VITA Richard O. Sleezer

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Courses Taught Fall 2021:

ES110 Introduction to Earth Science; ES333 Environmental Geology, ES767 Advanced and Applied Environmental Geology.

Education:

B.S. in Geography, Emporia State University, Emporia, Kansas, December 1987.

M.S. in Physical Science, Emporia State University, Emporia, Kansas, May 1990. Concentration: Earth Science Thesis Title: Drainage Development and Chert Gravel Deposits in Butler County, Kansas.

Ph.D. in Geography, University of Kansas, Lawrence, Kansas, December 2001. Emphases: Pedology, Geomorphology, Quaternary Geology, Water Resources. Dissertation Title: Groundwater Vulnerability to Nitrate Pollution from Non-Point Sources in Harvey County, Kansas.

Academic Experience:

- *Teaching Assistant*, Earth Science Department, Emporia State University, August 1988 to May 1989, and January 1990 to May 1990. Introduction to Earth Science Labs.
- *Teaching Assistant*, Department of Geography, University of Kansas, January 1991 to May 1992. Introduction to Physical Geography Labs and Soil Geography Labs.
- *Teaching Assistant*, Department of Geography, University of Kansas, August 1997 to December 1997. Introduction to Physical Geography Labs.
- *Instructor*, Earth Science Department, Emporia State University, January 1998 to May 1998. Physical Geography and World Regional Climatology.

Academic Experience Cont:

- Assistant Professor, Earth Science, Department of Physical Sciences, Emporia State University, August 1998 to August 2004. See following section for courses taught.
- Associate Professor, Earth Science, Department of Physical Sciences, Emporia State University, August 2004 to June 2017. See following section for courses taught.
- *Professor*, Earth Science, Department of Physical Sciences, Emporia State University, June 2017 to Present. See following section for courses taught.

Chair, Department of Physical Sciences, Emporia State University, June 2012 to June 2015.

Associate Dean, College of Liberal Arts and Sciences, Emporia State University, June 2015 to June 2019.

Director of General Education, Emporia State University, June 2015 to June 2020.

Chair, Department of Physical Sciences, Emporia State University, June 2019 to present.

Courses Taught:

ES110 Introduction to Earth Science ES111 Introduction to Earth Science Lab ES/GE 254 Physical Geography ES319 Meteorology ES320/ES567 Severe and Unusual Weather ES333 Environmental Geology ES/GE365 World and Regional Climatology ES366/ES567 Natural Hazards GE371 Cartography ES545 Geomorphology ES551 Computer Mapping Systems ES567 ArcGIS Applications GE572 GIS Applications ES539/ES567 Soil Science and Lab GO571 Geohydrology ES567 GIS for Teachers ES703 Seminar: Environmental Soil Science ES/GE703 Seminar: Environmental Soil Geography ES703 Seminar: Fluvial Geomorphology ES703 Seminar: Climate Change ES703 Seminar in Physical Geography: Soil Genesis and Classification ES751 Advanced GIS ES767 Advanced ARC/INFO and Arcview Applications ES767 Geostatistics and Spatial Modeling with GIS

Research Interests:

Groundwater Pollution Risk Assessment.

Techniques for the Assessment of Soil, Vadose Zone and Aquifer Variability in Complex Geomorphic Settings.

Applications of Electromagnetic Methods in Soil Science and Geology.

Comparison of Field and Laboratory Methods for Measuring the Hydraulic Properties of Soils.

Interactions Between Geomorphic and Pedogenic Processes.

Organic Carbon Storage in Soils.

Sediment, Carbon and Water Storage in Anthropogenic Water Bodies.

Soil Moisture and Temperature Regimes.

Soil Database Design for use in Geographic Information Systems.

Accurate Detection and Delineation of Water Bodies Using a Variety of Remote Sensing Platforms.

Modeling Impacts of Anthropogenic Water Bodies and Agricultural Terraces on Sediment Budgets and Basin-Wide Water Storage, Evapotranspiration, and Stream Flow. Detecting environmental change using digital historical aerial photos and GIS.

Research and Grant Experience:

- *Research Assistant*, Earth Science Department, Emporia State University, June 1989 to January 1990.
 - *Kansas Geological Survey* funded mapping Project, Surficial Geology of Butler County, Kansas. Sponsored by the Kansas Geological Survey.
- *Graduate Research Assistant*, Kansas Geological Survey, Lawrence, Kansas, June 1991 to August 1998. Multiple externally funded projects.
 - *EPA funded project* to assess non-point source pollution of the Equus Beds Aquifer in Harvey County, Kansas. The principal focus of the project was to determine the extent of nitrate pollution from nitrogen fertilizers applied to agricultural crop land.
 - Kansas Water Resources Research Institute funded project to assess field-scale soil variability and its effects on nitrogen retention and nitrate transport within Harvey County, Kansas.
 - *Harvey County Conservation District* funded project to measure the saturated hydraulic conductivity of soils. The principal focus of the project was to obtain data for three representative soils in the area for which no data were available. Secondary goals were to compare field and laboratory measurements of conductivity, and to assess the applicability of the Compact Constant Head Permeameter (Amoozemeter) across a broad range of soil textures.
 - *Bureau of Reclamation* funded project to collect all available pertinent data, and make a preliminary assessment of salt water intrusion into the Equus Beds Aquifer in Reno County, Kansas.

Assistant/Associate Professor/Professor, Earth Science, Department of Physical Sciences, Emporia State University. August 1998 to present.

