

Daniel Eugene Storm

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ACADEMIC BACKGROUND

Ph.D., Agricultural Engineering, 1991. University of Kentucky, Lexington, Kentucky. Dissertation Title: "Modeling Dynamic Rill Networks From Random Surfaces on Moderate Slopes." Dr. Billy J. Barfield, Advisor.

M.S., Agricultural Engineering, 1986. Virginia Polytechnic Institute & State University, Blacksburg, Virginia. Thesis Title: "Modeling Phosphorus Transport in Surface Runoff From Agricultural Watersheds For Nonpoint Source Pollution Assessment." Dr. Theo Dillaha, Advisor.

B.S., Agricultural Engineering, 1984. Virginia Polytechnic Institute & State University, Blacksburg, Virginia.

MAJOR AREAS OF RESEARCH AND TEACHING INTERESTS

Water quality, ecological engineering, hydrology and watershed modeling, geographic information systems, lotic ecosystem nutrient dynamics, development of tools and guidelines for TMDLs, and nutrient and waste management systems.

PROFESSIONAL EXPERIENCE

Professor. Biosystems and Agricultural Engineering Department, Oklahoma State University, Stillwater, Oklahoma. Research/Teaching (75/25) appointment in the area of water resources engineering. Current courses include Watershed Modeling and Water Quality and Soil and Water Resource Engineering. Dr. Storm's research program emphasizes water quality modeling and hydrologic processes, critical source area identification, geographic information systems, lotic ecosystem dynamics, developing tools and guidelines for TMDLs, and nutrient and waste management systems. 7/01 to Present (Associate Professor 7/95-6/01; Assistant Professor 12/90-6/95).

Extension Environmental Specialist, Assistant Professor. Biosystems and Agricultural Engineering Department, Oklahoma State University, Stillwater, Oklahoma. Development and delivery of water quality educational programs related to poultry and dairy waste management systems, nutrient management, well head protection, and soil and water conservation. 12/90 - 6/91.

Graduate Research Assistant. Agricultural Engineering Department, University of Kentucky, Lexington, Kentucky. Development and validation of a physically based dynamic erosion model describing rill and interrill erosion processes, and the development of channel networks. Extensive field work experience: plot selection and construction, rainfall simulator overhaul, rill meter system design and construction, and extensive rainfall simulator plot studies. Supervision of 3 to 5 field workers for plot construction and data collection, and 1 to 3 laboratory workers. 7/86-12/90.

Graduate Research Assistant. Agricultural Engineering Department, Virginia Polytechnic Institute & State University, Blacksburg, Virginia. Development and validation of a nonpoint source phosphorus model incorporated into ANSWERS, a comprehensive watershed model. Development of design storm methodology using stochastically generated rainfall intensities. Extensive field work experience: rainfall simulator plot studies, rainfall simulator field demonstrations, and flume construction for watershed monitoring project. 7/84-7/86.

Engineer Trainee. Cooperative Education Program, U.S. Army Corp of Engineers, Engineering Topographic Laboratories, Fort Belvoir, Virginia. Design, construction and calibration of soil-moisture data acquisition system for four types of moisture sensors. Responsible for maintenance and operation of instrumented test facility, and analysis of surface radiometric temperatures to various soils, vegetative cover, and meteorological conditions. Also responsible for continuous measurements and analysis of soil-moisture data, air and soil temperature profiles, and standard meteorological parameters. 1/81-6/84.

ACTIVE PROFESSIONAL AFFILIATIONS

Alpha Epsilon
American Ecological Engineering Society
American Water Resources Association
ASABE, The Society of Agricultural and Biological Engineers

AWARDS

James A. Whatley Award for Meritorious Research in Agricultural Sciences, 2003, Oklahoma State University Division of Agricultural Sciences and Natural Resources.

Sterling L. (Bud) Burks Award for Outstanding Environmental Research. 2003. Oklahoma State University Environmental Institute.

ASAE Honorable Mention Paper Award. 2000. Matlock M. D., D. E. Storm, M. D. Smolen, M. E. Matlock, A. McFarland and L. Hauck. Development and application of a lotic ecosystem trophic status index. Transactions of the ASAE 42(3): 651-656.

ASAE Honorable Mention Paper Award. 1999. Haan, C.T., D.E. Storm, T. Al-Issa, S. Prabhu, G.J. Sabbagh, D.R. Edwards. Effect of parameter distributions on uncertainty analysis of hydrologic models. Transactions of the ASAE 41(1):65-71.

CONSULTING

Expert witness for the case titled City of Tulsa and Tulsa Metropolitan Utility Authority vs. Tyson Foods Inc., Peterson Farms, Inc., George's inc., Cobb-Vantress, Inc., Cargill, Inc., Simmons Foods, Inc., and the City of Decatur, Arkansas (Case No. 01-CV-0900). 2002-2003. Identified and quantified sources of phosphorus loading to Lakes Eucha and Spavinaw located in Northeast Oklahoma and Northwest Arkansas.

Expert witness for Plaintiff in litigation related to water quality degradation in Grand Lake, Oklahoma.

WORKSHOPS

Storm, D.E., M.J. White. Use of Upland Watershed Models for Targeting and Evaluation of Water Quality Programs Dealing with Nutrients and Sediment. US Environmental Protection Agency Region VI Workshop Dallas, Texas, November 15-16, 2006.

Storm, D.E., M.J. White, P. Busted. SWAT 2000 Advanced Use and Application Short Course, Biosystems and Agricultural Engineering Department, Oklahoma State University, Stillwater, Oklahoma, July 25-27, 2006.

Storm, D.E., M.J. White. SWAT 2000 Advanced Use and Application Short Course, Biosystems and Agricultural Engineering Department, Oklahoma State University, Stillwater, Oklahoma, July 26-29, 2005.

Storm, D.E., M.J. White. SWAT 2000 Advanced Use and Application Short Course, Biosystems and Agricultural Engineering Department, Oklahoma State University, Stillwater, Oklahoma, December 9-13, 2002.

GRANTS AND PROPOSALS

During Dr. Storm's tenure at Oklahoma State University (December 1990 to present) he has generated numerous grants. Funding has been supplied by the National Science Foundation, U.S. Department of Agriculture Cooperative State Research Service, U.S. Department of Agriculture Soil Conservation Service, U.S. Environmental Protection Agency, U.S. Geological Survey, Oklahoma Agricultural Experiment Station, Oklahoma Water Resources Research Institute, U.S. Golf Association, Oklahoma Conservation Commission, Oklahoma Department of Agriculture, and the City of Tulsa.

Grants Awarded

Lead Principal Investigator

SWAT Model Code Modifications to Include Instream Phosphorus Analysis and Update of the SWAT Model for the Illinois River Basin. Oklahoma Department of Environmental Quality/US Environmental Protection, Lead PI: D.E. Storm, Federal \$126,298, 7/1/07-6/30/08.

Illinois River Riparian Targeting. Oklahoma Conservation Commission/US Environmental Protection Agency 319 FY2005 Program, Lead PI: D.E. Storm, Co-PI: G. Fox, Federal \$20,134, State \$13,423, Total \$33,558, 9/1/07-6/30/08.

Development of a Watershed-based Plan for the Wister Lake Watershed. Oklahoma Department of Environmental Quality/US Environmental Protection, Project Leader: Amec Earth and Environmental, OSU Lead PI: D.E. Storm, Federal \$2,500, 6/1/07-9/01/08.

National Watershed Protection Program Solicitation Award, Contract Number EP-C-08-002. US Environmental Protection Agency, Office of Wetlands, Oceans, and Watersheds. Project Leader: CADMUS Group, Inc., OSU Lead PI: D.E. Storm.

Support for Developing the Northern Canadian Watershed Based Plan: Targeting Critical Source Areas of N and P and Modeling Lake Overholser. Oklahoma Conservation Commission/US Environmental Protection Agency 319 Program, Lead PI: D.E. Storm, State \$66,667, Federal \$100,000, Total \$166,666. 6/15/06 - 3/31/07.

Calibration/validation of the SWAT model For the Climate Impact Analysis. USDA ARS Cooperative Agreement, PI: Daniel Storm, \$13,663, 10/06-9/07.

Predicted Biomass Yields for Sweet Sorghum and Swithgrass in Oklahoma by Soil and Climate Region. Oklahoma State University Biosystems and Agricultural Engineering Department Internal Funds, PI: Daniel Storm, \$7,000, 6/06-7/06.

Monitoring Edge-of-Field Phosphorus Loss To Validate a P Loss Index For The Spavinaw Creek Watershed. Oklahoma Conservation Commission/US Environmental Protection Agency 319 FY2004 Program, Lead PI: D.E. Storm, Co-PI: H. Zhang, M.D. Smolen, B. Haggard, State \$222,251, Federal \$333,377, Total \$555,628. 5/1/05 - 9/30/06.

GIS Targeting - Spavinaw Creek Watershed. Oklahoma Conservation Commission/US Environmental Protection Agency 319 FY2005 Program, Lead PI: D.E. Storm. Federal \$91,000, State \$60,667, Total \$151,667, 5/1/05-10/31/05.

Protocol to determine the optimal placement of riparian/buffer strips in watersheds. Oklahoma Water Resources Research Institute/USGS, Lead PI: D.E. Storm, Co-PI: G.O. Brown, M.D. Smolen, Federal \$25,000, State \$50,000, Total \$75,000, 3/1/05-2/28/06.

