

Name: James E. Hook

Rank: Professor (Graduate Faculty, Faculty of Engineering)

% Salary Budgeted: Instr. 4% Res. 96% Ext. 0 Outreach 0



Program Overview:

Manage and conduct basic and applied research on soil-plant-water systems; provide scientific and technical leadership in areas of soil and water resources to the state; participate in graduate and undergraduate education. 28 years experience conducting irrigation and tillage research in Georgia Coastal Plain conditions. Crop responses to drought, modeling soil and water management, irrigation scheduling, irrigation water conservation. Studies of tillage systems and on fate and transport of agri-chemicals in the environment.

10 years experience in conducting studies of surface and groundwater use, hydrology of the Southeast, especially Georgia, using Fortran models, GIS maps, Access database and other tools.

Classroom instruction for UGA undergraduate and graduate students. Courses have included Soils and Hydrology, Soil and Water Conservation, Irrigation Technology, Microclimatology.

Major professor or advisory committee member for several graduate students, including students at UGA, Georgia Tech, and Florida State Univ. Student research includes fate or pesticides in soils and runoff, hydrology of ponds, international water policy and modeling, soil and crop modeling.

Leadership, management, and cooperative research in interdisciplinary research programs, including obtaining of extra-mural funding, design of research, and management of personnel.

Education:

Ph.D. Agronomy (Minor study areas: Groundwater Hydrology, Geochemistry, and Sanitary Engineering) The Pennsylvania State University, 1975.

M.S., B.S. Agronomy, The Pennsylvania State University, 1971, 1969.

Employment:

Asst. , Assoc., & Professor, Crop and Soil Sciences Department, Univ. of Georgia, Coastal Plain Exp. Sta., Tifton, GA (1978-present).

Research Associate, Dep. of Crop and Soil Sci., Michigan State Univ., East Lansing, MI (1975-1978).

Research Assistant, Inst. for Research on Land and Water Resources, Penna. State Univ., University Park, PA (1971-1975).

Membership in Professional Societies:

American Society of Agronomy from 1966.

Soil Science Society of America from 1966.

American Society of Agricultural Engineers from 1999
 International Union of Soil Scientists from 1998.
 Irrigation Association (International), 1997-present
 Council for Agricultural Science and Technology from 1977.
 Society of Sigma Xi from 1971.
 American Peanut Council (formerly National Peanut Council), 1993-present.
 Georgia Agribusiness Council, 1992-present.
 Georgia Conservation Tillage Alliance, 1995-2003
 Georgia Corn Growers Association, 1997-present
 Georgia Irrigation Association, 1997-present - UGA liaison
 Georgia Soil Science Society, 2000-2003
 Georgia Association of Water Professionals, 2005 to present

Awards:

Phil Karr Water Wise Award of the Georgia Association of Water Professionals, 2005
 Fellow Soil Science Society of America, 1999; American Society of Agronomy, 1996.
 USDA Certificate of Appreciation for Innovations in the Assessment Process, NAPIAP, 1996.
 USDA Certificate of Merit for Development of Chemigation Systems, 1996.
 Carter-Jones Award for Excellence in Research, Crop and Soil Sciences, 1995.
 Distinguished Research Award, Tifton Sigma Xi Club, 1995.
 Phi Kappa Phi, Alpha Zeta Agricultural Honorary, Phi Epsilon Phi Botanical Honorary, Phi Sigma Society for Biological Sciences, Gamma Sigma Delta.