Funded Projects

- *Kansas Geological Survey-* project to compile a set of lithology coverages for a part of the Equus Beds Aquifer. The intent was to analyze relationships between the variability in aquifer properties as compared with various water quality and quantity issues.
- *National Cooperative Refinery Association* project to make a three dimensional study of the variability of aquifer lithology under the NCRA refinery near McPherson and help determine the effects of aquifer lithology on the transport of chlorides through the aquifer.
- *Kansas Water Office-* project to create a new and more easily usable database for use with available soil GIS coverages (SSURGO and 1:24k detailed). The new database has been christened Soilslight and its intent is to simplify the existing database for use by non-soil scientists who are GIS users.
- Kansas Department of Wildlife and Parks- project to compile county GIS databases needed to create a Walk-In Hunting Area Atlas for the State of Kansas.

- *Kansas Department of Agriculture-* project to compile county GIS databases needed to assess groundwater pollution risk from agricultural chemicals.
- *Emporia State University 2003-* faculty research and creativity project to investigate temporal changes in soil carbon entitled "The Potential for Kansas Soils to be Significant Sinks for Atmospheric Carbon Dioxide."
- Kansas NASA EPSCoR 2003- project to study the history of pond building in eastern Kansas using aerial and satellite imagery entitled "Landscape-Scale Detection and Classification of Small Water Bodies: Temporal Integration of Diverse Types of Data."
- Kansas Department of Health and Environment 2005 project to register and rectify historical air photos in the vicinity of Salina, Kansas.
- Kansas Department of Health and Environmen 2006 project to register and rectify historical air photos in the vicinity of Hutchinson and Pittsburgh Kansas.
- Kansas State GIS Policy Board/sub-contract from Kansas Geological Survey 2006- Equus Beds Aquifer high resolution bedrock topography project.
- Kansas Department of Health and Environment, Fall 2007 project to register and rectify historical air photos in the vicinity of Witchita, Sedgwick County, Kansas.
- Kansas Department of Health and Environment, Fall 2008– project to register and rectify historical air photos in Cherokee County, Kansas.
- *Kansas Geological Survey*, July 2008-May2009 subcontract to help map surficial geology of four 7.5 minute quadrangles in Harvey County Kansas.
- *Tallgrass Legacy Alliance and Natural Resource Conservation Service Contract, August 2008* Koerner, B. and R. Sleezer. Sericea Lespedeza Responses to Patch-Burn Management.
- *Kansas Geological Survey*, July 2009-May 2010 subcontract to help map surficial geology of four 7.5 minute quadrangles in Harvey County Kansas.
- *Kansas Geological Survey*, July 2010-May 2011 subcontract to help map surficial geology of four 7.5 minute quadrangles in Harvey County Kansas.
- *Kansas Geological Survey*, July 2011-May 2012 subcontract to help map surficial geology of four 7.5 minute quadrangles in Harvey County Kansas.

Chair, Department of Physical Sciences, Emporia State University. June 2012 to June 2015.

Kansas NASA Space Grant Coordinator, June 2012- June 2015 – Responsible for annual base funding proposal, Space Grant Proposal Reviews, Scholarship Allocation and Annual Reports to the State Coordinator.

Associate Dean, College of Liberal Arts and Sciences, June 2015 to June 2019.

- U.S. Fish and Wildlife contract to digitize water bodies in the Neosho and Kansas River Basins, February 2017 to January 2018.
- USDA-NRCS Funded cooperative agreement to scan and georeferenced historical aerial photographs for the State of Kansas. September 2018-December 2020.

Chair, Department of Physical Sciences, Emporia State University. June 2019 to Present.

U.S. Fish and Wildlife - Proposed collaboration between Emporia State University and the U.S. Fish and Wildlife Service for research at the Flint Hills National Wildlife Refuge. 4. Habitats for shrubland-nesting birds at the Flint Hills National Wildlife Refuge. (Jensen, McKenzie, Sleezer, p. 18; FHNWR HMP Projects II. and III.) submitted 2/14/2020

Proposals Submitted but not Funded

- National Science Foundation, 1999. Biodiversity of freshwater mussels and associated fish and fish parasite assemblages in the upper Osage River system. Co-Principal Investigators Dr. David Edds and Dr. Derek Zelmer, Department of Biological Sciences, ESU; Rich Sleezer, Departments of Physical Sciences, ESU; Brian Obermeyer, Kansas Department of Wildlife and Parks.
- National Science Foundation, 2000. Biodiversity of freshwater mussels and associated fish and fish parasite assemblages in the upper Osage River system. Co-Principal Investigators – Dr. David Edds and Dr. Derek Zelmer, Department of Biological Sciences, ESU; Rich Sleezer, Departments of Physical Sciences, ESU; Brian Obermeyer, Kansas Department of Wildlife and Parks. Edited and resubmitted.
- Kansas Department of Health and Environment, 2000. Effects of Spray Irrigation of Blended Waste on Ground-water Quality in a Sensitive Ground Water Area. Sub-contract from the Kansas Geological Survey. Principal Investigator – Margaret Townsend, Geohydrology Section, Kansas Geological Survey.
- National Science Foundation, 2002. ITR: High Plains Aquifer Informatics Network \(HiPlAIN\). Subcontract from the Kansas Geological Survey. Principal Investigators – Margaret Townsend and Dr. P. Allen Macfarlane, Geohydrology Section, Kansas Geological Survey and Dr. John Gauch, Department of Electrical Engineering and Computer Science, University of Kansas.
- National Science Foundation, 2002. Cumulative Biogeochemical Effects of Artificial Small Ponds. Principal Investigators – Dr. Robert Buddemeier, Geohydrology Section, Kansas Geological Survey; Dr. Frank deNoyelles, Kansas Biological Survey; Dr. William Renwick, Department of Geography, University of Miami (Ohio); Dr. Richard Sleezer, Departments of Physical Sciences, Emporia State University; Dr. Stephen Smith, Department of Oceanography, University of Hawaii.
- National Science Foundation, 2003. Cumulative Biogeochemical Effects of Artificial Small Ponds. Principal Investigators – Dr. Robert Buddemeier, Geohydrology Section, Kansas

Geological Survey; Dr. Frank deNoyelles, Kansas Biological Survey; Dr. William Renwick, Department of Geography, University of Miami (Ohio); Dr. Richard Sleezer, Departments of Physical Sciences, Emporia State University; Dr. Stephen Smith, Department of Ecology, Centro de Investigacion Científica y de Educacion Superior de Ensenada (CICESE), Mexico. Edited and resubmitted.