Wister Lake Targeting and Cost Share Program Evaluation. Oklahoma Conservation Commission/US Environmental Protection Agency 319 FY2002 Program, Lead PI: D.E. Storm. Federal \$150,000, State \$100,000, Total \$250,000, 6/1/05-12/31/05.

A Nutrient Management Decision Support System for the Eucha Basin. U.S. Department of Agriculture. Lead

Pi: M.D. Matlock, D.E. Storm CoPI: I. Chauby, B. Haggard, W. Focht, M.D. Smolen. Federal \$697,619. 9/1/02-8/31/05.

Modeling NPS Components in the Ft Cobb TMDL. Oklahoma Department of Environmental Quality. Lead Pi: D.E. Storm. State \$15,000. 11/1/02- 4/30/03.

Modeling Nutrients in the Illinois River Basin Using SWAT. Oklahoma Department of Environmental Quality. Lead Pi: D.E. Storm. State \$25,678. 10/1/02- 6/15/03.

Stillwater Creek Basin – Modeling and Landcover Classification. U.S. Environmental Protection Agency/Oklahoma Conservation Commission. Lead Pi: D.E. Storm. Federal \$30,000, OSU \$20,000, Total \$50,000. 11/1/02- 3/15/03.

Fort Cobb Basin – Modeling and Landcover Classification. U.S. Environmental Protection Agency/Oklahoma Conservation Commission. Lead Pi: D.E. Storm. Federal \$30,000, OSU \$20,000, Total \$50,000. 10/1/02-1/1/03.

Nutrient Load and SWAT Model Update for the Lake Eucha Basin. City of Tulsa. Lead Pi: D.E. Storm CoPI: M.D. Smolen. City of Tulsa \$38,931, OSU \$0, Total \$38,931. 3/1/02-9/1/02.

Evaluating Cost Effective Technologies to Reduce Phosphorus Loading to Surface Waters for the Ozark Region. US Geological Survey/OWRRI. PI: D.E. Storm; CoPI: A. Stoecker. USGS \$30,000, OSU \$60,000, Total \$90,000. 3/1/02-2/28/03.

Evaluation of Soil P Indices for Management of Poultry Litter in Spatially-variable Landscapes in the Ozark Region of Southwest Missouri and Northeast Oklahoma. Lead Pis: D.E. Storm, N. Basta. \$90,156. USEPA/Animal Waste Consortium. 7/1/00 - 6/30/02.

Assessment of the Impact of Manure Applications on Soil Phosphorus and Water Quality. USEPA Consortium on Animal Waste Management. Lead Pis: D.E. Storm, N. Basta; Co-PIs: H. Zhang. USEPA \$90,156. 10/1/00-9/30/02.

Assessment of In-Stream Nutrient Dynamics Within the Lake Eucha Basin. City of Tulsa. Lead PI: D.E. Storm, C-PI: Brian E. Haggard, Valerie Keyworth, Michael D. Smolen, C. Tom Haan, Hailin Zhang, Emily H. Stanley, Marty D. Matlock, Robert A. Lynch, Dan Butler. City of Tulsa \$121,333, OSU \$0, Total \$121,333. 9/9/98-9/0/01.

Estimating Watershed Level Nonpoint Source Loading for the State of Oklahoma. U.S. Environmental Protection Agency/Oklahoma Conservation Commission. Lead PI: D.E. Storm; Co-PI: D.R. Gade, P.L. Kenkel, M.S. Gregory, M.D. Smolen, C.T. Haan. USEPA \$25,000, OSU \$33,617. 5/1/98-10/31/99.

Winrock/Short-Term Training - Hicrettin Cebel and Irfan Oquz. Winrock Foundation. Winrock \$25,000, OSU \$2,250, Total \$27,250. Lead PI: D.E. Storm. 7/1/98-12/31/98.

Modeling Phosphorus Loading for the Lake Eucha Basin. City of Tulsa. Lead PI: D.E. Storm, Co-PI: M.S. Gregory, M.D. Smolen, C.T. Haan, P.L. Kenkel, H. Zhang. City of Tulsa \$112,687, OSU \$0, Total \$112,687. 4/1/98-3/31/01.

Estimating NPS Phosphorus and Sediment Loading to the Upper Deep Fork Watershed. U.S. Environmental Protection Agency/Oklahoma Conservation Commission. PI: D. E. Storm; Co-PI: W. Marshall, M.S. Gregory, M.D. Smolen, C.T. Haan. Federal \$10,000, OSU \$6,667, Total \$16,667. Award Dates: 3/1/97-9/31/97.

Developing a Digital Elevation Model for Lake Henryetta Watershed. Oklahoma Water Resources Board. Pis: D.E. Storm, M.S. Gregory. State \$928, OSU \$418, Total \$1,346. Award Dates: 1/10/95 - 6/30/95.

Support for Implementing Effective State-Wide Water Quality Programs in Oklahoma. Oklahoma Department of Agriculture. Pis: D.E. Storm, M.D. Smolen. State \$35,000, OSU \$15,750, Total \$50,750. Award Dates: 7/1/95 - 6/31/97.

Poteau River Comprehensive Watershed Management Program. U.S. Environmental Protection Agency. PIs: M.D. Smolen, D.E. Storm; Co-PIs: M.S. Gregory. Federal \$245,000, OSU \$163,334, Total \$408,334. Award Dates: 8/1/94 - 10/1/97.

Demonstrating BMPs to Protect Surface Water Quality From Land Application of Animal Wastes. U.S. Environmental Protection Agency. PI: D.E. Storm, Co-PI: R.L. Huhnke, E. Allen, N. Basta, M.D. Smolen. Federal \$105,239, OSU \$70,159, Total \$175,398. Award Dates: 8/1/94 - 4/1/97.

Support for Implementing Effective State-wide Water Quality Programs in Oklahoma. Oklahoma Department of Agriculture. PI: D.E. Storm, M.S. Smolen. State of Oklahoma \$35,000, OSU \$15,750, Total \$50,750. Award Dates: 7/1/94 - 6/30/95.

Determining the Nutrient Status of the Upper Illinois River Basin Using a Lotic Ecosystem Trophic Index. U.S. Environmental Protection Agency. PI: D.E. Storm, M.D. Matlock; Co-PI: M.D. Smolen. Federal \$11,612, OSU \$7,742, Total \$19,354. Award Dates: 1/1/94 - 7/1/95.

Estimating Nonpoint Source Pollution Loading for the Grand Lake Basin Management Plan. U.S. Environmental Protection Agency. PI: D.E. Storm, D. Waits; Co-PI: M.S. Gregory, M.D. Smolen. Federal \$26,580, OSU \$11,961, Total \$38,581. Award Dates: 1/1/94 - 7/1/95.

Biological Validation of Watershed-scale Models for Nonpoint Source Nutrient Loading. US Geological Survey/Oklahoma Water Resources Research Institute. PI: W.J. Henley, D.E. Storm. Federal \$15,000, OSU \$30,872, Total \$45,872. Award Dates: 7/1/94 - 6/30/95.

Evaluating BMPs to Control Nitrate Contamination in Ground Water. US Geological Survey/Oklahoma Water Resources Research Institute. PI: D.E. Storm; Co-PI: M.D. Smolen, M.A. Kizer. Federal \$13,314, OSU \$26,628, Total \$39,942. Award Dates: 7/1/93 - 6/30/94.

Food and Agricultural Science National Needs Graduate Fellowship Program. U.S. Department of Agriculture. PI: D.E. Storm; Co-PI: C.T. Haan, R.L. Elliott, G.O. Brown, D.L. Nofziger, D.J. Turton, N. Basta, M.D. Smolen, M.A. Kizer. Federal \$108,000, OSU \$0, Total \$108,000. Award Dates: 9/1/93 - 8/31/98.

Support for Implementing Effective State-wide Water Quality Programs in Oklahoma. Oklahoma Department of Agriculture. PI: D.E. Storm, M.S. Smolen. State of Oklahoma \$35,000, OSU \$15,750, Total \$50,750. Award Dates: 7/1/93 - 6/30/94.

Application of Geographic Information Systems for Developing A Total Maximum Daily Load (TMDL) System for the Upper Poteau River Basin. Oklahoma Agricultural Experiment Station. PI: D.E. Storm; Co-PI: M.D. Smolen, C.T. Haan, G.J. Sabbagh. OAES \$8,500. Award Dates: 7/1/93 - 6/30/94.

Evaluating Poultry Litter Management to Reduce Water Contamination. U.S. Department of Agriculture Soil Conservation Service. PI: D.E. Storm; Co-PI: R.L. Huhnke, M.D. Smolen, C.T. Haan, A. Sharpley. Federal \$74,667, OSU \$74,667, Total \$149,334. Award Dates: 5/1/92 - 4/31/95.

Basin-wide Pollution Inventory for the Illinois River Comprehensive Basin Management Program. U.S. Environmental Protection Agency. PI: D.E. Storm; Co-PI: M.D. Smolen, D. W. Toetz, C.T. Haan, D.J. Turton. Federal \$57,000, OSU \$24,075, Total \$81,075. Award Dates: 10/1/92 - 12/31/94.

