

Dr. Michael C. Slattery
School of Geology, Energy, and the Environment and
The Institute for Environmental Studies
Texas Christian University
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DIRECTOR, INSTITUTE FOR ENVIRONMENTAL STUDIES

PROFESSOR IN THE SCHOOL OF GEOLOGY, ENERGY, AND THE ENVIRONMENT

Expertise: Physical hydrology; runoff processes and hydrological pathways; soil erosion; sediment production, transport, and storage; human impact on fluvial systems; atmospheric pollution; environmental impacts of wind energy

EDUCATION

- 1991-1994 **D.Phil.**, St. John's College and School of Geography, University of Oxford, UK
Dissertation: "Contemporary Sediment Dynamics and Sediment Delivery in a Small Agricultural Catchment, North Oxfordshire, UK", 521p.
- 1989-1990 **M.Sc.**, Department of Geography, University of Toronto, Canada
Thesis: "Laboratory Experiments on the Mechanisms of Rill Formation and the Effect of Dynamic Soil Properties", 94p.
- 1988 **B.A. (Honours)**, University of the Witwatersrand, Johannesburg, South Africa
Major: Physical Geography (Awarded in the 1st Class with Gold Medal)
- 1985-1987 **B.A.**, University of the Witwatersrand, Johannesburg, South Africa
Majors: Geography, History of Art (Awarded in the 1st Class)

PROFESSIONAL EXPERIENCE

Professorships

- 1998- **Assistant Professor, Associate Professor (2000) and Professor (2006)**
Texas Christian University, Fort Worth, Texas
- 1994-1997 **Assistant Professor**
East Carolina University, Greenville, North Carolina

Administrative positions

- 2003 - **Director, Institute for Environmental Studies**
Texas Christian University
- 2003 - **Director of the MA/MS Program in Environmental Science**
Texas Christian University
- 2007-2010 **Chair, Department of Environmental Science**
Texas Christian University

1997 **Director of Graduate Studies**
Department of Geography

Pre-doctoral experience

1992-1994 **College Lecturer**
Hertford and Keble Colleges, University of Oxford, United Kingdom

Other experience

1995-1997 **Broadcast Meteorologist (part-time)**
WNCT-TV9 (CBS Affiliate), Greenville, North Carolina

Courses taught

| United Kingdom | | Yr | | | Yr |
|------------------------------------|--------|-----------|----------------------------|--|-----------|
| Introduction to Physical Geography | (1) | | Introduction to Statistics | | (1) |
| Hydrometeorology | (1) | | Physical Geography | | (2) |
| Contemporary Geographical Issues | (2) | | The Physical Environment | | (2) |
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| United States | | | | | |
| Weather and Climate | (2/3) | | Environmental Issues | | (2) |
| Introduction to Physical Geography | (1) | | Landform Analysis | | (3) |
| Physical Geography Seminar | (Gr) | | Physical Hydrology | | (Gr) |
| Geology Seminar | (Gr) | | Soils | | (Gr) |
| Geomorphology | (4/Gr) | | Environmental Stewardship | | (4/Gr) |

HONOURS AND AWARDS

- 2007 College of Science and Engineering Dean's Research Award, Texas Christian University
- 2000 Sigma Gamma Epsilon
- 1997 College of Arts and Sciences Dean's Research Award, East Carolina University
- 1995 Gamma Theta Upsilon
- 1991 Overseas Research Scholarship, University of Oxford
- 1989 Connaught Scholar, University of Toronto
- 1988 Council for Scientific and Industrial Research Scholarship, South Africa
- 1988 Frank Bicheno Trust Scholarship for Academic Excellence, University of the Witwatersrand
- 1988 Faculty of Arts Certificate of Merit for outstanding work during B.A. (Hons) Degree, University of the Witwatersrand
- 1988 Stanley Jackson Gold Medal for highest marks during B.A. (Hons) Degree, University of the Witwatersrand
- 1988 Best paper at the 20th Geographical Conference, University of Cape Town

PUBLICATIONS

Books, Monographs, Reports, Guest Editorships, OpEds, etc.

Slattery, M.C. 2015. "The case for wind: Lessons learned from research in the United States", *ESI Africa* OpEd, September 18, 2015. <http://www.esi-africa.com/industry-insight-wind-power-lessons-learned-from-research-in-the-united-states/>.

Slattery, M.C. 2014. *Contemporary Environmental Issues*, 4th Edition. Kendall-Hunt, DuBuque, Iowa, 300 pp.

Beyer, A., Mills, M., Ritter, E., Ziomek, S., Williams, J, and Slattery, M.C. 2014. "*Exercises in Environmental Science*", Kendall-Hunt, 91 pp.

Slattery, M.C. 2014. "The 'last dinosaur' needs help", *Fort Worth Star-Telegram* Op-ed, 24 September, 2014.

Slattery, M.C. 2012. *Contemporary Environmental Issues*, 3rd Edition. Kendall-Hunt, DuBuque, Iowa, 289 pp.

Sunico, S. and Slattery, M.C. 2012. "*Exercises in Environmental Science*", Kendall-Hunt, 79 pp.

Slattery, M.C. 2011. (Editor). *Journal of Environmental Management*, Special Issue in honour of Rorke B. Bryan, Guest Editorial, **92**, 257.

Slattery, M.C. 2010. *Contemporary Environmental Issues*, 2nd Edition. Kendall-Hunt, DuBuque, Iowa, 253 pp.

Slattery, M.C., Richards, B., Schwaller, E., Swofford, J., Thompson, L. And Llado, L. 2009. "The socio-economic impact of wind farms in Nolan and Taylor Counties, Texas", report to Nextera Energy Resources, Juno Beach, Florida, 65 pp.

Slattery, M.C., Householder, E., Eady, S., Newland, L., Swofford, J., Dezendorf, M., Schlipmann, A. And Ruhbenstahl, T. 2009. "*Exercises in Environmental Science*", Kendall-Hunt, 84 pp.

Slattery, M.C., Richards, B.J., Schwaller, E., Swofford, J. and Thompson, L. 2009. "Job and Economic Development Impact Model (JEDI) Validation, Capricorn Ridge and Horse Hollow, Texas", report to Nextera Energy Resources, Juno Beach, Florida, 30 pp.

Slattery, M.C. 2008. "Impacts of wind energy development on birds: Assessment of research from Europe", report to FPL Energy, Juno Beach, Florida, 16 pp.