Reports and Publications:

- Townsend, M.A., S.A. Macko, D.P.Young, and R.O. Sleezer, 1994. Natural 15N Isotopic Signatures in Ground Water: A Cautionary Note on Interpretation. Kansas Geological Survey Open-File Report 94-29.
- Townsend, M.A., and R.O. Sleezer, 1994. Effects of Agricultural Practices and Soil Stratigraphy on Nitrate Concentration in Ground Water in South-Central Kansas. Kansas Geological Survey Open-File Report, 94-58.
- Townsend, M.A., and R.O. Sleezer, 1995. Pollution Prevention Demonstration Project, Harvey County, Kansas, Final report submitted to the Kansas Department of Health and Environment and US EPA: Kansas Geological Survey, Open-File Report 95-74.
- Townsend, M.A., R.O. Sleezer, and S.A. Macko, 1996. Effects of Agricultural Practices and Vadose Zone Stratigraphy on Nitrate Concentration in Ground Water in Kansas, USA. *Water Science and Technology* 33:219-226.
- Townsend, M.A., M.A. Sophocleous, and R.O. Sleezer, 1996. Effects of Soil Variability on Nitrate Transport. Kansas Water Resources Research Institute Report. Contribution #319.
- Townsend, M.A., R.O. Sleezer, and M.A. Sophocleous, 1997. Field-Scale Variability of Soil Properties Influencing Retention of Plant-Available Nitrogen in Central Kansas. Kansas Water Resources Research Institute Report. Contribution # 326.
- Schloss, J., D.O. Whittemore, D.P. Young, R.O. Sleezer, and R.W. Buddemeier, 1997. Equus Beds Aquifer Mineral Intrusion Study: Map Products. Kansas Geological Survey Open-File Report 97-28.
- Whittemore, D.O., J. Schloss, Ming-Shu Tso, and R.O. Sleezer, 1997. Upper Arkansas River Corridor Study: Maps of Surface Features, Ground Water Quantity, and Bedrock Elevation. Kansas Geological Survey Open-File Report 97-45.
- Sleezer, R. O., J. Schloss, and L. Bissinger, 1998. Classification of Surface Soil Textures in the Kansas and Lower Republican River Basins in Kansas. Kansas Geological Survey Open-File Report 98-6.
- Sleezer, R. O., 1999. Documentation of Methods Used to Create Lithology Coverages for a Part of the Equus Beds Aquifer. Kansas Geological Survey Open-File Report 99-37.
- Sleezer, R. O., 2000. Three-dimensional analysis of soil, vadose zone, and aquifer stratigraphy affecting contaminant transport at the NCRA refinery in McPherson County Kansas. A proprietary report to Cooperative Refining, LLC.

- Sleezer, Richard, 2000. "Geology", in Warner, John, Soil Survey of Reno County, Kansas. United States Department of Agriculture, Natural Resources Conservation Service.
- Apolzer, K., C. Cooper, and R. O. Sleezer, 2001. Description of the Soilslight Database. A report to the Kansas Water Office and the State GIS Policy Board. Kansas Geological Survey Open-file Report Number 2000-33.
- Young, D.P., R.O. Sleezer, G. Misgna, D. Li, and D.O. Whittemore. 2001. Geographic Information System Tools for Assessing Potential Impacts of Pesticide Use on Groundwater Quality in Kansas. Kansas Geological Survey Open-file Report Number 2001-34.
- Sleezer, Richard, 2002. Book Review, "Spatial Patterns in Catchment Hydrology: Observations and Modeling, Ed. Walter Grayson and Gunter Bloschi, 2001". Plant Science Bulletin, 48:24-25.
- Buddemeier, R.W., R.O. Sleezer, S.L. Egbert, and F.J. deNoyelles, 2004. Landscape-scale Detection and Characterization of Small Water Bodies: a Progress Report. Kansas Geological Survey Open-file Report Number 2004-43.
- Renwick, W.H., S.V. Smith, R.O. Sleezer, and Robert W. Buddemeier, 2004. Technical Comment on "Managing Soil Carbon" *Science* 305:1567. Full text: <u>www.sciencemag.org/cgi/content/full/305/5690/1567c</u>
- Salley, S., M. Morales, R.O. Sleezer, 2005. Surficial Geology of the Hamilton Quarry Area, Greenwood County, Kansas. Kansas Geological Survey Open-file Report Number 2005-13.
- Smith, S.V., R. O. Sleezer, W. H. Renwick, and R. W. Buddemeier, 2005. Fates of Eroded Soil Organic Carbon: Mississippi Basin Case Study. *Ecological Applications* 15(6):1929-1940.
- Renwick, William H., Richard O. Sleezer, Robert W. Buddemeier, Steven V. Smith, 2006. Small Artificial Ponds in the United States: Impacts on Sedimentation and Carbon Budget. Proceedings of the Eighth Federal Interagency Sedimentation Conference (8th FISC), April 2-6, Reno, Nevada, USA.
- Buddemeier, R. W., F. J. deNoyelles, S. Egbert, R. O. Sleezer, D. P. Young, X. –Y. Zhan, Z. Andereck, M. Houts, B. Mosiman, P. Taylor, J. Vopata, B, Wilson, W. H. Renwick, and S.V. Smith, 2006. A Final Technical Report for the NASA-EPSCoR/KTech-funded project: Landscape-Scale Detection and Classification of Small Water Bodies: Temporal Integration of Diverse Types of Data. Kansas Geological Survey Open-file Report Number 2006-9, 23p.