Contributions to Teaching:

(1) Undergraduate

Course #	Title	Times taught (Sp & Fall)	Avg. # of Students
CRSS3360	Soils & Hydrology (Fall)		15
CRSS4580	Soil & Water Conservation (Sp)		14
AESC3920	Internship (Fall)		1
AESC4950	Special Topics Soils (Fall)		1
AESC4960	Undergrad Research		1

(2) Graduate

Course #	Title	Times taught (Sp & Fall)	Avg. # of Students
CRSS6580	Soil & Water Conservation (Sp)		3
CRSS7300	MS Thesis (Sp, SU, Fall)		1

(3) Service on Graduate Advisory Committees

Degree (MS/Ph.D) Involvement (member/chair)
 Amber Alfonso (M.S. Candidate. Crop & Soil Science. Chair Committee – 2005-2006)
 Glenn Ritchie (Ph.D. Candidate. Crop & Soil Science. Co-Chair Committee – 2005-2006)
 Warren Carmichael (M.S. Hydrology. Fl. State Univ. Committee Member)
 Jared Whitacre (M.S. 2005. Crop and Soil Science. Committee Member)
 Don Christy (Ph.D. Ecology. 2004. Reading Committee. Committee Member)
 Kelly Brumbelow (Ph.D. 2003. Civil Engineering, Georgia Tech, Committee Member)
 Stuart Pockney (Ph.D. 1999. Crop and Soil Sciences, Committee Member)

Contributions to Research and Other Creative Activities:

No. of books: 1

No. of book chapters: 3

No. of refereed papers/by journal: 12. (Irrigation Sci. - 1; Trans. ASAE - 2; Appl. Eng. Agric. - 1; Int. J. Remote Sensing - 1; Agric. Water Mngt. - 1; J. Soil Water Cons. - 1; Soil Sci. Soc. Am. J. - 1; Ga. Geol. Soc. - 1; Water Resour. Res. - 2; J. Environ. Qual. 1.)

No. of proceedings papers: 41 (15 peer reviewed)

No. of abstracts: 16

No. of Patents/PVPs: 0

Other activities: Developed and maintained 7 websites related to irrigation and water resources;

Conceived, designed and led construction of \$1.2 million C.M. Stripling Irrigation Research Park, Camilla, GA

Contributions to Extension:**Sources of Grants/amounts:**

USDA-CSRS Special Grants: \$743,500 (\$245,300)

National Peanut Council, Southern Peanut Research Initiative: \$312,500 (\$212,000)

Georgia Dept. of Natural Resources, EPD: \$2,445,328 (\$929,300)

Georgia Ag Commodity Committee for Corn - \$88,000 (\$81,000)

Georgia Peanut Commission: \$8,000 (\$8,000)

Harrison Foundation: \$10,000.

Contributions to Professional Service: (committee service to department, college, university, and/or professional societies)

To University, College and Department:

UGA: Faculty Council, 2005-2008; Institutional Review, Geography Department, 2000-2001; Center for River Basin Science & Policy, Exec. Comm., 2000-2003.

CAES: Faculty Council, 2005-2008; National Environmentally Sound Production Agriculture Laboratory. Executive Committee 2001-2005; Liaison to Georgia Irrigation Association 1997-2005; Stripling Irrigation Research Park - Chair, Core Committee of the SIRP Program Planning Committee February 2004-2005; Stripling Irrigation Research Park, Dedication Committee, 2002; Stripling Irrigation Research Park, Steering Committee, 2001-2005; Ag Water Initiative, 2000; Facilities & Land Use Task Force, 1995-1999; Strategic Planning Committee, 1999; Land Use Task Force, 1999-2001;

Department: Search Committee, Environmental Chemist, 2006; Search Committee, Soil Chemist, 2006; Operational, Strategic, and Redirection Planning, 2002; Strategic Planning Committee, 1999-2000; Graduate Committee, 1997-1999;

Professional societies:

American Society of Agronomy: Elected Board Rep. Division A5 - 2001-2004; ACS394 Editorial Board for *Irrigation of Agricultural Crops*. 1999-2002; A447 Environmental Quality Research Award Committee, 2004-2006. Chair 2006.

Soil Science Society of America: S370 Book Series Committee. 1997-2001. Vice Chairman, 1998-2000.

Associate Editor for the *Soil Science Society of America Journal* 1996-2000.