Slattery, M.C., Richards, B.J., Eady, S.S., Schwaller, E., Swofford, J., Thompson, L. and Warner, S. 2008. "The socio-economic impact of wind farms in Sterling and Coke Counties, Texas", report to FPL Energy, Juno Beach, Florida, 69 pp.

Slattery, M.C. 2008. *Contemporary Environmental Issues*, Kendall-Hunt, DuBuque, Iowa, 220 pp.

Slattery, M.C. and Drenner, R. 2007. "Mercury in Texas: Assessing the Potential Impact of Coal-Fired Power Plants", consultancy report prepared for Susman Godfrey L.L.P. and Texas Cities for Clean Air Coalition, 112 pp.

Slattery, M.C. 2007. "Atmospheric deposition and water quality," written testimony before the House Committee on Transportation and Infrastructure's Subcommittee on Water Resources and Environment, U.S. Congress Hearing on Nonpoint Source Pollution, Washington DC.

Slattery, M.C., Householder, E., Muttiah, R. & Newland, L. 2006. *Exercises in Environmental Science*, Kendall-Hunt, 84 pp.

Refereed Publications under active review:

Slattery, M.C. "The environmental impact of unconventional fuels: the trade-offs", in M. Doraj and K. Morgan (eds), *The Global Impact of Unconventional Fuels*, Palgrave MacMillan Publishers, in press.

Refereed Publications in print or in press:

Llado, L. and Slattery, M.C. 2015. "Fine scale temporal variations of surface moisture in topographically-controlled Muhly seeps", *Ecohydrology*, DOI: 10.1002/eco.1632.

Slattery, M.C. 2015. "Afterward", in S. Stratton, R. Hagevik and A. Feldman (eds), *Educating Teachers for Sustainability*, Springer Verlag.

Slattery, M.C. 2015. "Barbara A. Kennedy (1972): 'Bankfull' discharge and meander forms", *Progress in Physical Geography*, **39(2)**, 275-278. DOI: 10.1177/0309133314561649

Lisenby, P.E., Slattery, M.C. and Wasklewicz, T.A. 2014. "Morphological organization of a steep, tropical headwater stream: The importance of channel bifurcation", *Geomorphology*. DOI: 10.1016/j.geomorph.2014.02.009

Slattery, M.C., Johnson, B.L., Swofford, J. and Pasqualetti, M.J. 2012. "The predominance of economic development in the support for large-scale wind farms in the US Great Plains", *Renewable and Sustainable Energy Reviews*, **16**, 3690-3701.

Walling, D.E., Mukundan, R., Gellis, A.C., Slattery, M.C. and Radcliffe, D.E. 2012. "Sediment Fingerprinting: Transforming from a research tool to a management tool", *Journal of the American Water Resources Association*, (JAWRA) 1-17. DOI: 10.1111/j.1752-1688.2012.00685.x

Slattery, M.C., Lantz, E. and Johnson, B. 2011. "State and local economic impacts from wind energy projects: Texas case study", *Energy Policy*, **39**, 7930-7940.

Slattery, M.C. and Phillips, J.D. 2011. "Controls on sediment delivery in coastal plain rivers", *Journal of Environmental Management*, **92**, 284-289.

Slattery, M.C., Todd, L., Phillips, J.D. and Breyer, J.B. 2010 "Holocene sediment accretion in the Trinity River Delta, Texas in relation to modern fluvial input", *Journal of Soils and Sediments*, **10**, 640-651.

Swofford, J. and Slattery, M.C. 2010. "Public attitudes of wind energy in Texas: local communities in close proximity to wind farms and their effect on decision making", *Energy Policy*, **38**, 2508-2519.

- Tegen, I., Wilkinson, M.J. and Slattery, M.C. 2009. "Interactions between soil dust aerosols and climate", in J. Boardman and D. Favis-Mortlock (eds), *Climate Change and Soil Erosion*, Imperial College Press.
- Phillips, J.D. and Slattery, M.C. 2007. "Downstream trends in discharge, slope, and stream power in a lower coastal plain river", *Journal of Hydrology*, **334**, 290-303.
- Phillips, J.D. and Slattery, M.C. 2007. "Antecedent Alluvial Morphology and Sea Level Controls on Form-Process Transitions Zones in the Lower Trinity River, Texas", *River Research and Applications*, **23**, 1-7.
- Slattery, M.C., Gares, P. and Phillips, J.D. 2006. "Multiple modes of storm runoff generation in a North Carolina coastal plain watershed", *Hydrological Processes*, **20**, 2953-2969.
- Gares, P., Slattery, M.C., Phillips, J.D. and Pease, P. 2006. "Eolian sediment transport on North Carolina coastal plain agricultural fields", *Soil Science*, **171(10)**, 784-799.
- Burt, T.P. and Slattery, M.C. 2006. "Land use and land cover effects on runoff processes: agricultural effects", in M. Anderson (Ed.) *Encyclopaedia of Hydrology*, Wiley, pp. 1805-1812.
- Phillips, J.D. and Slattery, M.C. 2006. "Sediment storage, sea level, and sediment delivery to the ocean by coastal plain rivers", *Progress in Physical Geography*, **30 (4)**, 1-18.
- Phillips, J.D., Slattery, M.C. and Musselman, Z. 2005. "Channel adjustments of the lower Trinity River, Texas downstream of Livingston Dam", *Earth Processes and Landforms*, **30**, 1419-1439.
- Wellmeyer, J.L., Slattery, M.C., and Phillips, J.D. 2005. "Quantifying downstream impacts of impoundment on flow regime and channel planform, lower Trinity River, Texas", *Geomorphology*, **69**, 1-13.
- Phillips, J.D., Slattery, M.C. and Musselman, Z. 2004. "Dam-to-delta sediment inputs and storage in the lower Trinity River, Texas," *Geomorphology*, **62**, 17-34.
- Slattery, M.C., Gares, P.A. and Phillips, J.D. 2002. "Slope-channel linkage and sediment delivery on North Carolina coastal plain cropland", *Earth Surface Processes and Landforms*, **27**, 1377-1387.
- Slattery, M.C. 2002. "Coming to America: Graduate study in geography in the United States", in A. Rogers and H.A. Viles (eds), *The Student's Companion to Geography*, Blackwell, 380-384.
- Slattery, M.C., Gares, P.A. and Phillips, J.D. 2001. "Linking the field to the river: runoff and sediment delivery in a North Carolina coastal plain drainage basin", in J. C. Ascough and D. C. Flanagan (eds), *Soil erosion for the 21st Century*, Proceedings of the International Symposium, American Society of Agricultural Engineers, 641-644.
- Slattery, M.C., Walden, J. and Burt, T.P. 2000. "Fingerprinting suspended sediment sources using mineral magnetic measurements: a quantitative approach", in I. Foster (ed.), *Tracers in Geomorphology*, John Wiley and Sons, Chichester, 309-322.