- Townsend, M.A. and R.O. Sleezer, 2007. Factors Affecting Spatial Patterns of Vadose-Zone Nitrate in South-Central Kansas. Pg. 381-406, *in Dibyendu Sarkar, Rupali Datta and Robyn Hannigan Editors*, Developments in Environmental Science, Volume 5: Concepts and Applications in Environmental Geochemistry, Elsevier Ltd.
- Harrell, Kelby, James S. Aber, and Richard O. Sleezer, 2007. Ross Natural History Reservation: Six decades of changing land cover and management documented by aerial photography. *Emporia State Research Studies* 43(2):53-63.
- Thompson, K. W., J.S. Aber, D.A. Backhus, and R.O. Sleezer, 2008. University contributions to earth science teacher professional development. *The Earth Scientist*, 27(2): 29-32.
- Aber, J.S., Aber, S.W., Buster, L., Jensen, W.E. and Sleezer, R.O. 2009. Challenge of infrared kite aerial photography: A digital update. *Kansas Academy of Science*, *Transactions* 112, p. 31-39.
- Young, David P. and Richard Sleezer, 2009. South-Central Kansas High Plains Bedrock Data Enhancement. Kansas GIS Policy Board Project Fact Sheet.
- Smith, J.J. and R. O. Sleezer, 2009. Preliminary Geologic Maps, Harvey County, Kansas. Kansas Geological Survey, Open-file Report Number 2009-15, 1p, 4 maps.
- Smith, J. J., and R.O. Sleezer, 2010. Preliminary Geologic Field Maps and Stratigraphic Column, Harvey County, Kansas (Halstead, Hesston, Moundridge, and Zimmerdale Quadrangles). Kansas Geological Survey, Open-file Report Number 2010-10, 1p, 4 Maps.
- Smith, J.J., and R.O. Sleezer, 2011. Preliminary Geologic Field Maps and Stratigraphic Column, Harvey County, Kansas. Kansas Geological Survey, Open-file Report no. 2011-11, 4 sheets, legend.
- Smith, J.J., and R.O. Sleezer, 2012. Preliminary Geology Field Maps and Stratigraphic Column, Harvey County, Kansas—Peabody NW, Elbing, and Whitewater Quadrangles. Kansas Geological Survey, Open-file Report Number 2012-10, 1 p., 3 Sheets.
- Salley, Shawn W., Richard O. Sleezer, Robert M. Bergstrom, Patrick H. Martin, and Eugene F. Kelly, 2016. A long-term analysis of the historical dry boundary for the Great Plains of North America: Implications of climatic variability and climatic change on temporal and spatial patterns of soil moisture. Geoderma 274:104-113.
- Sleezer, Rich, 2018. Farm Ponds and the Mystery of the Missing Carbon Sink. Great Plains Traverse: The Water Issue 1:2:30-37

Presentations at Professional Meetings (and Citable Abstracts):

- Aber, J. S. and R. O. Sleezer, 1990. Drainage Development and Neotectonics in the Midcontinent Region. *Abstract* and Presentation at the 122nd Annual Meeting, Kansas Academy of Science.
- Sleezer, R. O., 1990. Historical Temperature Records for Kansas Since 1826. *Abstract* and poster presentation at the 122nd Annual Meeting, Kansas Academy of Science.
- Sleezer, R. O., 1993. A Geomorphic, Stratigraphic, and Pedogenic Approach to Assessing Non-Point Source Pollution Potential in Harvey County. Presentation to the Kansas Association of Professional Soil Classifiers Annual Meeting, January 1993.
- Sleezer, R. O., 1994. Methods for Extraction of Large Diameter Undisturbed Cores in Sandy Soils for Analysis of Hydraulic Properties. Presentation to the Kansas Association of Professional Soil Classifiers Annual Meeting, February 1994.
- Townsend, M.A., and R.O. Sleezer, 1994. Factors Affecting Nitrate Concentration in Ground Water in South-Central Kansas. Agronomy Abstracts, American Society of Agronomy, November 13-16, Seattle, Washington, p48.
- Sleezer, R.O., and G.J. Kluitenberg, 1994. A Comparison of Laboratory and Field Measured Saturated Hydraulic Conductivity Values. Presentation and Abstract, *Agronomy Abstracts*, American Society of Agronomy, November 13-16, Seattle, Washington, p365.
- Townsend, M.A., S. Macko, D. Young, and R. O. Sleezer, 1995. Natural 15N Isotopic Signatures in Gound Water: A Cautionary Note on Interpretation. Presentation and Proceedings, 12th Annual Water and the Future of Kansas Conference, Manhattan, Kansas.
- Sleezer, R.O., and G.J. Kluitenberg, 1995. A Comparison of Laboratory and Field Measured Saturated Hydraulic Conductivity Values. Presentation and Abstract, *Proceedings*, 12th Annual Water and the Future of Kansas Conference, Manhattan, Kansas.
- Sleezer, R. 1995. Hydraulic Properties of Selected Soils in Harvey County, Kansas. Presentation to the Kansas Association of Professional Soil Classifiers Meeting, March 1995.
- Townsend, M.A., and R.O. Sleezer, 1995. Drainage Basin Scale Variation of Nitrate-N Concentrations in Ground Water, Harvey County, Kansas. Geological Society of America 1995, *Abstracts with Programs* of North-Central Section and South-Central Section, University of Nebraska-Lincoln, Lincoln, Nebraska, p. A-90.
- Townsend, M.A., R.O. Sleezer, and S.A. Macko, 1995. Effects of Agricultural Practices and Vadose Zone Stratigraphy on Nitrate Concentration in Ground Water in Kansas, USA. *Abstract* with Program, Second International IAWQ Specialized Conference and Symposia on Diffuse Pollution, Brno and Prague, Czech Republic, August 13-18, 1995.