Poultry and Swine Litter Disposal System. Oklahoma Agricultural Experiment Station. PI: D.E. Storm; Co-PI: M.D. Smolen, C.T. Haan, R.L. Huhnke, N.T. Baste, A. Sharpley. OAES \$10,600. Award Dates: 9/1/92 - 6/30/93.

Wister Lake Total Maximum Daily Load (TMDL) Project. Oklahoma Agricultural Experiment Station. PI: D.E. Storm; Co-PI: M.D. Smolen, C.T. Haan, M. S. Gregory. OAES \$9,600. Award Dates: 9/1/92 - 6/30/93.

Support of Establishment of Nutrient and Sediment Loading to Lake Wister. Oklahoma Conservation Commission. PI: D.E. Storm, M.D. Smolen; Co-PI: C.T. Haan. State \$10,000, OSU \$4,500, Total \$14,500. Award Dates: 10/16/92 - Completion.

Support for Upper Poteau River Project. Oklahoma Conservation Commission. PI: D.E. Storm, M.D. Smolen; Co-PI: C.T. Haan. State \$2,406, OSU \$1,083, Total \$3,489. Award Dates: 1/1/92 - Completion.

Additional Support for Upper Poteau River Project. Oklahoma Conservation Commission. PI: D.E. Storm, M.D. Smolen; Co-PI: C.T. Haan. State \$833, OSU \$375, Total \$1,208. Award Dates: 2/1/92 - Completion.

Upper Poteau River Project. Oklahoma Department of Agriculture. PI: M.D. Smolen and D.E. Storm. State \$47,926, OSU \$21,087, Total \$69,013. Award Dates: 1/1/92 - Completion.

Illinois River Basin -- Treatment Prioritization. U.S. Environmental Protection Agency. PI: D.E. Storm; Co-PI: M.D. Smolen. Federal \$30,780, OSU \$20,520, Total \$51,300. Award Dates: 8/1/91 - 1/31/94.

Evaluation of BMP Implementation for the Tipton Wellhead Protection Area. U.S. Environmental Protection Agency. PI: D.E. Storm; Co-PI: M.D. Smolen and M.A. Kizer. Federal \$25,000, OSU \$16,667, Total \$41,667. Award Dates: 8/1/91 - 7/31/94.

Characterization and Prediction of Drainage Networks of Field-Sized Areas. U.S. Geological Survey. PI: D.E. Storm. Federal \$23,500, OSU \$23,500, Total \$47,000. Award Dates: 11/1/91 - 9/30/92.

Co-Principal Investigator

Red River Chloride Control Project, Area IV: GIS Mapping and Economic Data. PI: A. Stoecker; Co-PI: D.E. Storm, H. Zhang, C. Godsey, M. Kizer, J. Vitale. U.S. Army Corps of Engineers, Tulsa District. \$250,519, 1/1/09 - 2/28/10.

Riparian Buffers and Floodplain Management Effects on Subsurface Phosphorus Transport in Alluvial Floodplains in the Illinois River Basin. PI: G. Fox, Co-PI: D. Storm, T. Halihan, C. Penn, G. Brown. Oklahoma Conservation Commission/US Environmental Protection Agency 319 Program. \$142,820 Federal, 10/01/08-12/31/09.

Subsurface Transport of Phosphorus to Streams: A Potential Source of Phosphorus Not Alleviated by Best Management Practices (BMPs). Oklahoma Water Resources Research Institute/USGS, Lead: Garey Fox, Chad Penn, Co-PI: Daniel Storm, Glenn Brown, Federal \$50,000, State \$25,000, Total \$75,000, 3/07-2/08.

Biorentention Cell Design, Evaluation, and Technology Demonstration. Oklahoma Conservation Commission/US Environmental Protection Agency 319 FY2005 Program, Lead PI: G.O. Brown, Co-PI: D.E. Storm, M.D. Smolen, Federal \$249,313, State \$166,206, Total \$415,518, 7/1/05-6/30/08.

Optimal Selection of Management Practices, Policies, and Technological Alternatives for Phosphorus Abatement: Using GIS and Economic Methodology to Model a Watershed - Continuation Grant. Oklahoma Water Resources Research Institute/USGS, Lead PI: B. Adams, Co-PI: A. Stoecker, D.E. Storm \$25,000, State \$50,000, Total \$75,000, 3/1/05-2/28/06.

Optimal Selection of Management Practices, Policies, and Technological Alternatives for Phosphorus Abatement: Using GIS and Economic Methodology to Model a Watershed. Oklahoma Water Resources Research Institute/USGS, Lead PI: B. Adams, Co-PI: A. Stoecker, D.E. Storm \$25,000, State \$50,000, Total \$75,000, 3/1/04-2/28/05.

An Institute For Adding Value to Riparian Corridors in Urbanizing Watersheds: The Stillwater Creek Initiative. Oklahoma State University Environmental Institute, Lead PI: D.C. Coston, CoPI: B.J. Barfield, D.E. Storm, M.D. Smolen, W. Fisher, D. Sanders, T. Boyer, D. Turton, C. Moseley, R. Bryant, R. Marston, M. Karns, \$85,000. 7/1/03 - 2/29/04.

Systems Approach to Maintaining Natural Capital in Rapidly Developing Watersheds. National Science Foundation. Lead PIs: B.J. Barfield, S. Klaine (Clemson University); CoPIs: D.E. Storm, Barbara J Speziale, Scott R Templeton. NSF \$100,000, OSU \$0, Total \$100,000. 10/1/01 - 9/30/02.

Assessment of the Impact of Manure Applications on Soil Phosphorus and Water Quality. USEPA Six-state Consortium on Animal Waste Management. PIs: H. Zhang, D. Storm. Total \$55,700. 7/1/99-6/30/01.

Research Experiences for Undergraduates. National Science Foundation. PI: J. Salisbury and T. A. Wikle; Co-PI: J.A. Bantle, J.D. Carlson, N.C. Elliott, M.D. Smolen, S.J. Stadler, D.E. Storm, D.A. Waits. Federal \$134,336. 1/1/99-12/31/02.

Using Water Treatment Residuals to Reduce Phosphorus Loading to the Lake Eucha Basin. Oklahoma Agricultural Experiment Station. PI: N. Basta; Co-PI: D.E. Storm, M. Slaughter, M. Hannon. OSU \$45,000, 7/1/99 - 6/30/01.

Measuring Basin-wide Rural-Unimproved Road Erosion in Oklahoma. Oklahoma Agricultural Experiment Station. PI: D. Turton and D.E. Storm. OSU \$9,000. 7/1/99 - 6/30/01.

Demonstration of Best Management Practices in the Salt Fork Watershed. U.S. Environmental Protection Agency. Lead PI: M.D. Smolen, Co-PI: D.E. Storm, G. Cuperus, R. Gribble, J. Stiegler, G. Johnson, G. Krenzer, R. LeValley, S. Price, H. Zhang. Federal \$90,000, OSU \$60,000, Total \$150,000.

Environmentally Sound Grazing System for Utilization of Nutrients from Poultry Litter. U.S. Environmental Protection Agency/Oklahoma Conservation Commission. Leading PI: M.D. Smolen; Co-PI: J. Britton, S. Smith, H. Zhang, D. Storm. Federal \$185,792, OSU \$123,862, Total \$309,654. Award Dates: 5/1/97-4/30/00.

Characterization of Stream bank Erosion on the Illinois River in Northeast Oklahoma. U.S. Environmental Protection Agency/Oklahoma Conservation Commission. Leading PI: C.T. Haan; Co-PI: M.D. Smolen, D.E. Storm. Federal \$12,000, OSU \$8,000, Total \$20,000.

Soil Phosphorous Testing for Surface Water Quality Protection. OSU Environmental Institute. Leading PI: H. Zhang; Co-PI: N. Basta, D. Storm, J. Hattey. State \$25,000, OSU \$11,250, Total \$36,250. Award Dates: 7/1/97-6/30/98.

Food and Agricultural Science National Needs Graduate Fellowship Program. U.S. Department of Agriculture. PI: D.J. Turton; Co-PI: D.E. Storm, C.T. Haan, R.L. Elliott, G.O. Brown, D.L. Nofziger, N. Basta, M.D. Smolen, M.A. Kizer. Federal \$108,000, OSU \$0, Total \$108,000. Award Dates: 9/1/95 - 8/31/00.

Spatial Distribution Model of Storm Rainfall for Hydrologic Analysis. Oklahoma Agricultural Experiment Station. PI: G.J. Sabbagh; Co-PI: C.T. Haan, M.D. Smolen, D.E. Storm, T. S. Kornecki. OAES \$21,000. Award Dates: 7/1/94 - 6/30/95.

Evaluation of Best Management Practices to Protect Surface Water Quality from Pesticides and Nitrogen Applied to Common Bermudagrass Fairways. U.S. Golf Association. PI: J.H. Baird, Co-PI: D.L. Martin, R.L. Huhnke, D.E. Storm, M.D. Smolen. USGA \$148,069, OSU \$25,783 Total \$173,852. Award Dates: 1/1/95 - 12/31/98.

Evaluation of Hydrologic/Water Quality Models (continuation). USGS/Oklahoma Water Resources Research Institute. PI: C.T. Haan; Co-PI: D.E. Storm, M.D. Smolen. Federal \$13,500, OSU \$27,000, Total \$40,500. Award Dates: 7/1/93 - 6/30/94.