CSREES Regional Research Projects: SR-IEG 73, Soil Physics, State representative and participant, 1998-2001; SERA-IEG 20, Southern Conservation Tillage Conference, Steering Committee, 1995-1999, Chair and Host the 1999 Meeting in Tifton, drafted the IEG extension proposal 1999-2003; S1018 Project, Humid Region Irrigation, 2005-2009, Chair and host of the 2005 meeting in Georgia.

Manuscript reviewer: *Journal of Environmental Quality* – 3; *Soil Science Society of America Journal* – 17; *Transactions of American Soc. Ag. Eng.* -3; *Agronomy Journal* – 1; *Transactions of American Soc. Ag. Eng. (ASABE)* – 10; ASA Special Issue on Precision Conservation – 1; *Ground Water* -1.

Presentations at professional meetings: national – 18 (7 invited) ; regional – 17.

Federal Agencies:

NSF Review Panel: Sensors and Sensor Networks. May, 2005. Washington, DC.

NSF NEON Sensors Workshop, invited participant, Nov-Dec 2005. Seattle.

Dept. Energy: Energy-Water Nexus Policy panel (2 meetings, invited presentation) 2005-06, Washington, DC. Albuquerque.

Interagency: Workgroup on Earth Observations, 2005, Washington, DC.

Dept. Agriculture: Presenter to National Drought Policy Commission, 1999-2001; Economic Research Service panel on Impacts of drought on farm economies. 2003.

Proposal Peer Reviewer – State Programs: 2004 USDA-CSREES Watershed Processes and Water Resources Program – 3 proposals; 2004 USDA Small Business Initiative Research – 1 proposal; 2000 USDA-Small Business Innovation Research - Irrigation & Scheduling Technologies – 1; 1999 USDA-National Research Initiative - Water Resources – 2; 1999 USDA-Small Business Innovation Research - Irrigation & Scheduling Technologies - 2.

Proposal Peer Reviewer – State Programs: 2005 Georgia Water Resources Institute Reviewer – Water Resource Management – 2; 2003 Kansas Water Resources Research Program - Information management for water resources. 2002 Georgia ACC for Corn - All subjects – 30; 2001 Georgia ACC for Corn - All subjects – 20; 2000 Georgia ACC for Corn - All subjects – 18; 1999 Georgia ACC for Corn - All subjects - 23; 1999 Kansas Water Resources Institute. - Use of web based, automated weather data collection and irrigation scheduling, subsurface drip irrigation and water use efficiency - 5.

State Agencies:

Appointed Attorney General’s Water Advisory Council 2003-2005.

Appointed Governor’s Advisory Council for Tri-state Water Issues; 1999-2004. – also conducted modeling studies with Auburn Univ. and NRCS on irrigation water requirements in the ACT-ACF basin as part of ACT-ACF Comprehensive Study.

Appointed Georgia Drought Planning Committee (Reheis & Kerr), vice-chair of agriculture group; 2000-2001.

Appointed General Assembly’s Joint Georgia Comprehensive Water Plan – Advisory Committee; 2002-2004.

Appointed DNR-EPD Flint River Basin Plan - Technical Advisory Committee 2004-2006.

Consultant to Florida’s Suwannee Water Management District on irrigation metering

Appointed Georgia Statewide Water Planning – Water Conservation Technical Advisory Committee, 2005-2006.

Developed Georgia EPD’s GIS-Based agricultural permitting system (managing 25,000 permits); mapped 700,000 acres of irrigation fields and sources in Flint River basin.

Southwest Georgia Water Resources Task Force (NGO) Organizer, Vice Pres. 1995-2005, 4 to 15 meetings/y; 11 conferences.

Goals for the Next Five Years:

Continued participation in undergraduate education at the Tifton Campus of UGA and/or ABAC.

Continued leadership in Georgia and national water issues affecting or affected by agriculture irrigation.

Collaborative research leading to improvement in irrigation efficiency and irrigation management.

Retirement from UGA