- Sleezer, R.O., M.A.Townsend, and M. Sophocleous, 1995. Using Electromagnetic, Laboratory, Geostatistical, and Geomorphic Techniques to Assess Soil Variability. Presentation and Abstract, *Agronomy Abstracts*, American Society of Agronomy, October 30-November 3, 1995, St. Louis, Missouri, p298.
- Sleezer, R.O., 1996. Potential Uses for Electromagnetic Measurements in Soil Surveys, Electronic Gadgets for the Modern Ped Warrior. Presentation to the Kansas Association of Professional Soil Classifiers Meeting, March 1996.
- Sleezer, R. O., D. P. Young, and R.W. Buddemeier, 1998. Multidisciplinary Assessment of Salinity Patterns Along Rattlesnake Creek in South-central Kansas. Abstract and Poster Presentation at the 43rd Annual Midwest Ground Water Conference, October 12-14, 1998, Lawrence Kansas.
- Sleezer, R. O., and R.E. Bassler, 1998. A Comparison of Ground-water Nitrate Pollution Risk Indices — An Example from the Equus Beds Aquifer in Central Kansas. Abstract and Presentation at the 43rd Annual Midwest Ground Water Conference, October 12-14, 1998, Lawrence Kansas.
- Sleezer, R. O., 1999. A Comparison of Ground-water Nitrate Pollution Risk Indices. An Example from the Equus Beds Aquifer in Central Kansas. Kansas Association of Professional Soil Classifiers Annual Meeting, May 6&7, 1999, Topeka, Kansas.
- Apolzer, K., and R. O. Sleezer, 2000. Soilslight, Soils Light, Soils Lite. Making SSURGO usable for the average GIS technician, Or the trials and tribulations of using a soil database in a GIS context. Kansas Association of Professional Soil Classifiers Annual Meeting, May 4 & 5, 2000, Manhattan, Kansas.
- Sleezer, R. O., 2002. Soil Surveys and Digital Soils Data. Historical and End-User Perspectives. Kansas Association of Mappers, 17th Annual Conference, Wichita, Kansas.
- Sleezer, R. O., 2002. Using Digital Soils Data Tax Assessment and Environmental Examples. Kansas Association of Mappers, 17th Annual Conference, Wichita, Kansas.
- Buddemeier, R.W., R.O. Sleezer, D.P. Young, S. Egbert, F.J. deNoyelles, X. Zhan, W.H. Renwick, and S.V. Smith. 2004. Small Artificial Water Bodies: A Neglected but Important Factor in Water Supply and Environmental Quality. *Abstract* and Presentation at the 21st Water and the Future of Kansas Annual Meeting, Lawrence, KS.
- Houts, M., J. deNoyelles, D. Young, and R. Sleezer. 2004. Using Multispectral Airborne Imagery to Inventory and Assess Rural Water Bodies. *Abstract* and Poster Presentation at the 21st Water and the Future of Kansas Annual Meeting, Lawrence, KS.
- Sleezer, R.O., D.P. Young, J. Vopata, E. Wilson, and Z. Andereck. 2004. Assessing Temporal Changes in Ponds and Pond Numbers Using Historical Air Photos: A Comparison Between the Midland and Allen SE Quadrangles. *Abstract* and Poster Presentation at the 21st Water and the Future of Kansas Annual Meeting, Lawrence, KS.

- Young, D.P., R.O. Sleezer, X. Zhan, and R.W. Buddemeier. 2004. Watershed Parameterization Using Geospatial Modeling and Preliminary Assessment of the Effects Small Impoundments (Ponds). *Abstract* and Poster Presentation at the 21st Water and the Future of Kansas Annual Meeting, Lawrence, KS.
- Sleezer, R.O., D.P. Young, J. Vopata, E. Wilson, and Z. Andereck. 2004. Assessing Temporal Changes in Ponds and Pond Numbers Using Historical Air Photos: A Comparison Between the Midland and Allen SE Quadrangles. Poster Presentation at the Kansas NASA EPSCoR Annual Meeting.
- Townsend, M.A., and R.O. Sleezer, 2004. Implications of Temporal and Spatial Variability in Nitrate-N Concentrations Derived from Soil-Water Samplers and Soil Cores in the Vadose Zone of South-Central Kansas. *Abstract* and Presentation at the 2004 Geological Society of America Annual Meeting, Denver, Colorado.
- Sleezer, R.O., B. Renwick, Z. Andereck, P. Laird, J. Vopata, 2005. Spatial and Temporal Patterns of Pond Construction and Function: A Comparative Study of Kansas and Ohio. Abstract and Presentation at the 2005 Association of American Geographers Annual Meeting, Denver, Colorado.
- Renwick, W.H., R.O Sleezer, R.W. Buddemeier, and S. V. Smith, 2006. Small artificial ponds in the United States: impacts on sedimentation and carbon budget. Abstract and Presentation at the 8th Federal Interagency Sedimentation Conference. Paper 10A-3; 7p. April 2-6, 2006, Reno, Nevada.
- Fitch, Elizabeth K. and Richard O. Sleezer, 2006. Hydrologic Impacts of Anthropogenic Water Bodies in the Upper Neosho River Basin: Implications for Past and Future Drought in Eastern Kansas. Paper No. 2-15, Abstract and Poster Presentation at the Managing Drought and Water Scarcity in Vulnerable Environments: Creating a Roadmap for Change in the United States Conference, September 18-20. Geological Society of America, Longmont, Colorado.
- Flory, Megan M., Richard O. Sleezer, and Jeremy T. Mitchell-Koch, 2006. Geospatial Analysis of Urban Nitrogen Dioxide Levels in the Emporia, Kansas Area. Abstract and Poster Presentation at the 41st Midwest Regional Meeting of the American Chemical Society, October 25-27, Quincy, Illinois.
- Sleezer, Richard O., Stephen V. Smith, William H. Renwick, Robert W. Buddemeier, 2006. Soil Erosion and the Carbon Cycle: Perspectives from the Mississippi River Basin. Abstract and Invited Presentation, Annual Meeting of the American Geophysical Union, December 10-15, San Francisco, California.
- Sleezer, Richard O., 2007. What we do and don't know about the Geomorphic History, Surficial Geology, and Stratigraphy of the Equus Beds Aquifer in Central Kansas. Abstract and in Invited Presentation, Joint South-Central and North-Central Regional Geological Society of America Meeting, April 11-13, Lawrence, Kansas.