Evaluation of Hydrologic/Water Quality Models. U.S. Department of Agriculture Cooperative State Research Service. PI: C.T. Haan; Co-PI: G.J. Sabbagh, D.E. Storm. Federal \$150,000, OSU \$88,137, Total \$238,137. Award Dates: 8/15/93 - 8/15/95.

Evaluation of Hydrologic/Water Quality Models. USGS/Oklahoma Water Resources Research Institute. PI: C.T. Haan; Co-PI: D.E. Storm, M.D. Smolen. Federal \$13,500, OSU \$27,000, Total \$40,500. Award Dates: 7/1/93 - 6/30/94.

Development of Technologies to Reduce Waste Disposal Constraints for the Expanding Swine and Poultry Industries. Oklahoma Agricultural Experiment Station. PI: C. Maxwell. Co-PI: R. Teter, D.E. Storm, R.L. Huhnke. OAES \$29,083. Award Dates: 7/1/93 - 6/30/94.

Global/Local Climate/Biosystems Models - The Interfaces. Oklahoma Agricultural Experiment Station. PI: C.T. Haan; Co-PI: D.E. Storm, R.L. Elliott, B.J. Barfield, D.L. Nofziger, T. Hennessey. OAES \$5000. Award Dates: 9/1/92 - 6/30/93.

Real Time Flood Forecasting. National Science Foundation EPSCoR Program. PI: C.T. Haan, Co-PI: D.E. Storm. Federal \$102,000, State \$103,000, OSU \$0, Total \$205,000. Award Dates: 3/1/92 - 3/1/95

Food and Agricultural Science National Needs Graduate Fellowship Program. U.S. Department of Agriculture. PI: C.T. Haan; Co-PI: R.L. Elliott, G.O. Brown, D.E. Storm, D.L. Nofziger, D.J. Turton, J.F. Stone, M.D. Smolen, M.A. Kizer. Federal \$108,000, OSU \$0, Total \$108,000. Award Dates: 9/1/91 - 8/31/96.

Integration of GIS and Nonpoint Water Quality Models. Oklahoma Center for the Advancement of Science and Technology. PI: C.T. Haan; Co-PI: D.E. Storm, D.L. Nofziger. State \$207,740, OSU \$207,839, Total \$415,588. Award Dates: 7/1/90 - 6/30/93.

Examination of Potential Risks to Water Quality from Animal Waste Applied to Soils of 12. Eastern Oklahoma. U.S. Department of Agriculture Soil Conservation Service. PI: R.L. Huhnke; Co-PI: D.E. Storm, G.O. Brown, M.D. Smolen, B.J. Carter. Federal \$50,000, OSU \$45,000, Total \$95,000. Award Dates: 5/10/90 - 9/30/92.

PUBLICATIONS

Refereed Articles

Kang, R. S., Storm, D., and Marston, R. A. 2009. Downstream effects of urbanization in an urbanizing stream in Oklahoma. *Physical Geography*, In Review.

Busteed, P.R., Storm, D.E., M.J. White, S. Stoodley. 2009. Using SWAT to Target Critical Source Sediment and Phosphorus Areas in the Wister Lake Basin, USA. *American Journal of Environmental Sciences*, In Press.

White, M.J., D.E. Storm, M.D. Smolen, H. Zhang. 2009. Development of a Quantitative Pasture Phosphorus Management Tool using the SWAT Model. *Journal of the American Water Resources Association*, In Press.

White, M.J., D.E. Storm, P.R. Busteed, S.H. Stoodley. 2009. Evaluating Nonpoint Source Critical Source Area Contributions at the Watershed Scale. *Journal of Environmental Quality*, In Press.

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Meagan Armstrong Smith, Laura E. Christianson, Daniel E. Storm, Michael J. White. Satellite Comparison for Riparian Corridor Analysis. Modeling Phosphorus Transport in Agroecosystems: Joining Users, Developers, and Scientists, Ithica NY, July 31-August 1, 2006.

Ranbir Kang, Richard Marston, Daniel Storm. Geomorphic Impacts of Urbanization in Two Watersheds in Oklahoma. Association of American Geographers, Chicago, IL, March 7-11, 2006.

Phil Busted, Daniel Storm, Michael White. Using SWAT to Model Sediment and Total Phosphorus Loads For the Fort Cobb Basin. Final Report Presentation to USDA-ARS, Stillwater, Oklahoma, January 30, 2006.

Scott Stoodley, Brenda Berasi, Phil Busted, Michael White, Daniel Storm. Targeting Implementation of Best Management Practices. 2006 National Nonpoint Source Coordinators' Meeting, Yarrow Hotel-Park City, Utah, June 19-22, 2006.

Stoodley, S., B. Berasi, P. Busted, M. White, and D. Storm. Utilization of Remotely Sensed Data for Targeting and Evaluating Implementation of Best Management Practices within the Wister Lake Watershed, Oklahoma. 5th Annual New York State Remote Sensing Conference: Remote Sensing Across the Great Lakes. Rochester, NY. April 4-6.

Michael J. White, Daniel E. Storm, Brian Haggard. Modeling Phosphorus Transport from Catchments using SWAT and an In-Stream Component. 15th Annual Oklahoma Clean Lakes and Watersheds Association, Western Hills Guest Ranch, Wagoner, Oklahoma, April 5-7, 2006.

Phillip R. Busted¹, Michael J. White, Daniel E. Storm¹, Scott H. Stoodley. Using SWAT to Model and Target Upland Areas in the Fort Cobb Basin. 15th Annual Oklahoma Clean Lakes and Watersheds Association, Western Hills Guest Ranch, Wagoner, Oklahoma, April 5-7, 2006.

Michael J. White, Daniel E. Storm, Philip R. Busted. Upland and In-stream Phosphorus Modeling of the Illinois River Basin. 15th Annual Oklahoma Clean Lakes and Watersheds Association, Western Hills Guest Ranch, Wagoner, Oklahoma, April 5-7, 2006.

Michael J. White, Daniel E. Storm¹, Scott H. Stoodley, Phillip R. Busted. Targeting High Nonpoint Source

Contributing Areas in the Turkey Creek Basin. 15th Annual Oklahoma Clean Lakes and Watersheds Association, Western Hills Guest Ranch, Wagoner, Oklahoma, April 5-7, 2006.

Michael J. White, Daniel E. Storm, Michael D. Smolen, Hailin Zhang. PPM Calculator: A Tool for Pasture Phosphorus Management. 15th Annual Oklahoma Clean Lakes and Watersheds Association, Western Hills Guest Ranch, Wagoner, Oklahoma, April 5-7, 2006.

Michael J. White, Daniel E. Storm, Philip R. Busteed. Targeting High Phosphorus Loss Areas in the Spavinaw Creek Basin. 15th Annual Oklahoma Clean Lakes and Watersheds Association, Western Hills Guest Ranch, Wagoner, Oklahoma, April 5-7, 2006.

Meagan Armstrong Smith, Laura E. Christianson, Daniel E. Storm, Michael J. White. Satellite Comparison for Riparian Corridor Analysis. 15th Annual Oklahoma Clean Lakes and Watersheds Association, Western Hills Guest Ranch, Wagoner, Oklahoma, April 5-7, 2006.

Brown, G.O., D.E. Storm, C.X. Jin. 2005. Defining sediment TMDL's on small watersheds. 2005 ASAE Annual International Meeting, Tampa Convention Center, Tampa, Florida, 17 - 20 July 2005.

R. Westerman, D.E. Storm, H. Zhang. Soil Test Phosphorous, Crop Production, and Water Quality. Oklahoma Attorney General/Poultry Industry Mediation Presentation, Tulsa, Oklahoma, July 19, 2005.

Storm, D.E., M.D. Smolen. 2005. An Introduction to Watershed Modeling. Oklahoma State University Cooperative Extension Service In-service Training, August 2005.

Storm, D.E. M.D. Smolen, M.J. White, H. Zhang. 2005. The PPM Calculator A Tool for Pasture Phosphorus Management and Implementation of TMDLs. Southern Region Extension Water Quality Conference 2005, Holiday Inn North, Lexington, Kentucky, October 23rd - 26th, 2005.

Armstrong, M., L. Christianson, M. White, and D. Storm. Satellite Comparison for Riparian Corridor Analysis. Poster presented April 7, 2005. AAG Annual Conference, Denver, CO.

Storm, D.E., M.D. Smolen, M.J. White. 2003. Effect of Litter and Soil P on Water Quality: Why Export Litter? Poultry Waste Management Training Workshop, Oklahoma State University Cooperative Extension Service, Jay, Oklahoma, January 30, 2003.

Stoodley, S., D.E. Storm, M.J. White. 2002 Utilization of Remotely Sensed Data for Targeting BMP Implementation – Case Study: Fort Cobb Basin, Oklahoma. Annual Quad Regions Nonpoint Source Conference 2002, September 23 - 27, 2002, Lake Barkley State Resort Park.

Storm, D.E., M.D. Smolen, M.J. White. 2003. Effect of Litter and Soil P on Water Quality. Oklahoma State University Animal Waste Luncheon, Stillwater, Oklahoma, March 24, 2003.