Cappiella, K. and Slattery, M.C. 1999. "Spatial and temporal patterns of sediment and nutrient flux in a coastal plain agricultural basin, North Carolina", *North Carolina Geographer*, **7**, 39-46.

Phillips, J.D., Gares, P.A. and Slattery, M.C. 1999. "Agricultural soil redistribution and landscape complexity", *Landscape Ecology*, **14**, 197-211.

Phillips, J.D., Slattery, M.C. and Gares, P.A. 1999. "Truncation and accretion of soil profiles on coastal plain croplands: implications for sediment redistribution", *Geomorphology*, **28**, 119-140.

Slattery, M.C., Gares, P.A. and Phillips, J.D. 1998. "Quantifying soil erosion and sediment delivery on North Carolina Coastal Plain croplands", *Conservation Voices*, **1(2)**, 20-25.

Walden, J., Slattery, M.C. and Burt, T.P. 1997. "Use of mineral magnetic measurements to fingerprint suspended sediment sources: approaches and techniques for data analysis", *Journal of Hydrology*, **202**, 353-372.

Slattery, M.C., Burt, T.P. and Gares, P. A. 1997. "Dramatic erosion of a tobacco field at Vanceboro, North Carolina, USA", *Southeastern Geographer*, **37**, 85-90.

Slattery, M.C. and Burt, T.P. 1997. "Particle size characteristics of suspended sediment in hillslope runoff and stream flow", *Earth Surface Processes and Landforms*, **22**, 705-719.

Slattery, M.C. and Burt, T.P. 1996. "On the complexity of sediment delivery in fluvial systems", in M.G. Anderson and S. Brooks (eds), *Advances in Hillslope Processes*, John Wiley and Sons, Chichester, 635-656.

Burt, T.P. and Slattery, M.C. 1996. "Time-dependent changes in soil physical properties and surface runoff generation", in M.G. Anderson and S. Brooks (eds), *Advances in Hillslope Processes*, John Wiley and Sons, Chichester, 79-96.

Slattery, M.C. and Burt, T.P. 1995. "Size characteristics of sediment eroded from agricultural soil: dispersed versus non-dispersed, ultimate versus effective", in E.J. Hickin (ed.), *River Geomorphology*, John Wiley and Sons, Chichester, 1-17.

Boardman, J., Burt, T.P., Evans, R., Slattery, M.C. and Shuttleworth, H. 1995. "Soil erosion and flooding as a result of a summer thunderstorm in Oxfordshire and Berkshire, May 1993", *Applied Geography*, **16**, 21-34.

Slattery, M.C., Burt, T.P. and Walden, J. 1995. "The application of mineral magnetic measurements to quantify within-storm variations in suspended sediment source", in *International Association of Hydrological Sciences Publ. no. 229*, 143-151.

Slattery, M.C., Burt, T.P. and Boardman, J. 1994. "Rill erosion along the thalweg of a hillslope hollow: a case study from the Cotswold Hills, central England", *Earth Surface Processes and Landforms*, **19**, 377-385.

Slattery, M.C. and Bryan, R.B. 1994. "Surface seal development under simulated rainfall on an actively eroding surface", *Catena*, **22**, 17-34.

Walden, J. and Slattery, M.C. 1993: "Verification of a simple gravity technique for separation of particle size fractions suitable for mineral magnetic analysis", *Earth Surface Processes and Landforms Technical and Software Bulletin*, **18**, 829-833.

Slattery, M.C. and Bryan, R.B. 1992. "Laboratory experiments on surface seal development and its effect on interrill erosion processes", *Journal of Soil Science*, **43**, 517-529.

Slattery, M.C. and Bryan, R.B. 1992. "Hydraulic conditions for rill incision under simulated rainfall: a laboratory experiment", *Earth Surface Processes and Landforms*, **17**, 127-146.

Slattery, M.C. 1990. "Barchan migration on the Kuiseb River delta, Namibia", *South African Geographical Journal*, **72**, 5-10.

Non-Refereed Publications in print or in press:

Slattery, M.C. 2008. "Landforms", Visual Atlas of the World, National Geographic.

Slattery, M.C. 2005. "Did global warming cause this year's storms?" *The TCU Magazine*, Winter 2005, 43.

Slattery, M.C. (Ed.). 2005. "Geomorphology: A Collection of Images (2nd Ed.)", Geomorphology Specialty Group, Association of American Geographers.

Slattery, M.C. 2005. "Quickflow", *Encyclopaedia of Geomorphology*, Routledge.

Slattery, M.C. 2005. "Runoff generation", *Encyclopaedia of Geomorphology*, Routledge.

Slattery, M.C. (Ed.). 2003. "Geomorphology: A Collection of Images", Geomorphology Specialty Group, Association of American Geographers.

Slattery, M.C. 2002. "World Landforms", *National Geographic Family Reference Atlas of the World*, **24-27**.

Lazar, A. and Slattery, M.C. 2002. "Monitoring pollution fluxes during storm events in a Fort Worth Watershed", *New Waves*, **14(1)**, 4.

Wilkinson, M.J., Lulla, K. and Slattery, M.C. 2001. "Lesotho", *Geography Review*, **14(4)**, **38-39**.

Wilkinson, M.J., Slattery, M.C. and Lulla, K. 2001. "The Costa Rican climate and the Talamanca Massif", *Geography Review*, **14(3)**, 24-26.

Slattery, M.C. 2001. "Hawaii: Part II Island diversity", *Geography Review*, **14(3)**, 20-23.

Carlson, S.B., Robinson, J.A., Lulla, K. and Slattery, M.C. 2000. "After the landslide: Cuenca, Ecuador", *Geography Review*, **14(2)**, 23-25.