- Sleezer, Richard O., 2007. Using Historical Airphotos in GIS for Environmental Analysis. Evening Speaker, Annual Meeting of the Kansas Association of Professional Soil Classifiers, Emporia State University, Emporia, Kansas.
- Renwick, William H., Smith, Stephen V., Sleezer, Richard O., and Abbit, Robbyn J.F., 2007. Regional-Scale Sediment Budgets for the United States East of the Rockies and Implications for River Management. Abstract and Presentation at Geological Society of American Annual Meeting, October 28-31, Denver, Colorado.
- Renwick, William H., Robbyn Abbitt, Elizabeth K. Fitch, Logan Sleezer, Richard O. Sleezer, 2008. Cumulative Hydrologic Impact of Artificial Impoundments on the Landscape. Abstract and Presentation at the 2008 Association of American Geographers Annual Meeting, Boston, Massachusetts.
- Flory, Megan M., and Richard O. Sleezer, 2009. Development of Standard Digitizing Procedures to Assess Temporal Changes in Small, Anthropogenic Ponds Using Historical Aerial Photographs and GIS. Abstract and Presentation at the 2009 Geological Society of America Meeting, October 18-21, Portland, Oregon.
- Sleezer, Richard O., Michael D. Newton, Kary Reznicek, Megan M. Flory, and Logan J. Sleezer, 2011. Our Great Plains Earth-Moving Society. Assessing the Impacts of Extensive Farm Pond and Terrace Construction in the Upper Neosho River Basin in Central Kansas. Abstract and Presentation at the Association of American Geographers Annual Meeting, April 12-16, Seattle Washington
- Markowitz, Graham D. Cory Ritz, and Richard Sleezer, 2011. Relationships between Stream Erosion and Geomorphic Variables within a Catskill Mountain Stream. Abstract and Poster Presentation at the Association of American Geographers Annual Meeting, April 12-16, Seattle Washington.
- Smith, Jon J., Sleezer, Richard O., Platt, Brian F., Ludvigson, Greg A., Harlow, R. Hunter, 2012. Geologic Mapping and Subsurface Investigations of Equus Beds Aquifer Sediments in South-central Kansas. Abstract and Presentation at the 2012 Geological Society of America Meeting, November 4-7, Charlotte, North Carolina.
- Johnson, B.D., Burnette, D.J., and Sleezer, R., 2013. Identifying Oscillations and Teleconnections Forcing Snowfall in Northeast and East Central Kansas 1951-2011: A Regional Climate Analysis and Study on Prediction. Abstract and Presentation at the 145th Annual Meeting of the Kansas Academy of Science, Johnson County Community College, Overland Park, Kansas, April 5-6th, 2013
- Duarte, Adrienne M., Smith, Jon J., Sleezer, Richard O., and Platt, Brian F., 2013. Chronostratigraphic Investigations of the McPherson Channel in South Central Kansas: Preliminary Interpretation from Particle Size and Stable Isotopic Analyses. Abstract and

Presentation at the 2013 Geological Society of America Meeting, October 27-30th, Denver, Colorado.

- Sleezer, Richard O., 2014. How Well Does the National Hydrography Dataset (NHD) Quantify the Number and Size of Small Anthropogenic Water Bodies in Kansas? Implications for Estimating Their Effects on Basin-Scale Water, Sediment and Carbon Storage. Abstract and Presentation at the 146th Annual Meeting of the Kansas Academy of Science, April 4-5, Emporia State University, Emporia, Kansas.
- Ludvigson, Greg A., Jon J. Smith, John Doveton, Rolfe Mandel, Laura Murphy, Anthony Layzell, Randy L. Stotler, and Richard Sleezer, 2014. Sedimentologic and Stratigraphic Characterization of Cored Sediments from the High Plains Aquifer System of Western Kansas. Abstract and Presentation, 59th Annual Midwest Ground Water Conference, September 30 – October 2, Lawrence, Kansas.
- Sleezer, L. J., Kraft, C.D., and Sleezer, R.O., 2016. GIS and Remote Sensing Analysis of Bovine Trails at the Tallgrass Prairie National Preserve. Abstract and Poster Presentation at the 148th Annual Meeting of the Kansas Academy of Science, April 1-2, McPherson College, McPherson, Kansas.
- Sleezer, Logan J., William E Jensen, Colin D. Kraft, and Richard O. Sleezer, 2017. Effects of Ponds and Mineral Sites on Trailing Behavior of Domestic Cattle (Bos Taurus) and Bison (Bison Bison) as Determined from Remote Sensing. Abstract and Poster Presentation at the 64th Annual Meeting of the Southwestern Association of Naturalists, April 13-16, Cameron University, Lawton, Oklahoma.
- Abel, J.R., and Sleezer, R.O., 2018. Temporal Changes in Water Volume Stored in Representative Farm Ponds in Jefferson County, Kansas. Abstract and Poster Presentation at the 150th Annual Meeting of the Kansas Academy of Science, April 6-7, Washburn University, Topeka, Kansas.
- Decker, K., and R.O. Sleezer, 2019. Kansas Historical Aerial Photography Project Progress Report. Presentation at the Kansas Natural Resources GIS Technical Meeting, April 3rd, Kansas Department of Agriculture, Manhattan, Kansas.