Matlock, Marty D., Matt Murawski, Indrajeet Chaubey, Brian Haggard, Dan Storm. 2003. Bosque River Case Study: An Ecological Engineering Approach to Phosphorus Control. DEFRA/IGER International Phosphorus Linking Workshop, London, England, May 8-9, 2003.

M. D. Smolen, Tim Propst, Mike White, D. E. Storm. 2003. Nonpoint Source Pollution Control in the Salt Fork Arkansas River Watershed. Great Plains Foundation Symposium. Wichita, KS, March 26-27, 2003.

Storm, D.E. 2002. Watershed Modeling & Water Quality Standards. Collaboration on Environmental Programs, University of Arkansas & Oklahoma State University, Williams Learning Center, Tulsa, Oklahoma December 18-19, 2002.

Storm, D.E., and M.D. Smolen. 2003. Effect of Litter and Soil P on Water Quality Why Export Litter? Delaware County Poultry Education Seminar, Jay, Oklahoma, January 30, 2003.

Storm, D.E. 2003. Application of the SWAT Model to the Eucha/Spavinaw Basin: City of Tulsa vs. Tysons et al. Litigation. Oklahoma State University Animal Waste Seminar, Stillwater, Oklahoma.

Storm, D.E. and M.J. White. 2002. Nutrient and Sediment Interactions Related to Hydrologic Modeling in Upland Agricultural Systems. Systems Approach to Maintaining Natural Capital in Rapidly Developing Watersheds Workshop, Clemson, South Carolina, March 7-12, 2002.

Alan R. Johnson, Stephen J. Klaine¹, Billy J. Barfield, Daniel E. Storm and Scott R. Templeton. 2002. A Conceptual Model of the Coupled Dynamics of Land Use Change and Natural Capital in Rapidly Developing Watersheds. 17th Annual Symposium International Association for Landscape Ecology United States Regional Association, Lincoln, Nebraska, April 23-27, 2002, Landscapes in Transition: Cultural Drivers and Natural Constraints.

H. Zhang, N.T. Basta, J.A. Hattey, D.W. Hamilton, G.V. Johnson, M.D. Smolen, & D.E. Storm, Ken Matlock. 2002. Nutrient Management In Oklahoma. 2001 Annual Meeting, American Society of Agronomy, Charlotte, NC, Oct 20-25, 2001.

R. L. Davis, H. Zhang, and D. E. Storm. 2002. Phosphorus Runoff Potential in Selected Oklahoma Benchmark Soils. 2001 Annual Meeting, American Society of Agronomy, Charlotte, NC, Oct 20-25, 2001.

Storm, D.E. and S. Stoodley. 2001. Oklahoma Phosphorus Index. Four Regions Nonpoint Source Program Meeting. October 1-5, 2001 - Atlantic Sands Hotel - Rehoboth Beach, Delaware.

Neal B., J.C. Klena, Daniel Storm, Donald Turton. Estimating Road Erosion Using GPS, GIS and RUSLE. Oklahoma Section ASAE, October 27, 2000, Stillwater, OK.

Storm, D.E., M.D. Smolen. Phosphorus Risk Index: How Should It Be Used in a TMDL? Water Environment Federation, TMDL Science Issues Conference, March 4-6, 2001, St. Louis, Missouri.

Haggard, B.E., D.E. Storm, E.H. Stanley. Stream Nutrient Dynamics Below a High Nutrient Contributing Source. Lake Eucha Field Day, Oklahoma Conservation Commission, September 9, 1999.

Keyworth, Valerie, Dan Storm, Bob Lynch, Brian Haggard, David Altom. Using Matlock Periphytometers to Determine Limiting Nutrient in Lake Eucha Tributaries. Oklahoma Academy of Science, Oklahoma City, Oklahoma, November 1999.

Neal, B., D.E. Storm. Using GIS to Identify Sensitive Areas for Land Application of Poultry Litter to the Lake Eucha Basin. American Water Resources Research, Seattle, Washington, December 1999.

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Smolen, M. D. and D.E. Storm. Total Maximum Daily Loads (TMDLs): Implications for the Animal Industry. National Conference for the Animal Waste Initiative. Kansas City. September 1999.

Storm, D.E. Overview of Projects: Modeling Phosphorus Loading for the Lake Eucha Basin, and Methods to Assess Lotic (Flowing Water) Ecosystems in the Lake Eucha Basin. Southern Region Research Project S-273, Development and Application of Comprehensive Agricultural Ecosystems Models, Knoxville, Tennessee, October 17-19, 1999.

Storm, D.E. Tools for Developing TMDLs: Eucha Basin Case Study. University of Puerto Rico, Mayaguez, Puerto Rico, February 25, 2000.

Storm, D.E. Tools for Developing TMDLs Upland and In-stream Nutrient Processes. Foro: Contaminacion por Fuentes Dispersas: Perspectiva y Situacion Actual, Salon Anexo Biblioteca, Estacion Experimental Agricola, Rio Piedras, San Juan, Puerto Rico, February 23, 2000.

Storm, D.E., M.D. Matlock, V.G. Keyworth, B.E. Haggard, M.D. Smolen. A Methodology to Evaluate Lotic Ecosystem Response to Nutrient Enrichment. Poster Number 982205. ASAE Annual International Meeting, Orlando, Florida, July 11-16, 1999.

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Jason Hollenback, Tom Haan. Modeling Phosphorus Loading for the Lake Eucha Basin. Lake Eucha Field Day, Oklahoma Conservation Commission, September 9, 1999.

Storm, Dan, Brian Haggard, Valerie Keyworth, Yulia Popova, Shane Kirby, Ron Tejral, Hailin Zhang, Mike Smolen, Bob Lynch, David Altom, Carol Crouch, Harry Chichester, Marty Matlock, Emily Stanley, Bill Fisher, Don Turton. Assessment of In-Stream Nutrient Dynamics Within the Lake Eucha Basin. Lake Eucha Field Day, Oklahoma Conservation Commission, September 9, 1999.

Haggard, B.E., V.G. Keyworth, D.E. Storm, E.H. Stanley. Effects of a Point Source Impacted Tributary on Main Stream Nutrient Dynamics. Oklahoma Clean Lakes Association, Eighth Annual Symposium, University of Oklahoma Biological Station, Kingston, Oklahoma, March 24-26, 1999.

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Storm, D.E., M.D. Matlock, M.D. Smolen, M.E. Matlock, B.E. Haggard, V.G. Keyworth, D.R. Gade, C.T. Haan, M.S. Gregory. Evaluating Terrestrial and Lotic Ecosystem Response to Nutrient Enrichment. 47th Annual Meeting North American Benthological Society, Duluth, Minnesota, May 25-28, 1999.

Storm, D.E., B.E. Haggard, M.D. Matlock, V.G. Keyworth, M.D. Smolen. Methods to Assess Lotic (Flowing Water) Ecosystems in the Lake Eucha Basin. Oklahoma Association of Environmental Education EXPO 1999, February 12, 1999, Stillwater, Oklahoma.

Marshall, W.R., D.E. Storm, M.D. Smolen, C.T. Haan. 1998. Examination and development of soil sampling strategies for estimating basin-scale soil phosphorus. Water Quality and Animal Wastes Conference, Oklahoma Section of the American Water Resources Association, Oklahoma City, Oklahoma, March 2-4, 1998.

Matlock, M.D. D.E. Storm, M.D. Smolen, M.E. Matlock, A.M.S. McFarland, L. Hauck. 1998. Development and Application of a Lotic Ecosystem Trophic Status Index. Oklahoma Clean Lakes Association, Seventh Annual Symposium on Perspectives on Watershed Management, Stillwater, Oklahoma, April 1-3, 1998.

Matlock, M.D., D.E. Storm, M.D. Smolen, W.C. Hession, M.E. Matlock. 1998. A periphyton-based lotic ecosystem trophic status index. 17th International Symposium of the North American Lake Management Society, Houston, Texas, December 3-6, 1997.

Smolen, M.D., D.E. Storm, W.R. Marshall. 1998. Animal Waste and Water Quality, General Observations and Research Results. Water Quality and Animal Wastes Conference, Oklahoma Section of the American Water Resources Association, Oklahoma City, Oklahoma, March 2-4, 1998.

Storm, D.E., M.D. Smolen, P.L. Kenkel. 1998. Using a Mass Balance Approach to Determine N and P Distributions in Oklahoma. Water Quality and Animal Wastes Conference, Oklahoma Section of the American Water Resources Association, Oklahoma City, Oklahoma, March 2-4, 1998.

Storm, D.E., M.D. Matlock, M.E. Matlock, M.D. Smolen. 1998. Using Algae as a Bio-indicator to Develop a Trophic Status Index for TMDLs. Water Quality and Animal Wastes Conference, Oklahoma Section of the American Water Resources Association, Oklahoma City, Oklahoma, March 2-4, 1998.

Storm, D.E., B.E. Haggard, M.D. Smolen, D.R. Gade, M.D. Matlock, M.E. Matlock, C.T. Haan, M.S. Gregory. 1998. Assessment of Nonpoint Source Impacts on Lotic Ecosystems. Oklahoma Clean Lakes Association, Seventh Annual Symposium on Perspectives on Watershed Management, Stillwater, Oklahoma, April 1-3, 1998.

