Natural Resources and Environment Programs-I

USDA/CSREES Grantsmanship Workshop

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Program Name	National Program Leader	Program Specialist
Soil Processes	Nancy Cavallaro	Alexandra Raver
Integrated Water Quality (406)	Michael O'Neill	Bruce Mertz
Water and Watersheds	Mary Ann Rozum	Alexandra Raver
Air Quality	Ray Knighton	Dewell Paez

Soil Processes Program

Nancy Cavallaro

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September 30, 2008

Soil Processes Program

- Core natural resources program.
- Program is offered every year.
- Agroecosystems and Rural Prosperity Program Cluster.

Soil Processes Program Goals

- **Long Term (10 years)**

➢ To generate science-based knowledge that will lead to the development, adoption, and implementation of practices and tools that will ensure improved soil health and productivity. This means reduced contamination and increased efficiency of resource management and agricultural production, while maintaining soil and ecosystem health. It also will require improved predictive and conceptual models of dynamic soil properties and soil change for reducing negative impacts and feedbacks under changing conditions. Improving soil quality and health will increase productivity and enhance sustainability while protecting and enhancing the Nation's natural resources and environment.

Soil Processes Program
Priorities for FY 2008

- **Research**

- Interdisciplinary studies involving the interrelationships among soil physical, chemical, and biological characteristics and processes related to soil quality and sustainability, especially regarding water and nutrients in relation to agricultural quality, productivity, and environmental health.

- Multi-scale research that can help bridge the gap between molecular and microscopic site process studies and field landscape and/or watershed-scale studies relating to soil quality.

Soil Processes Program
Priorities for FY 2008

- **Research**
  - Development and/or application of new or improved technologies, methodologies, tools, or strategies to enhance our understanding of biological, biogeochemical, and physical processes. In addition, these methods or tools should be used to enhance our understanding of dynamic properties in soils related to agricultural production, as well as soil and environmental health, focusing specifically on water, carbon, and nutrient cycles at multiple scales where appropriate.

Soil Processes Program
Information for FY 2008

- Letter of Intent due date November 19, 2007
  - Please see RFA for the specific requirements of the letter of intent.
- Response to Letter of Intent by NPL by December 3, 2007
- Invited Application deadline date February 14, 2007

Soil Processes Program Statistics

Funding Year	2006*	2007*	2008
# of proposals	109	107	97
# of proposals awarded	18	19	22
% success	17	18	22

*% success includes all proposal types

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Water & Watersheds Program

Mary Ann Rozum

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Water & Watersheds Program

- Core natural resources program.
- Program is offered every year.
- Agroecosystems and Rural Prosperity Program Cluster.
- Program supports research only. Applications addressing integrated research, extension, and education for water resources should consider the National Integrated Water Quality program

Water & Watersheds Program Goals

- **Long Term (10 years)**

- reduce pathogens, such as bacteria, viruses, and protozoa in waters derived from agricultural and rural watersheds
- maintain adequate water supplies for agricultural crop and livestock production and rural use.

Water & Watersheds Program
Priorities for FY 2008

- Understand the sources, fate, and transport of pathogens, such as bacteria, protozoa, and viruses in soil surface and ground water, and irrigation systems of agricultural and rural watersheds to reduce zoonotic pathogens in the environment. Special emphasis is considered for Escherichia coli, Cryptosporidium, and enteric viruses.

Water & Watersheds Program
Priorities for FY 2008

- Identify, evaluate, and understand producer management behaviors that improve agricultural water conservation in crop, livestock, and poultry production, with an emphasis on a) projects that integrate hydrologic, economic, and policy components; b) social determinants of water use; and c) documented water savings, especially at spatial scales greater than a single field.

Water & Watersheds Program
Information for FY 2008

- Additional focus on pathogen transport and survival in irrigation systems.
- Letter of Intent – Not required for this program.
- Application deadline date January 17, 2008

Water & Watersheds Program Statistics

Funding Year	2006	2007	2008
# of proposals	55	45	67
# of proposals awarded	16	15	19
% success	26%	34%	28%

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National Integrated Water Quality Program

Michael O'Neill

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National Integrated Water Quality (406)

Program Philosophy

- Identify major water resource issues to be addressed by USDA-CSREES Water Resources Program
- Define narrow focus areas for projects (e.g., Conservation Effects Assessment Project)
- Fund watershed scale focus areas for 3-4 years to build a “cohort” of projects within a focus area
- Develop a synthesis of the knowledge gained and identify the remaining challenges in focus areas

National Integrated Water Quality (406)

Underlying Questions

- What are the human impacts (positive and negative) on agricultural, rural, and urbanizing watersheds?
- What science, education, outreach, and technology is needed to reverse or reduce negative impacts or promote positive impacts of human activity in agricultural, rural, and urbanizing watersheds?

National Integrated Water Quality (406)

Funding Tools

- National Integrated Water Quality Program - $12 M
  - Regional Water Quality Coordination Projects - $6 M
  - Watershed and National Projects - $4 M
  - Conservation Effects - $3 M (includes $1 M from NRCS)

National Integrated Water Quality (406 – Including CEAP)

Funding Year	2006	2007
# of proposals	72	63
# of proposals awarded	16	12
% success	22	19
Average award size (standard)	$431,000	$442,000
Average award duration	3 yrs	3 yrs

National Integrated Water Quality

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Air Quality Program

Raymond Knighton

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Air Quality

Goals and Priorities

- Research
  - Fate and transport of agriculturally important air pollutants
  - Characterization of air borne particulate matter
- Integrated
  - Measurement and monitoring methods as well as fluxes for air emissions from agricultural practices
  - Mitigation practices to reduce or prevent emissions

Air Quality

Significant changes for FY 2008

- More emphasis placed on crop production/forestry systems than animal systems
  - Emissions from animal systems will not be considered if projects duplicate the NAEMS (National Air Emissions Monitoring Study)
- Higher priority placed on emissions of volatile organic compounds
- Letter of intent is required for integrated projects
  - More focus on human dimensions of barriers to adopt control technologies

Air Quality program statistics

Funding Year	2005	2006
# of proposals	42	63
# of proposals awarded	12	11
% success	28.6%	17.5%
Average award size (standard)	$441,000	$452,000
Average award duration	2.8 years	3 years

Air Quality Program

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