Presentations at ESU

- Sleezer, R. O. and B. Flock, 2000. An Introduction to Geospatial Analysis for the Biological Sciences. Seminar presentation to the faculty and students in the Department of Biological Sciences at Emporia State University. September 13, 2000.
- Sleezer, R.O., 2001. Geophysics, Salty Soils, Leaching Risk, and GIS. A Fuzzy Glimpse into the Dirty World of Modern Soil Science. A Presentation to NSF-REU students from the Department of Biological Sciences, ESU.

- Sleezer, R.O. 2003. In Pursuit of Artificial Ponds, Puddles, and Transiently Damp Patches. ESU Good Morning Lecture.
- Sleezer, R.O., D.P. Young, J. Vopata, E. Wilson, and Z. Andereck. 2004. Assessing Temporal Changes in Ponds and Pond Numbers Using Historical Air Photos: A Comparison Between the Midland and Allen SE Quadrangles. ESU Research and Creativity Forum.
- Salley, Shawn, Michael Morales, and Richard Sleezer, 2005. A Geologic Investigation of the Hamilton Quarry Area. ESU Research and Creativity Forum.
- Laird, Patrick, Shawn Salley, and Richard Sleezer, 2005. Three Dimensional Modeling of Bedrock Topography in the Arkansas and Cimarron River Drainage Basins Using Geographic Information Systems (GIS). ESU Research and Creativity Forum.
- Sleezer, Richard O., 2007. Climate Change. Basic Concepts, Myths/Popular Press, Data, Scientific Reality. Informal Presentation for Retired Faculty, April 5th, Sauder Alumni Center.
- Sleezer, Richard O., 2016. Ponds, Puddles and Transiently Damp Patches II: A 15 Year Update. Invited Informal Presentation to the IMLS Grant Course in White Library, April 16th and July 9th, 2016.

Other Informal Presentations

Sleezer, R.O. 2004. The Potential Significance of Ponds, Puddles, and Transiently Damp Patches in Kansas. Brown Bag Lunch Presentation, Kansas Water Office, Topeka, Kansas, March 2004.

M.S. Theses and Research Projects Directed

- Apolzer, Kathleen, 2000. Changes in Model Results as a Function of Changes in Soil Survey Data: A GIS Comparison of Soil Rating for Plant Growth (SRPG) Values Derived from the 1966 and 1999 Versions of the Reno County, Kansas Soil Surveys. M.S. Thesis, Departments of Physical Sciences. August 2000.
- Shobe, Kurtis A., 2000. Analysis of Chloride Plume Migration Based on Aquifer Characteristics, Water Well Pumping Rate, Soil, and Stratigraphic Properties. M.S. Thesis, Departments of Physical Sciences. December 2000.
- Cooper, Cameron L., 2001. Using Geographic Information Systems (GIS) to Investigate the Paleodrainage of the Lower Smoky Hill River, Central Kansas. M.S. Thesis, Departments of Physical Sciences, December 2001.
- Wilson Elizabeth R., 2003. The Use of Geophysical and Remote Sensing Technology to Locate and Delineate Unmarked Graves in Clay-rich Soils of Kansas. M.S. Thesis, Departments of Physical Sciences, December 2003.

- Pachuta-Hirsch, Mary Susan, 2005. Carbon Dynamics as a Function of Land Use in Eastern Kansas: Implications for Carbon Storage in Mollisols. M.S. Thesis, Departments of Physical Sciences, April 2005.
- Landis, Margaret, 2005. GIS Analysis of Dakota Flora Localities. M.S. Thesis, Departments of Physical Sciences, December 2005.
- Stevenson, Jacob F., 2007. Forest Cover Change in the Vicinity of Kill Creek Park as Determined by Historic Air Photos, Johnson County, Kansas. M.S. Research Problem, Departments of Physical Sciences, May 2007.
- Jones, Scott E., 2010. The Effects of Patch Burning on Soil Moisture. M.S. Research Problem, Departments of Physical Sciences, May 2010.
- Flory, Megan M., 2010. Using Historical Aerial Photographs and GIS to Develop Digitizing Procedures for Assessment of Temporal Changes in Pond Size and Abundance in Eastern Kansas. M.S. Research Problem, Departments of Physical Sciences, August 2010.
- Fitch, Elizabeth K., 2011. Hydrologic Impacts of Anthropogenic Water Bodies on the Upper Neosho River in Eastern Kansas. M.S. Research Problem, Department of Physical Sciences, December 2011.
- Johnson, Bradley D., 2013. Identifying Oscillations and Teleconnections That May Impact Snowfall in Northeast and East Central Kansas 1951-2011: A Regional Climate Analysis and Study on Prediction Potential. M.S. Thesis, Department of Physical Sciences, June 2013.
- Feaster, Ashley D., 2013. A GIS Evaluation of Cobb's Algorithm as a Prediction Tool for Emergency Managers. M.S. Research Problem, Department of Physical Sciences, December 2013.
- Davidson, Robert K., 2014. Determining Carbon Storage in a Small Agricultural Pond in Franklin County, Kansas. M.S. Research Problem, Department of Physical Sciences, May 2014.
- Williams, Jordan A., 2017. Geologic, Permeability, and Fracture Characterization of the Arbuckle Group in the Cherokee Platform, Oklahoma. M.S. Thesis, Department of Physical Sciences, April 2017.
- Abel, Justin R., 2018. Temporal Changes in Water Volume Stored in Representative Farm Ponds in Jefferson County, Kansas. M.S. Research Problem, Department of Physical Sciences, May 2018.
- Smith, Logan, 2018. Identifying Sinkholes in Northwest Barber County Using LiDAR, Historical Airphotos, and GIS: Quantification, Accuracy, and Temporal Change. M.S. Research Problem, Department of Physical Sciences, May 2018.
- Acree, Cheyenne, 2018. Reconstructed and Recovered Morphologies: A Study of the Potential Uses of GIS and Historic Maps in Natural and Cultural Resource Preservation and Analysis in Lyon County, Kansas 1878- 2017. M.S. Research Problem, Department of Physical Sciences, December 2018.