Storm, D.E., G.J. Sabbagh, M.S. Gregory, M.D. Smolen, D.R. Gade, J.R. Ramsey, C.T. Haan, M.J. Fram, D.C. Jackson, D.M. Barnes. 1998. Using SIMPLE to Estimate Nonpoint Source Phosphorus Loading to the Upper Illinois River Basin. Assessment of Nonpoint Source Impacts on Lotic Ecosystems. Oklahoma Clean Lakes Association, Seventh Annual Symposium on Perspectives on Watershed Management, Stillwater, Oklahoma, April 1-3, 1998.

Storm, D.E., M.D. Matlock, M.D. Smolen, M.E. Matlock, B.E. Haggard, V. Keyworth, D.R. Gade, C.T. Haan, M.S. Gregory. 1998. Modeling Terrestrial and Lotic Ecosystem Response to Nutrient Enrichment. In: Practical and Innovative Measures for the Control of Agricultural Phosphorus Losses to Water. An OECD Sponsored Workshop, Greenmount College of Agriculture and Horticulture, Northern Ireland, June 16 - 19, 1998.

Storm, D.E., M.D. Matlock, M.D. Smolen, M.E. Matlock, D.R. Gade, C.T. Haan, M.S. Gregory. 1998. Assessment of Nonpoint Source Impacts on Lotic Ecosystems. Water Quality of Surface and Ground Water and Best Management Practices, Arkansas Water Resource Center Annual Research Conference, Fayetteville, Arkansas, April 8-9, 1998.

Smolen, M.D., D. E. Storm, M. D. Matlock. 1997. Basinwide Total Maximum Daily Load: Pros and Cons. 2nd Annual EPA Region 6 Nonpoint Source Conference - Austin, Texas, March 3-5, 1997.

Matlock, M.D., M. D. Smolen, D. E. Storm. 1997. A Risk Based Approach to Total Maximum Daily Loads. EPA Region 6 Watershed Workshop - Bandera, Texas, March 18-20, 1997.

Matlock, M.D., M. D. Smolen, D. E. Storm. 1997. Total Maximum Daily Loads - Options and Considerations. Texas Natural Resource Conservation Commission Speaker Series - Austin, Texas, May 15, 1997.

Storm, D.E. 1996. Estimating Phosphorus Loading to the Upper Illinois River. OP-SETAC, 1996 Regional Conference Ozark-Prairie South-Central Rocky Mountain, May 16-18, 1996, Oklahoma State University, Student Union, Stillwater, Oklahoma.

Smolen, M.D., D.E. Storm. Pros and Cons for TMDL. Oklahoma Clean Lakes Association 1997 Symposium, Lake and Watershed Management: Partnership for a Quality Future, April 9-11, 1997, Lake Murray Resort, Oklahoma.

Storm, D.E., M.D. Smolen. 1997. Modeling Nonpoint Source Nutrient Loading to Wister Lake Watershed. Wister Lake/Poteau River Conference and Tour, April 17-18, 1997, Poteau, Oklahoma.

Storm, D.E., M.D. Smolen. Estimation of a Total Maximum Daily Load for Lake Wister. Oklahoma Clean Lakes Association 1996 Symposium, Innovative Approaches to Watershed Management, April 4-5, 1996, Fountainhead Resort Lake Eufaula, Oklahoma.

Storm, D.E., G.J. Sabbagh, M.S. Gregory, M.D. Smolen, D. Toetz, D.R. Gade, C.T. Haan, T. Kornecki. 1996. A SIMPLE Application: Estimating Nonpoint Source Loading of Phosphorus to the Illinois River Basin. American Water Resources Association, 32nd Annual Conference and Symposium on GIS and Water Resources, Fort Lauderdale, Florida, September 22-26, 1996.

Storm, D.E. 1997. Application of GIS with Hydrologic/water Quality Models. Geography Seminar, Oklahoma State University, Stillwater, Oklahoma, February 17, 1997.

Storm, D.E., M.D. Smolen. 1996. Wister Lake TMDL. Public Meeting, Carl Albert Jr. College, Poteau, Oklahoma, May 16, 1996.

Matlock, M.D., D.E. Storm. A lotic ecosystem trophic status index using a periphytic community as a bio-indicator. Interagency Water Quality Meeting, Natural Resource Conservation Service, Stillwater, Oklahoma, February 12, 1995.

Sabbagh, G.J., Storm, D.E., M.S. Gregory, D.R. Gade, J.R. Ramsey, C.T. Haan. Using SIMPLE to Predict NPS Phosphorus and Sediment Loads to the Upper Illinois River Basin. Summer International Meeting of the ASAE, Chicago, Illinois, June 18-23, 1995. Poster Presented by D.E. Storm.

Sabbagh, G.J., Storm, D.E., M.S. Gregory, D.R. Gade, J.R. Ramsey, C.T. Haan. Estimating NPS Phosphorus and Sediment Loads to the Upper Illinois River Basin. House and Senate Agriculture Committee Conference, OSU, Stillwater, OK, November 4, 1995. Poster Presented by D.E. Storm.

Storm, D.E., G.J. Sabbagh, M.S. Gregory, D.R. Gade, J.R. Ramsey, C.T. Haan. 1995. Modeling Nonpoint

Source Pollution Loading in the Upper Illinois River Basin using GIS and SIMPLE. Interdisciplinary Conference on Animal Waste and the Land-Water Interface, Fayetteville, Arkansas, July 16-19, 1995.

Storm, D.E. Poteau River Watershed Project Overview. Presented to the Poteau River Comprehensive Management Plan Local Steering Committee, Poteau, Oklahoma, February 9, 1995.

Storm, D.E. Evaluating Poultry Litter Management to Reduce Surface Water Contamination. Natural Resource Conservation Service, Stillwater, Oklahoma, February 27, 1995.

Storm, D.E., M.D. Smolen, M.S. Gregory, C.T. Haan. Wister Lake Watershed Project. Update on OSU Activities in GIS, Stillwater, Oklahoma, May 30.

Storm, D.E., G.J. Sabbagh, M.S. Gregory, M.D. Smolen, C.T. Haan. Estimating nonpoint sources of phosphorus to the Upper Illinois River Basin. Oklahoma Department of Agriculture, Stillwater, Oklahoma, November 15, 1995.

Storm, D.E. Case Study: Nutrient and sediment loading for Grand Lake. In-service Training, Oklahoma Cooperative Extension Service, Stillwater, Oklahoma, October 10, 1995.

Matlock, M.D., D.E. Storm, W.J. Henley, and S.L. Burks. 1994. Monitoring nutrient loading to the Upper Illinois River using an *in-situ* Periphyton nutrient enhancement system. South Central Society of Environmental Toxicology and Chemistry Annual Meeting. (Oral Presentation by M.D. Matlock).

Matlock, M.D., D.E. Storm, W.J. Henley, S.L. Burks, M.E. Matlock, D. Butler, W. Shockley. 1994. A Basin Scale Risk Assessment using a Lotic Ecosystem Trophic Index. Society of Environmental Toxicology and Chemistry, 15th Annual Meeting, Denver, Colorado, October 30 - November 3, 1994. (Poster Session Presented by M.D. Matlock)

Storm, D.E., M.D. Smolen, R. Lakshminarayanan, W.C. Hession. 1994. Developing watershed management strategies for Wister Lake using GIS and monitoring. How Watersheds Affect Your Reservoir, Oklahoma Clean Lakes Association, Western Hills Guest Ranch, Wagoner, Oklahoma, March 2-3, 1994. (Oral Presentation by R. Lakshminarayanan; Poster Presentation by W.C. Hession)

Brown, G.O., D.E. Storm, R.L. Huhnke, M.D. Smolen. Nutrient variation in surface runoff from land application of poultry litter. American Society of Agricultural Engineers International Summer Meeting in Spokane, Washington, June 20-23, 1993. (Presented by D.E. Storm)

Hession, W.C., R. Lakshminarayanan, D.E. Storm, M.D. Smolen, C.T. Haan. 1993. Wister Lake Watershed Project. Fourth Annual Graduate Student Research Symposium. Oklahoma State University, Stillwater, Oklahoma, February 19, 1993. (Presented by W.C. Hession)

Lakshminarayanan, R, D.E. Storm, M.D. Smolen, W.C. Hession. Developing TMDL Strategies for Wister Lake Watershed. Interagency Water Quality Meeting. Stillwater, Oklahoma, September 13, 1993. (Presented by Lakshminarayanan)

Matlock, M.D., D.E. Storm, G.J. Sabbagh, M.D. Smolen, M.S. Gregory, C.T. Haan, S.L. Burks. Applying a GIS-Based Phosphorus Transport Model For Simulating Agricultural Nonpoint Source Phosphorus Loading to the Illinois River Basin in Oklahoma and Arkansas. 3rd International Conference on Aquatic Ecosystem Health and the Ecological Significance of Bioassay Techniques, Aquatic Ecosystem Health and Management Society. Blacksburg, Virginia, May 23 - 27, 1993. (Presented by M.D. Matlock)

Matlock, M.D., D.E. Storm, G.J. Sabbagh, M.D. Smolen, C.T. Haan, M.S. Gregory, S.L. Burks. A Spatially Integrated Model for Phosphorus Loading and Erosion (SIMPLE) for Ecological Risk Assessment of Nonpoint Source Pollution. South Central SETAC Regional Chapter. Denton, Texas, June 3 - 4, 1993. (Presented by M.D. Matlock)