Slattery, M.C. 2000. "Hawaii: Part 1 Volcanism", *Geography Review*, **14(2)**, 10-13.

Trenchard, M., Lulla, K. and Slattery, M.C. 2000. "Air mass modification", *Geography Review*, **14(1)**, 34-35.

Willis, K., Lulla, K. and Slattery, M.C. 2000. "Tibetsi Massif and Aorounga Crater, Chad", *Geography Review*, **13(4)**, 7.

Wilkinson, M.J., Lulla, K. and Slattery, M.C. 1999. "Deforestation in southern Brazil", *Geography Review*, **13(2)**, 24-25.

- Caruana, J., Lulla, K. and Slattery, M.C. 1999. "South Georgia", *Geography Review*, **13(1)**, 10.
- Wilkinson, J., Lulla, K. and Slattery, M.C. 1999. "Parapeti River, fan, southern Bolivia", *Geography Review*, **12(5)**, 26-27.
- Evans, C., Wilkinson, J., Robinson, J., Wood, P., Runco, S., Amsbury, D., Lulla, K. and Slattery, M.C. 1999, "El Nino: Images of floods and drought, Part 2", *Geography Review*, **12(4)**, 16-19.
- Evans, C., Wilkinson, J., Robinson, J., Wood, P., Runco, S., Amsbury, D., Lulla, K. and Slattery, M.C. 1999, "El Nino: Images of floods and drought, Part 1", *Geography Review*, **12(3)**, 6-9.
- White, L.G., Wilkinson, M.J., Lulla, K. and Slattery, M.C. 1999. "Rural ghettos in South Africa", *Geography Review*, **12(2)**, 24-26.
- Wilkinson, J., Lulla, K. and Slattery, M.C. 1998. "Photochemical smog", *Geography Review*, **11(5)**, 34-35.
- Wilkinson, J. and Slattery, M.C. 1998. "Smog event, eastern USA", *Geography Review*, **11(4)**, 40-41.
- Wilkinson, J. and Slattery, M.C. 1998. "The tropical Atlantic ozone anomaly", *Geography Review*, **11(3)**, 33-35.
- Wilkinson, J. and Slattery, M.C. 1997. "Global sources of dust", *Geography Review*, **11(2)**, 20-21.
- Wilkinson, J. and Slattery, M.C. 1997. "Our changing atmosphere", *Geography Review*, **11(1)**, 20-21.
- Slattery, M.C. "Variability in Stream Erosion and Sediment Transport", L.J. Olive, R.J. Loughran and J.A. Kesby (Eds), book review in *Progress in Physical Geography*.
- Wilkinson, J. and Slattery, M.C. 1997. "Betsiboka River delta", *Geography Review*, **10(4)**, 41.
- Slattery, M.C. and Burt, T.P. 1997. "The 1995 Atlantic hurricane season", *Geography Review*, **10(3)**, 12-17.
- Wilkinson, J. and Slattery, M.C. 1996. "Amazon-Negro Confluence, Amazonia, Brazil", *Geography Review*, **9(5)**, 40.
- Wilkinson, J. and Slattery, M.C. 1996. "Land-use contrasts across the Angola-Namibia border", *Geography Review*, **9(4)**, 13.
- Wilkinson, J. and Slattery, M.C. 1996. "The Eastern Mediterranean", *Geography Review*, **9(3)**, 37.
- Wilkinson, J., Lulla, K. and Slattery, M.C. 1995. "Better pictures of Earth", *Geography Review*, **9(2)**, 1.

Slattery, M.C. 1994. "Sediment Problems", R.F. Hadley and T. Mizuyama (Eds), book review in *Progress in Physical Geography*, **19**, 152-153.

Slattery, M.C. 1994. "Tracers in Hydrology", N.E. Peters, E. Hoehn, Ch. Leibundgut and D.E. Walling (Eds), book review in *Progress in Physical Geography*, **19**, 152-153.

Slattery, M.C. 1993. "Overland Flow", A.D. Abrahams and A.J. Parsons (Eds), book review in *European Society for Soil Conservation Newsletter*, **2**, 22-25.

RESEARCH GRANTS FUNDED (Total: \$5,939,640)

- 2014 "TCU Global Innovator Award", \$25,000.
- 2013 – 2015 "Integrating wind energy into our ecological communities: Phase II", Nextera Energy Resources, \$1,321,032 (co-PI with Amanda Hale, Victoria Bennett and Becky Johnson).
- 2011-2012 "Test of a Novel Hypothesis: Why are bats attracted to wind turbines?", Nextera Energy Resources, \$39,075.
- 2011-2012 "Relationship between Black-capped Vireo nesting success and distance to wind turbine", Nextera Energy Resources, \$80,000.
- 2011-2013 "Curtailment experiments to reduce bat mortality at Wolf Ridge Wind Facility in North-Central Texas", Nextera Energy Resources, \$197,000.
- 2008-2012 "Integrating wind energy into our ecological communities", Nextera Energy Resources, \$3,192 million. Lead Scientist.
- 2007-2009 "Collaborative conservation initiatives in Costa Rica: Expanding TCU's global community", TCU Strategic Initiative Fund, \$129,980.
- 2006-2008 "Strengthening the relationship between TCU graduate programs and BRIT", TCU Strategic Initiative Fund, \$176,000.
- 2006-2008 "The TCU-Oxford sustainable futures initiative", TCU Strategic Initiative Fund, \$139,095.
- 2006-2007 "Geomorphic processes, controls, and transition zones in the lower Sabine River", Texas Water Development Board, \$65,000 (co-PI with Jonathan Phillips).
- 2006-2007 "Sediment budgeting in the middle Trinity and middle Brazos Rivers, Texas", Texas Water Development Board, \$62,305 (co-PI with Jonathan Phillips).
- 2002-2006 "Sediment transport in the Trinity River: A first step to identifying the sediment budget of Galveston Bay", Texas Water Development Board, \$350,000 (co-PI with Jonathan Phillips).
- 2001 "Bridging the gap between modelling and fieldwork in hydrology", Texas Christian University Instructional Development Grant, \$2,414.

