Trans-border compacts

Watershed Assessment and Modeling Program Team

Solutions :

- Snowmelt Runoff Models (SRM)
- Empirical Modeling
- Surface Hydrology Models (SLURP)
- Mesoscale Meteorological Models (MM5)
- Water Conservation through crop models and land use planning (REEM)
- Soil Moisture Monitoring
- Drought Detection, Monitoring, Forecasting

Environmental Restoration

Stream Restoration Training and Demonstration in the Southeast 2007-2008

- Ecosystem Restoration Demonstration Projects: 6 new projects to demonstrate and evaluate innovative restoration techniques in a range of watershed conditions, including (1) coal mine reclamation site in KY; (2) urban parks in AL; (3) mountain forest in NC; and (4) urban floodplains in NC.
- Southeast Regional Stream Restoration Conference, November 3-6, 2008, Asheville, NC: 485 professionals from 22 states gained knowledge and networking contacts to improve ecosystem restoration design, implementation, and management.
- Professional Development Workshops: 400 professionals in 6 states gained technical knowledge and hands-on experience to plan, design, construct, and evaluate stream restoration projects to improve ecosystem health.



Partners: CSREES, Sea Grant, EPA, FWS, USGS, NRCS, USDA-FS, DOE, RC&D Councils, State Agencies, Citizen Organizations, Private Business

Example: Irrigation Water Management 08-09 Special Project Objectives

- Supplement at select locations the automated network of ag meteorology stations in the South.
- Build a web-based video library demonstrating techniques which improve Southern Region irrigation efficiency.
- Develop a comprehensive irrigation water management database to facilitate information sharing and strengthen educational efforts.

Example: Water Policy & Economics 08-09

Special Project Objectives

- Catalog and analyze Southern states' uses of water conservation policy tools (pricing schemes, quantity controls, subsidies, etc.).
- Summarize water conservation policy tool use and effectiveness in Southern states, and draft report.
- Identify and evaluate water conservation measures that are appropriate to local conditions.
- Extend the results to appropriate audiences in Extension and research areas.

Regional Conferences

- Biennial training conferences (11)
- Focus: sharing successful programs and innovative approaches to water resource issues
- Audience: Extension faculty (ag, FCS, CRD, 4-H), research, partners

Additional Impacts of the Southern Region Water Resource Project

- Leveraged over \$10.7 M additional funds
- Increased collaboration with 1890s
- Expanded/strengthened partnerships with external agencies and groups
- Enhanced local programming
- Professional development

Future

- Needs/Opportunities remain
- Network in place
- Seeking new participants and partners.

Handouts

- Southern Region Water Program
Executive Summary of the 2008-2012
Work Plan and 2004-2008
Accomplishment Report
- Presentation