Storm, D.E. Water Quality Modeling in Eastern Oklahoma Using Geographic Information Systems. Oklahoma's Water and Sustainable Development Conference. Oklahoma City, Oklahoma, February 17 - 18, 1993. (Presented by D.E. Storm)

Storm, D.E. Modeling Phosphorus Transport with GIS. Interagency Water Quality Meeting. Stillwater, Oklahoma, May 13, 1993. (Presented by D.E. Storm)

Storm, D.E. Application SIMPLE to the Upper Illinois River Basin to Estimate Nonpoint Source Loading of Sediment and Phosphorus. Technical Advisory Group for the Grand Lake Basin Management Grant. Kansas City, Missouri, November 8 - 9, 1993. (Presented by D.E. Storm)

Storm, D.E., M.D. Smolen, Z. Chen, C.T. Haan. A phosphorus model for NPS pollution prioritization. American Society of Agricultural Engineers International Summer Meeting in Spokane, Washington, June 20-23, 1993. (Presented by D.E. Storm)

Storm, D.E., B.J. Barfield, S.M. Lewis, L.E. Ormsbee. Modeling Dynamic Rill Networks From Random Surfaces. International Workshop on Quantitative Assessment of Soil Erosion. Moscow, Russia, September 20 - 25, 1993. (Presented by D.E. Storm)

Technology Transfer

M.J. White, Storm, D.E. PPM 3.0 Development: Phosphorus, Nitrogen and Sediment Assessment for Oklahoma's Agricultural Fields. Presented to the Oklahoma Natural Resources Conservation Service, Stillwater, Oklahoma, February 15, 2007.

M.J. White, Storm, D.E., M.D. Smolen, H. Zhang. Development of a Quantitative Phosphorus Management Tool for the State of Oklahoma. Presented to Oklahoma Conservation Commission, Oklahoma Secretary of the Environment, Oklahoma Attorney General Office, Oklahoma Department of Agriculture, Food and Forestry, Oklahoma City, Oklahoma, November 9, 2007.

M.J. White, Storm, D.E., M.D. Smolen, H. Zhang. Development of a Quantitative Phosphorus Management Tool for the State of Oklahoma. Presented to Oklahoma Conservation Commission, Oklahoma Conservation District Personnel, and Natural Resource Conservation Service State and Field Staff, Stillwater, Oklahoma, December 13, 2007.

Michelle Jantz, Leah Dillsaver, Daniel Storm. Red Rock Canyon LID Design Concepts. Presented to Ideal Homes, Norman, Oklahoma, June 18, 2007.

TEACHING

Undergraduate and Graduate Courses

Biosystems Engineering

1. BAE 1011 Introductory Engineering Microcomputer Software - Fall 1991
2. BAE 3313/3323 Soil and Water Resource Engineering - Fall 1994, Spring 1992, Fall 1995, Fall 1997, Fall 1998, Fall 1999, Spring 2001, Fall 2001, Fall 2002, Fall 2003, Fall 2004, Fall 2005, Fall 2006, Fall 2007, Fall 2008
3. BAE 6333 Fluvial Hydraulics - Spring 1995, Fall 1992, Spring 1995
4. BAE 5313/6520 Watershed Modeling and Water Quality - Fall 1993, Fall 1996, Spring 1998, Spring 2000, Spring 2001, Spring 2002, Spring 2003, Spring 2004, Spring 2005, Spring 2006, Fall 2008
5. BAE 3113 Engineering Quantification of Biological Systems - Spring 1997
6. BAE 5501 Seminar - Spring 2005, Fall 2005, Spring 2006, Fall 2006

Division of Agricultural Sciences and Natural Resources

1. AG 2112 Microcomputer Techniques in Agriculture - Fall 1993, Fall 1991

Undergraduate Students

Advising

1. Biosystems Engineering Undergraduate Advisor. 1999-2006.
2. Undergraduate Environment and Natural Resources Option Advisor, Biosystems Engineering. 1993-Present.

Other Activities

1. ASAE: Student Branch Advisor, 1993; Student Branch Co-Advisor, 1992.
2. Alpha Epsilon: Advisor, 1993; Co-Advisor 1992.

Completed Graduate Students

<u>Name</u>	<u>Degree</u>	<u>Program</u>	<u>Start</u>	<u>Completion</u>
Leah Dillsaver	M.S.	Environmental Science	8/06	5/07
Michelle Jantz	M.S.	Environmental Science	8/06	5/07
Ranbir Kang	Ph.D.	Geography	1/03	12/07
Michael White	Ph.D.	Biosystems Engineering	6/02	12/07
Andrew Lyon	M.S.	Environmental Science	8/04	12/06
Tesfaye Demissie	Ph.D.	Biosystems Engineering	1/01	12/04
Michael White	M.S.	Biosystems Engineering	5/99	12/01
Valerie G. Keyworth	M.S.	Biosystems Engineering	8/97	12/00
Yulia Popova	M.S.	Environmental Science	8/98	12/00
Brian E. Haggard	Ph.D.	Biosystems Engineering	1/97	8/00
R. Lakshminarayanan	M.S.	Biosystems Engineering	8/92	5/00
Monty Matlock	M.S.	Environmental Science	9/94	5/00
David Gade	Ph.D.	Environmental Science	8/92	5/98
William Marshall	M.S.	Biosystems Engineering	1/95	7/98
Hector G. Cortes	M.E.	Master of Engineering	8/93	5/97
Marty D. Matlock	Ph.D.	Biosystems Engineering	12/92	5/96
Zhaohua Fang	M.S.	Biosystems Engineering	8/93	12/95
William C. Hession	Ph.D.	Biosystems Engineering	8/92	8/95
Clinton H. Olson	M.S.	Biosystems Engineering	6/92	7/95
T.S. Ramanarayanan	Ph.D.	Biosystems Engineering	8/91	5/95

Thesis/Dissertation/ Creative Component (Current Employment)

- Leah Dillsaver 2007 - Red Rock Canyon Low Impact Development Design Concepts
- Michelle Jantz 2007 - Red Rock Canyon Low Impact Development Design Concepts
- Ranbir Kang 2007 - Effects of Urbanization on Channel Morphology of Three Streams in the Central Redbed Plains of Oklahoma
- Michael White 2007 - Development and Validation of a Quantitative Phosphorus Loss Assessment Tool
- Andrew Lyon 2006 - Paired Watershed Analysis to Evaluate Phosphorus in Spavinaw and Beaty Creeks, Oklahoma.
- Tesfaye Demissie 2004 - Investigating Scale, Rainfall-Runoff Sequences and BMP Effects on Phosphorus, Runoff and Sediment Yield (Private Consulting Firm)
- Michael White 2001 - Evaluation of Management Practices and Examination of Spatial Detail Effects Using the SWAT Model (Oklahoma State University)
- Valerie G. Keyworth 2000 - Determining Limiting Nutrients in Lake Eucha Tributaries (Natural Resource Conservation Service, Oklahoma)
- Yulia Popova 2000 - Sediment-Phosphorus Chemistry in Ozark Plateau Streams in Northeast Oklahoma (Oklahoma State University)
- Haggard, Brian E. 2000. Stream Nutrient Retention in the Lake Eucha-Spavinaw Basin (USDA Agricultural Research Service, Fayetteville, Arkansas)
- Matlock, Monty 1999 - Comparison of Grazing and Substrate Type on Periphyton Growth (Pawnee Nation, Oklahoma)
- R. Lakshminarayanan 2000 - Verification of Stream Water Quality Subroutine of the Soil Water Analysis Tool Model (Report)
- Gade, David 1998 - An Investigation of the Sources and Transport of Nonpoint Source Nutrients in the Illinois River Basin in Oklahoma and Arkansas (Corp. of Engineering, Tulsa, Oklahoma)
- Marshall, William 1998 - A Nonparametric Approach to Determine the Number of Observations Required for Estimating Basin-Scale Soil Test Phosphorus (Consulting, Kentucky)
- Cortes, Hector G. 1997. Mapping Soil Erosion Potential in Mexico with GIS-GRASS. (Associate Researcher, CREZAS-CP, Salinas de Hgo., Mexico)
- Fang, Z. 1995. Topographic statistics and sediment yield analysis (State Government, Texas)
- Hession, W.C. 1995. A watershed-level ecological risk assessment methodology. (Associate Professor, Virginia Tech, Virginia)

- Matlock, M.D. A lotic ecosystem trophic status index using a periphytic community as a bio-indicator. (Associate Professor, University of Arkansas, Arkansas)
- Olson, C.H. 1995. Effect of rainfall, slope, and vegetation height on runoff water quality from fescue plots treated with poultry litter. (Environmental Engineer, Enviro Tech, Enid, OK)
- Ramanarayanan, T.S. 1995. Evaluation of existing wellhead protection strategies for controlling nonpoint source nitrate pollution. (Private Industry, Bayer, KS)

Current Graduate Students

<u>Name</u>	<u>Degree</u>	<u>Program</u>	<u>Start</u>	<u>Projected Completion</u>
Cara Cowan	Ph.D.	Biosystems Engineering	6/05	8/08
Tyler Gipson	M.S.	Biosystems Engineering	6/05	5/08
Hillary Yee	M.S.	Environmental Science	8/08	8/10