- 1999 "Use of mineral magnetic measurements to fingerprint suspended sediment sources: results from a linear mixing model", Texas Christian University Research and Creative Activities Grant, \$1,650.
- 1999 "Portable drilling rig for environmental monitoring wells", Texas Christian University Instructional Development Grant, \$2,239.
- 1997 "Coastal plains environments workshop", Eisenhower Foundation, \$29,999.
- 1996-1999 "Quantifying soil erosion and sediment delivery on North Carolina coastal plain croplands", United States Department of Agriculture, \$146,765 (co-PI with Jonathan Phillips and Paul Gares).
- 1996 "Mechanisms of rill formation on some North Carolina soils: results from field and laboratory experiments", East Carolina University Summer Research Grant, \$7,500.

PROFESSIONAL ACTIVITIES

Conference presentations

(underlined named indicates presenter)

Slattery, M.C. "Environmental impacts of unconventional fuels: The trade-offs", Global Impacts of Unconventional Energy Sources, Fort Worth, Texas, 2015.

Jones, S. and Slattery, M.C. "Hydrologic response of hillslope seeps and headwater streams of the Fort Worth Prairie", Association of American Geographers Annual Meeting, Chicago, 2015.

Slattery, M.C. "Social, environmental and economic impacts of large scale wind power – the international experience", WINDABA, Cape Town, 2014.

Slattery, M.C., Johnson, B., Greene, S. and Stadler, S. "The socio-economic impacts of utility scale wind energy projects in Oklahoma", Association of American Geographers Annual Meeting, Tampa, 2014.

Slattery, M.C., Hale, A. and Bennett, V. "Environmental, Social and Economic impacts of utility-scale wind power development", World Future Energy Summit Tech Talk, Abu Dhabi, 2014.

Lisenby, P.E., Wasklewicz, T. and Slattery, M.C. "High-Resolution Characterization of a Tropical Montane Stream: Using Terrestrial Laser Scanning to Relate Channel Morphology to the Distribution of Stream Power and Shear Stress", 8th IAG International Conference on Geomorphology, Paris, France, 2013.

Slattery, M.C. and Melchior, M.M. "The impact of impoundment on sediment transport and channel bar dynamics on the Brazos River, Texas", 8th IAG International Conference on Geomorphology, Paris, France, 2013.

Slattery, M.C. "Key issues facing the development of large-scale wind", Conference on Wind Power and Environmental Impacts", University of Stockholm, Sweden, 2013.

Slattery, M.C. (Invited) "Sediment storage, sea level, and sediment delivery to the ocean by coastal plain rivers: a case study from Texas", American Geophysical Union, San Francisco, 2012.

Lisenby, P.E., Wasklewicz, T. and Slattery, M.C. "A reach-scale characterization of a second-order, tropical, montane stream: using terrestrial laser scanning to relate channel morphology to the distribution of stream power and shear stress", American Geophysical Union, San Francisco, 2012.

Lisenby, P.E., Wasklewicz, T. and Slattery, M.C. "A reach-scale characterization of a second-order, tropical, montane stream: using terrestrial laser scanning to relate channel morphology to the distribution of stream power and shear stress", Geological Society of America, Charlotte, 2012.

Slattery, M.C. "Key issues facing the development of large-scale wind: Results from the TCU-Oxford-Nextera Wind Research Initiative", 34th International Geological Congress, Brisbane, 2012.

Slattery, M.C. (Invited) "A lower carbon economy", five-person panel, 34th International Geological Congress, Brisbane, 2012.

Slattery, M.C., Lantz, E. and Johnson, B. "State and local economic impacts from wind energy projects: Texas case study", American Wind Energy Association Windpower Expo Atlanta, 2012.

Slattery, M.C., Chumchal, M. and Drenner, R. "Mercury (Hg) contamination of fish in Texas and the link to anthropogenic sources: Results from reservoir surveys and atmospheric transport modeling", Planet Under Pressure, London, 2012.

Slattery, M.C. "The ecological impact of not building renewable energy: Hg contamination in TX, LA, OK and AR and regional atmospheric transport pathways", Association of American Geographers Annual Meeting, New York, 2012.

Johnson, B., Slattery, M.C. and Melchior, M.M. "Comparison of perceptions of the wind industry in Texas and Iowa", Association of American Geographers Annual Meeting, New York, 2012.

Slattery, M.C. "Ecological and aesthetic issues facing large scale wind: Key findings from the TCU-Oxford-Nextera wind research initiative", World Future Energy Summit, Abu Dhabi, 2012.

Slattery, M.C. "Mercury deposition and watershed contamination in Texas, Louisiana, Arkansas and Oklahoma: Using NOAA's HYSPLIT (HYbrid Single-Particle Lagrangian Integrated Trajectory) model to construct long-term trajectories and plumes from coal-fired power plants", Association of American Geographers Annual Meeting, Seattle, 2011.

Johnson, B., Slattery, M.C., and Llado, L. "Comparison of Socioeconomic Implications of the Wind Industry in Texas and Iowa: A Case Study", Association of American Geographers Annual Meeting, Seattle, 2011.

Lantz, E., Slattery, M.C. and Johnson, B. "Economic impacts of large-scale wind farm development at the County and State Level: A Texas Case Study", Association of American Geographers Annual Meeting, Seattle, 2011.

Slattery, M.C. (Invited) "Driving carbon minimisation and renewable integration", IQPC Wind Power Development and Implementation Summit, Cairo, Egypt, 2010.

Slattery, M.C. (Invited) "Stream restoration and geomorphology: what are we restoring to?", Riparian Workshop, Restoration and management of streams, wetlands and floodplains", Fort Worth, Texas, 2010 (invited).

Slattery, M.C. "The current state of wind energy in Texas", Faith and Clean Energy Forum, Fort Worth, Texas, 2010.

Slattery, M.C. "The TCU-Oxford-Nextera wind research initiative: results from year 2", Association of American Geographers Annual Meeting, Washington, 2010.

Slattery, M.C. (Invited) "Use of mineral magnetic measurements to fingerprint suspended sediment sources: approaches and techniques for data analysis", Land and Sea Grant National Water Conference, Hilton Head, 2010.

Slattery, M.C., Todd, Lee A., Breyer, John and Phillips, Jonathan D. "Fluvial sediment delivery and human impact in a large coastal plain river: The case of the Trinity River, Texas", International Association of Geomorphologists, Melbourne, Australia, 2009.

Slattery, M.C. "TCU-Oxford-FPL wind research initiative", paper presented at BLOWIN' IN THE WIND: The Future of Wind Turbine Farms, Texas Tech University, Lubbock, Texas, 2009 (invited).