Graduate Student Committees

Current Students

Ballard, Patrick, M.S., Environmental Science, Zoology
 Cannon, Brad, M.S. Environmental Science, Biosystems Engineering
 Chavez, Rebecca, Ph.D., Biosystems Engineering
 Christianson, Reid, Ph.D., Biosystems Engineering
 Kravatt, Phillip, M.S. Environmental Science, Zoology
 Guzman, Jorge, Ph.D., Biosystems Engineering
 Rahi, Khayyun, M.S., Environmental Science, Geology
 Stringer, Ashley, M.S. Environmental Science, Biosystems Engineering
 Tejral, Ron, M.S., Biosystems Engineering

Completed Students

Backoulou, Georges, Ph.D., Environmental Sciences, Geography
 Bond, Steven, M.S., Environmental Science, Biosystems Engineering
 Burgess, Kevin, M.S. Environmental Science, Zoology
 Fuchs, John, M.S., Biosystems Engineering
 Howard, Carol, M.S. Environmental Science, Political Science
 Howry, Sierra, Ph.D., Ph.D., Agricultural Economics
 Monroe, Dean, Ph.D., Environmental Sciences, Biosystems Engineering
 Marumo, Davis, Ph.D., Agricultural Economics
 Townsley, George, M.S., Agricultural Economics
 Ward, Rebecca, M.S. Biosystems Engineering
 Leah Thomas, M.S., Forestry
 Wei Zhang, M.S., Biosystems Engineering
 Julian Cacho, M.S., Biosystems Engineering
 Mengistu Geza Nisrani, Ph.D., Biosystems Engineering
 Peter Kish, Ph.D., Environmental Sciences, Biosystems Engineering, 2004
 Jeana Wilson Davis, M.S., Environmental Science, Civil and Environmental Engineering, 2004
 Phil Busteed, Ph.D., Forestry, 2004
 Cory Peranich, M.S., Forestry, 2004
 Michael Friend, M.S., Soil Science, 2003
 Olekandr M. Mykhaylovin, M.S., Environmental Sciences, Biosystems Engineering, 2003
 Chris Cross, M.S., Biosystems Engineering, 2003
 Tihomir Ancey, Ph.D., Agricultural Economics, 2003
 Alex Zhukov, M.S., Environmental Science, Civil Engineering, 2002
 Randy Davis, M.S., Soil Science, 2002
 Will Hahn, M.S., Biosystems Engineering, 2001
 Tam Phan, Ph.D., Agricultural Economics, 2001
 Sherry Britton, M.S., Biosystems Engineering, 2000
 Brian Tucker, M.S., Environmental Science, Biosystems and Agricultural Engineering, 2000
 Jon Fuhrman, M.S., Soil Science, 2000
 Lori Gallimore, M.S., Plant and Soil Sciences, 1999
 Hector Cumba, M.S., Biosystems Engineering, 1998
 Jack Gazin, Ph.D., Biosystems Engineering, 1997

Indrajeet Chaubey, Ph.D., Biosystems Engineering, 1997
 Daren Harmel, Ph.D., Biosystems Engineering, 1997
 Zaigham Kazmi, M.S., Biosystems Engineering, 1997
 Kerry Robinson, Ph.D., Biosystems Engineering, 1996
 Joan Ratzlaff, M.S., Environmental Science (Botany), 1996
 Mahesh N. Rao, Ph.D., Environmental Science (Geography), 1996
 Peng Yue, Ph.D., Biosystems Engineering, 1996
 Patty Haan, M.S., Biosystems Engineering, 1996
 Taha Al-Issa, M.S., Biosystems Engineering, 1995
 Jason Peters, M.S., Environmental Sciences (Agronomy), 1995
 Mark Lindley, M.S., Biosystems Engineering, 1994
 Jian Yue, Ph.D., Biosystems Engineering, 1994
 Jia Zhenwen, Ph.D., Biosystems Engineering, 1994
 Sandeep Prabhu, M.S., Biosystems Engineering, 1994
 Christine Altendorf, Ph.D., Biosystems Engineering, 1993
 Ellen Stevens, Ph.D., Biosystems Engineering, 1993
 Qin Zhao, M.S., Biosystems Engineering, 1993
 Jose De Jesus Navar Chaidez, Ph.D., Environmental Science (Forestry), 1992
 Greg Norris, M.S., Agricultural Engineering, 1992

RESEARCH AND TEACHING COMMITTEE ACTIVITY (1990-Present)

Professional Societies

1. ASAE, The Society for Engineering in Agriculture, Food, and Biological Systems
 - ▶ Technical Reviewer: Transactions of the ASAE, Applied Engineering in Agriculture
 - ▶ Hydrology Group Committee, SW-21 (1995-Present)
 - ▶ Erosion Research Committee, SW-223, 1990-1993.
 - ▶ Hydraulics and Transport Processes Committee, SW-217, 1990-1993.
 - ▶ Geographic Information Systems Committee, KS-16, 1991-1994.
 - ▶ P-211 Committee, 1993-1994.
 - ▶ Oklahoma State University Student Branch (Co-Advisor 1992; Advisor 1993)
2. Oklahoma Section of the American Society of Agricultural Engineers
 - ▶ Local Arrangements Chairman, 1993
3. American Water Resources Association
 - ▶ Technical Reviewer: Water Resources Bulletin
 - ▶ GIS Technical Committee, 1992-present.
4. Alpha Epsilon
 - ▶ Oklahoma State University Student Branch Co-advisor, 1992.
 - ▶ Oklahoma State University Student Branch Advisor, 1993.
5. North American Benthological Society
6. American Ecological Engineering Society

Division of Agricultural Sciences and Natural Resources, Oklahoma State University

1. Honors Committee (1993-1994, 1995-1996, 1998-1999)
2. Curriculum & Academic Standards Committee (2000-2001)
3. Teaching Technology and Student Tech Fees (2007-Present)

College of Engineering, Architecture and Technology, Oklahoma State University

1. CEAT Faculty Council (1991-1992)
2. Engineering Oversight Committee for ENGSC 2112 *Statics* (1991-2007).
3. Cooperative Education Advisory Council (1991-1992)
4. Student Technology Fee Oversight Committee (2007-Present)
5. Statistics Design/Monitoring Committee (2005-Present)

Department of Biosystems and Agricultural Engineering, Oklahoma State University

1. Computer Committee (1991-1997; Chair, 1992, 1997, 1998, 1999, 2000, 2001, 2007-Present)
2. Undergraduate Career Development - Placement Committee (1993-1997)
3. AGEN 2022 Introduction to Engineering Design. Ad Hoc Committee on Curriculum Development, 1993.
4. ABET & Undergraduate Curriculum Committee (2000-Present)
5. Undergraduate Student Education and Curriculum Committee (1990-1992, 1995-1997)
6. Departmental Name Change Committee (1992-1993)
7. Biosystems Engineering ABET 2000 Committee (1999-Present)
9. Reappointment, Promotion and Tenure Committee (Chair 2007-Present)
10. Policy/Procedures for Cumulative Review/RPT Ad-hoc Committee (2007-Present)

Oklahoma State University

1. Oklahoma Water Resource Research Institute Water Research Technical Review Committee
2. Environmental Sciences Graduate Program Steering Committee (1993-Present)
 - Steering Committee
 - Admissions and Retention Committee
3. OSU GIS Working Group
4. Ad Hoc Faculty Council Committee on Examining Current OSU Policy on External Activities (Chair, 2007-Present)

State of Oklahoma and Federal Agencies

1. State of Oklahoma Section 319 Technical Advisory Committee (1992-Present)
2. State GIS Technical Advisory Group (1993-1994)
3. USDA Soil Conservation Service, Land Application of Waste Guidelines Technical Review Group (1993)
4. Technical Advisory Group for Watershed Planning and Assessment (TAGWAP), State of Oklahoma, Committee Chair. (1995-present)
5. Support Assessment Protocol Technical Workgroup - Oklahoma Water Resources Board (2000)
6. Oklahoma Stream Team (2005-Present)
7. Oklahoma TMDL Workgroup (2001-Present)

National Committees

- USDA-CSREES Southern Regional Project S-1004, Technical Committee. Development and Evaluation of TMDL Planning and Assessment Tools and Processes. (2001-Present, Webmaster 2007-Present).
- USDA-CSREES Southern Regional Project DC 95-05, Technical Committee. Development and Application of Comprehensive Agricultural Ecosystem Models. (1996-2001).
- Great Plains Agricultural Council Confined Livestock & Water Quality Task Force (1993-1995; Executive Board Member; Proceedings Chairman)
- USDA-CSREES Southern Regional Extension and Research Committee (SERA) on Minimizing Agricultural Phosphorus Runoff Losses for Protection of Water Resources. (1995-Present).
- ASCE WE Division, Policies and Procedures Task Force. Nonpoint Source Water Quality Models: Their Use and Application. (1996-2000).
- USDA-CSRS Southern Regional Project S-249, Technical Committee. The Impact of Agricultural Systems on Surface and Ground Water Quality. (1992-1996)
- USDA National Research Initiative Review Panel (May 2000)