Slattery, M.C., Todd, L., Phillips, J.D. and Breyer, J. (Invited) "Fluvial sediment delivery and human impact in a large coastal plain river: The case of the Trinity River, Texas", European Geophysical Union, Vienna, 2009.

Slattery, M.C. "The TCU-Oxford-FPL wind research initiative", Association of American Geographers Annual Meeting, Las Vegas, 2009.

Todd, L., Slattery, M.C. and Phillips, J.D. "Quantifying sedimentation rates in the Trinity River Delta, Texas", Geological Society of America Annual Meeting, Houston, 2008.

Slattery, M.C. "Constructing sediment budgets in the Trinity and Brazos basins, TX: An assessment of methods and challenges of scale", Association of American Geographers Annual Meeting, Boston, 2008.

Slattery, M.C. "Forensic fluvial geomorphology: Lessons learned from being an expert witness in geomorphic litigation", Association of American Geographers Annual Meeting, San Francisco, 2007.

Slattery, M.C. "Use of mineral magnetic measurements to fingerprint suspended sediment sources: approaches and techniques for data analysis", Invited speaker, Sediment Source Identification Workshop, USDA ARS, Tucson, Arizona, 2006.

Slattery, M.C., Walden, J. and Phillips, J.D. "Environmental magnetic analysis of sediment samples from the lower Trinity River, Texas, USA", Association of American Geographers Annual Meeting, Denver, 2006.

Slattery, M.C. and Phillips, J.D. "Sediment delivery to the ocean by coastal plain rivers", 6th International Conference on Geomorphology, Zaragoza, Spain, 2005.

Slattery, M.C., Phillips, J.D. and Walden, J. "Sediment delivery to the ocean by coastal plain rivers: a case study of the lower Trinity River, Texas", Association of American Geographers Annual Meeting, Denver, 2005.

Slattery, M.C., Phillips, J.D. and Musselman, Z. "Dam-to-delta sediment inputs and delivery in the lower Trinity River, Texas", 32nd International Geological Congress, Florence, Italy, 2004.

Slattery, M.C., Phillips, J.D. and Musselman, Z. "Dam-to-delta sediment inputs and storage in the lower Trinity River, Texas", Association of American Geographers Annual Meeting, Philadelphia, 2004.

Slattery, M.C., Wellmeyer, J.L. and Phillips, J.D. "Quantifying the impact of dam construction on flow regime, sediment delivery, and channel change", British Geomorphological Research Group Annual Meeting, Oxford, 2003.

Wellmeyer, J.L. and Slattery, M.C. "Quantifying downstream impacts of impoundment on flow regime and channel activity, Lower Trinity River, Texas", Association of American Geographers Annual Meeting, New Orleans, 2003.

Donovan, R.N., Slattery, M.C., Donaldson, S.E., Drummond, N., Chisholm, I., Adamas, L. and Abarca, L. "Environmental stewardship and the genius loci concept", Geological Society of America Annual Meeting, Denver, 2002.

Slattery, M.C. and Lazar, A. "Runoff and sediment delivery in a headwater basin of the Trinity River watershed, Fort Worth, Texas", Association of American Geographers Annual Meeting, Los Angeles, 2002.

Slattery, M.C. and Lazar, A. "Complex runoff response and pollutant flux in a headwater basin of the Trinity River watershed, Fort Worth, Texas", Geological Society of America Annual Meeting, Boston, 2001.

Musselman, Z.A. and Slattery, M.C. "Geomorphology of the Rosillos Mountains, Brewster County, Texas", Geological Society of America Annual Meeting, Boston, 2001.

Slattery, M.C., Morgan, K.M. and Busbey, A.B. "Paleohydraulic reconstruction on ancient alluvial fans, Big bend National Park, Texas", Association of American Geographers Annual Meeting, New York, 2001.

Slattery, M.C., Gares, P.A. and Phillips, J.D. "Linking the field to the river: runoff and sediment delivery in a North Carolina coastal plain drainage basin", International Symposium on Soil Erosion Research for the 21st Century, American Society of Agricultural Engineers, Honolulu, 2001.

Musselman, Z.A., Slattery, M.C. and Busbey, A.B. "Morphometric and aeral properties of Star Creek fan, Rosillos Mountains, Brewster County, Texas", Geological Society of America Annual Meeting, Reno, 2000.

Slattery, M.C., Gares, P.A., and Phillips, J.D. "Scale linkage in fluvial systems", Invited paper, European Commission's COST action working group *Soil erosion and global change*, Almeria, Spain, 2000.

Slattery, M.C., Gares, P.A., and Phillips, J.D. "Linking the Field to the River: Runoff and Sediment Delivery in two Coastal Plain Drainage Basins, North Carolina", Association of American Geographers Annual Meeting, Pittsburgh, 2000.

Cappiella, K. and Slattery, M.C. "Nitrogen, Phosphorus, and sediment exports from headwater streams in a coastal plain agricultural catchment, North Carolina", Association of American Geographers Annual Meeting, Honolulu, 1999.

Slattery, M.C. and Walden, J. "Fingerprinting suspended sediment sources using mineral magnetic measurements: a quantitative approach", Association of American Geographers Annual Meeting, Honolulu, 1999.

Walden, J., Slattery, M.C. and Burt, T.P. "Fingerprinting suspended sediment sources using mineral magnetic measurements: a quantitative approach, Tracers in Geomorphology, British Geomorphological Research Group, Coventry, 1998.

Gares, P.A., Slattery, M.C. and Phillips, J.D. "Aeolian sediment transport off coastal plain cropland", Fourth International Conference on Aeolian Research, University of Oxford, 1998.

Slattery, M.C., Gares, P.A. and Phillips, J.D. "Soil erosion and sediment delivery in a coastal plain drainage basin, North Carolina", Association of American Geographers Annual Meeting, Boston, 1998.

Slattery, M.C. and Gares, P.A. "Runoff and sediment production in a small coastal plain watershed during tropical rainfall", Fourth International Conference of Geomorphology, Bologna University, Italy, 1997.

Slattery, M.C. and Gares, P.A. "Runoff and sediment production in a small coastal plain watershed during tropical rainfall: some preliminary results", Association of American Geographers Annual Meeting, Fort Worth, 1997.

Burt, T.P. and Slattery, M.C. "Time-dependent changes in soil physical properties and surface runoff generation", Advances in Hillslope Processes, British Geomorphological Research Group, Bristol, 1996.

Slattery, M.C., and Burt, T.P. "On the complexity of sediment delivery in fluvial systems", Advances in Hillslope Processes, British Geomorphological Research Group, Bristol, 1996.
Slattery, M.C. "Particle size characteristics of suspended sediment in hillslope runoff and stream flow", Association of American Geographers Annual Meeting, Charlotte, 1996.

Slattery, M.C., Burt, T.P. and Walden, J. "The application of mineral magnetic measurements to quantify within-storm variations in suspended sediment sources", XXI General Assembly of IUGG (IAHS), Boulder, Colorado, 1995.

Slattery, M.C. "South Africa and the five themes of geography", North Carolina Geographic Alliance Workshop, East Carolina University, Greenville, 1995 (invited).

Slattery, M.C. and Burt, T.P. "On the complexity of sediment delivery in fluvial systems", Association of American Geographers Annual Meeting, Chicago, 1995.

Slattery, M.C., Burt, T.P. and Walden, J. "Use of magnetic measurements to fingerprint suspended sediment sources", Association of American Geographers Annual Meeting, San Francisco, 1994.

Slattery, M.C. and Burt, T.P. "Contemporary sediment dynamics and sediment delivery in a small agricultural catchment, North Oxfordshire: research design and preliminary results", Third International Conference of Geomorphology, McMaster University, Hamilton, Ontario, 1993

Slattery, M.C. and Burt, T.P. "Size characteristics of sediment eroded from agricultural soil: dispersed versus non-dispersed, ultimate versus effective", Third International Conference of Geomorphology, McMaster University, Hamilton, Ontario, 1993.

Walden, J. and Slattery, M.C. "Verification of a simple gravity technique for separation of particle size fractions suitable for mineral magnetic analysis", poster, European Geophysical Association General Assembly, Wiesbaden, Germany, 1993.

Walden, J., White, K., Burt, T.P., MacMillan, B., Slattery, M.C. and Parker, A. "A comparison of qualitative, statistical and mathematical approaches for the identification of natural magnetic mineral assemblages within sediment samples", poster, European Geophysical Association General Assembly, Wiesbaden, Germany, 1993.

Slattery, M.C. and Burt, T.P. "Contemporary sediment dynamics in a small agricultural catchment, North Oxfordshire", Tectonics and Geomorphology Discussion Meeting: Sediment Flux at Different Scales, University of Oxford, 1993.

Slattery, M.C. and Bryan, R.B. "Contemporary sediment dynamics in a small agricultural catchment, North Oxfordshire, UK: research design and preliminary results", poster, Methods of Hydrologic Basin Comparison Conference, University of Oxford, 1992.

Slattery, M.C. and Bryan, R.B. "Hydraulic conditions for rill incision under spray simulated rainfall", poster, Methods of Hydrologic Basin Comparison Conference, University of Oxford, 1992.

Slattery, M.C. "Barchan migration on the Kuiseb River delta, South West Africa/Namibia", 20th Students Geographical Conference, University of Cape Town, 1988 (Best Paper).

Slattery, M.C. "Dune dynamics at Walvis Bay and Conception Bay, South West Africa/Namibia", 19th Students Geographical Conference, Rand Afrikaans University, Johannesburg, 1987.

Invited Lectures and Seminars (other than conference papers)

2015 Earth Day Texas (invited speaker), "*Why are we poles apart on climate change?*"

2014 University of Texas at Arlington, "*The value of interdisciplinary research*"

Fort Worth Humanists, "*Anthropogenic climate change*".

Texas Water Foundation, State Capitol, Austin, "*Dams and river regulation*".

2012 Panelist, National Youth Summit on the Dust Bowl, Fort Worth Museum of Science and History, in association with The Smithsonian and PBS

2011 Riparian Workshop, Texas Christian University, "*Stream restoration: What are we restoring to?*"

2010 The Great Global Warming Debate, Chancellor's Advisory Council.

- 2010 Millsaps College, *"The environmental impact of large wind farms in Texas"*.
- 2010 East Carolina University, *"The environmental impact of large wind farms in Texas"*.
- 2008 East Carolina University, *"The geographer as expert witness"*.
- 2006 Tarrant County College, *"The science behind global warming"*.
- Society of Texas Environmental Professionals, *"The TCU Graduate Program"*.
- Texas Water Development Board, *"One day workshop on sediment budgeting in Texas rivers"*.
- 2005 University of Dallas, Department of Geology, *"The Trinity River basin, Texas: sediment dynamics and human impact"*.
- 2005 University of Texas at Arlington, Department of Geology, *"Sediment delivery to the ocean by coastal plain rivers"*.
- 2001 Baylor University, Department of Geology, *"Research questions in small basin research"*.
- 1999 University of Texas, Dallas, *"On the complexity of sediment delivery in small drainage basins"*.
- 1999 University of South Carolina, *"On the complexity of sediment delivery in small drainage basins"*.
- 1995 University of North Carolina-Chapel Hill, *"Linking the field to the river: sediment delivery on agricultural land"*.
- 1995 East Carolina University, Geography Awareness Week Lecture, *"South Africa: A personal perspective"*.
- 1994 Applied Hydrology Seminar Series, School of Geography, University of Oxford, *"Mechanisms of rill formation"*.
- 1992 Research Seminar, School of Geography, University of Oxford, *"Sediment delivery in agricultural catchments: problems and prospects"*.
- 1991 Sherborne Boys School, United Kingdom, *"Soil erosion in the UK - is there a problem?"*.
- 1991 Applied Hydrology Seminar Series, School of Geography, University of Oxford, *"Overland flow and erosion"*.

Professional Societies: American Geophysical Union, Association of American Geographers, Geological Society of America, British Geomorphological Research Group, British Hydrological Society, British Society of Soil Science, International Association of Geomorphologists

Professional Assignments

- 2010- Member of Sustainable Energy Roundtable in association with the Fort Worth Museum of Science and History.
- 2010- Editorial Board, *Annals of the Association of American Geographers*.
- 2009- Executive Research Board, Texas Institute and Botanical Research Institute of Texas
- 2005-2009 Head of Publications and Executive Committee, International Association of Geomorphologists
- 2005-2006 Chair, Geomorphology Specialty Group, Association of American Geographers.
- 2001-2004 Member and then Chair, Geomorphology Specialty Group Awards Committee, Association of American geographers.
- 2001 US representative, The Gordon Cook Conversations, Douneside, Scotland.
- 2000- National Vice-President, Sigma Gamma Epsilon.
- 1998 Judge, 1998 Intel International Science and Engineering Fair, Fort Worth, Texas.
- 1998 Judge, 1998 Texas Geography Bee.
- 1995- Organised and chaired paper sessions at the Association of American Geographers Annual Meeting.
- 1995 Member of disaster response team examining the effects of Hurricane Opal, Pensacola Beach, Florida.
- 1988 Member of research team monitoring winds in the Namib Desert, University of the Witwatersrand, Johannesburg.

Journal reviewer for: *Journal of Arid Environments, Soil Use and Management, Earth Surface Processes and Landforms, Catena, Journal of Soil Science, Geomorphology, Journal of Soils and Sediments, Energy Policy*

External examiner and T&P review: Louisiana State University, University of North Carolina, Greensboro, Millsaps College, Mississippi

Proposal reviewer for: US Department of Agriculture CSREES Grants, NASA Research and Education Review Panel (Water Storage)

University Committees

- 2006 TCU Strategic Initiative Fund Evaluation Committee (TCU)
- 2004 College of Science and Engineering Advisory Committee (TCU)
- 2004 Graduate Education Strategy Committee (TCU)
- 2002 Graduate Review Committee, College of Science and Engineering (TCU)
- 2001 Core Curriculum Implementation Committee (TCU)
- 2000 Core Curriculum Outcomes Committee (TCU)
- 1999-2000 Commission on the Future of TCU (Global Positioning task Force)
- 1999-2003 Curriculum Committee (Texas Christian)
- 1995-1997 Search Committee (East Carolina)
- 1994-1997 Chair, Social Committee (East Carolina)
- 1994-1997 Code Committee (East Carolina)
- 1994-1995 Faculty Development Committee (East Carolina)
- 1992-1993 Graduate Representative on the Joint Consultative and Sub-Faculty Committee (Oxford)
- 1989-1990 Graduate Representative on the Graduate Affairs Committee (Toronto)
- 1988 Chairman, Students Geographical Society (Witwatersrand)

GRADUATE PROGRAM

MS Thesis Directed/Co-Directed:

J. Williams, 2014 (co-directed). "Remediating Nutrient and Bacterial Contaminated Stormwater via Bioretention: A Comparative Analysis of Three Filter Designs."

Dizayee, R, 2014 (co-directed). "Groundwater Degradation and Sustainability of the Erbil Basin, Erbil, Kurdistan Region, Iraq."

P. Lisenby, 2013. "A Reach-Scale Characterization of a Second-Order, Tropical, Montane Stream: Using Terrestrial Laser Scanning to Relate Channel Morphology to the Distribution of Stream Power and Shear Stress".

S. Jones, 2013. "Hydrologic response of hillslope seeps and headwater streams in the Fort Worth Prairie."

M. Melchior, 2012. "Assessing sediment dynamics and channel bar response in the Brazos River near Glen Rose, Texas".

L. Llado, 2011. "Soil moisture dynamics of Muhly seeps in a hillslope hollow during low flow and storm conditions".

K. Ozenick, 2010. "Identifying priority areas for conservation: Methods using GPS and GIS tools to represent biodiversity in Costa Rica".

B. Tower, 2010. "Spatial and temporal variability of soil properties under multiple land use, Costa Rica".

X. Zhang, 2010. "Quantifying soil moisture dynamics on green roof media in response to rainfall".

J. Swofford, 2009. "Social perceptions of wind energy in Texas: Proximity and NIMBY explored".

A. Schlipmann, 2009. "Base-line hydrology for a long-term stream monitoring program: A first step toward sustainable water management at the Texas Christian University tropical research station".

M. Dezendorf, 2009. "Sustainable tourism as a working model of new conservation in the Monteverde zone, Costa Rica".

D. Williams, 2008. "Appropriate design elements and soil selection for green roofs in North Central Texas".

L. Black, 2008. "Quantifying in-stream sediment transport in the upper Brazos Basin, Texas".

L. Todd, 2008. "Use of GPR to constrain sedimentation in the Trinity River Delta, Texas".

R. Garnett, 2008. "Sediment budgeting along the middle Trinity River, TX".

S. Eady (co-supervised), 2007. "Effects of Herbivory on Competition Between *Avicennia* and *Spartina* Along the Marsh Gradient".

- S. Hagos, 2007. "Groundwater flow dynamics and possible contaminants studies for La Grave Field wells, Fort Worth, Texas".
- S. Smith, 2007. "The impact of impoundment and flood control on channel morphology and dynamic river processes at the Brazos River, Paluxy River, Squaw Creek confluence, Glenrose TX".
- T. Moss, 2007. "Baseline study of nutrient and sediment flux from an urbanising basin, Parker County, Texas".
- D. Dollar, 2005. "Land use, slope, and soil type and their control on sediment flux from two lower coastal plain basins, Trinity River, Texas".
- L. Dakshinamurthy, 2004. "Quantifying the impact of impoundment on sediment transport in the lower Trinity River, Texas", 72p.
- L. Johnson, 2003. "Spatial and temporal variability in soil moisture content as a control on runoff generation in a hillslope hollow in Parker County, Texas", 172p.
- J. Wellmeyer, 2003. "Historic planform change of the Trinity River channel below Livingston Dam, Liberty County, Texas", 152p.
- M. Donovan, 2003. "Grain size control on Landsat TM imagery of alluvial fans surrounding the Rosillos Mountains in southwest Texas, 187p.
- Z. Musselman, 2001. "Morphometric and areal properties of Star Creek fan, Rosillos Mountains, Brewster County, Texas", 131p.
- A. Lazar, 1999. "Storm based monitoring of pollutant fluxes on Upper Sycamore Creek, Fort Worth, Texas", 210p.
- H. Golden, 1998. "Spatial and temporal variability of historic alluvial sedimentation on the lower coastal plain, North Carolina", 98p.
- K. Capiella, 1995. "Nitrogen, phosphorus, and sediment exports from headwater streams in a coastal plain agricultural basin, North Carolina", 155p.