- Ezeh, Nnabuike Kenneth, 2018. Documenting the History of Conservation Practices on Highly Erodible Land (H.E.L.) within the Stillman-Dow Creek Drainage Basins, Lyon County, Kansas, Using Historical Aerial Photographs and Geographic Information Systems (G.I.S.) Technology. M.S. Research Problem, Department of Physical Sciences, December 2018.
- Decker, Katlynn, 2021. Evaluating the Efficacy of Four-Band NAIP Imagery for Determining Water Quality in Farm Ponds, Focusing on Blue-Green Algae Detection. M.S. Research Problem, Department of Physical Sciences, May, 2021.

Other M.S. Theses/Research Problem Committee Service

Member, Masters thesis committee in Earth Science for Jeffery Charles Perkins, 2000 Member, Masters thesis committee in Biology for Brian Flock, 2001 Member, Masters thesis committee in Biology for Andrea Ostroff, 2001 Member, Masters thesis committee in Earth Science for Dorian Burnette, 2002 Member, Masters thesis committee in Earth Science for Jon Vopata, 2004 Member, Masters thesis committee in Earth Science for Shawn Salley, 2007. Member, Masters thesis committee in Biology for Josh Williams, 2007. Member, Masters research problem committee in Chemistry for Dan Tush, 2007. Member, Masters research problem committee in Earth Science for Gayla Corley, 2008. Member, Masters research problem committee in Earth Science for Larry Kuss, 2008. Member, Masters thesis committee in Earth Science for Amelia Hess, 2009. Member, Masters thesis committee in Biology for Alex Lyon, 2011. Member, Masters thesis committee in Earth Science for Scott Matthew Smith, 2011. Member, Masters research problem committee in Earth Science for Matt Unruh, 2011. Member, Masters Thesis committee in Earth Science for Delores Neshyba-Bird, 2012. Member, Masters research problem committee in Earth Science for Lindsey Gerber, 2014 Member, Masters Thesis committee in Department of Health, Physical Education, and Recreation for Luke Michael Kriley, May 2014. Member, Masters research problem committee in Earth Science for Daniel Call, 2014. Member, Masters research problem committee in Chemistry for Alicia (Untereiner) Tolbert, 2015. Member, Masters Thesis committee in Earth Science for Aleksander McElroy, 2016. Member, Masters Thesis committee in Earth Science for Alan Peterson, 2016. Member, Masters Thesis committee in Earth Science for Nicolle Bernard, 2016. Member, Masters Thesis committee in Biological Sciences for Alex Barnes, 2019. Member, Masters Thesis committee in Forensic Sciences for Shelby Young, 2020. Member, Masters Thesis committee in Chemistry for David Harrell, 2021 Member, Masters Thesis committee in Biology for Kelsey Porter, 2021.

Service:

State

State GIS Policy Board, Technical Advisory Committee for soils and surficial geology, State GIS Policy Board

State GIS Policy Board, Technical Advisory Committee for imagery and topography, State GIS Policy Board

County

Flint Hills Community Health Center, Subcommittee on Population Health, 2005-2014

Community

Olpe Recreation Advisory Committee 2004-2007

Technology Education Advisory Committee – Emporia High School – 2006-2012

Ad Hoc Community Advisory Committee – USD252 Hartford, Neosho Rapids, Olpe School District. January 2017 – December 2017.

School Board Member – USD252 Hartford, Neosho Rapids, Olpe School District, January 2018 to present.

University

Presentation to Regents members and board staff when ESU hosted the Regents meeting in October 2000

Member, Natural Areas Committee, 2002-2015 Member, ESU Career Fair Planning Committee, Fall 2005.

Member, ESU Athletic Advisory Board, 2006-2009 & 2018

Member, ESU Graduate Council, Fall 2007-2009

Faculty Champion, ESU Men's Basketball Team Fall 2012 to present.

SLAC - Student Learning and Assessment Committee 2012 to present

CTE – Council on Teacher Education June 2015 to June 2019

Council on General Education Ex Officio June 2015 to present

Radiation Safety Committee 2012 to present

CIPG - Critical Incident Planning Group July 2016 to present

LAS Chairs Council June 2015 to present

GEAT - General Education Assessment Team August 2016 to present

President's Council June 2015 to present

Co-Chair Undergraduate Academic Advising Committee June 2015 to June 2019 Undergraduate Research and Creativity Committee August 2015 to June 2019.

College

Associate Dean, College of Liberal Arts and Sciences, June 2015 to June 2019 Director, General Education, June 2015 to June 2020. Member, GeoSpatial Analysis Advisory Committee, 1998-present Member, Masters thesis committee in Biology for Brian Flock, 2001 Member, Masters thesis committee in Biology for Andrea Ostroff, 2001 Member, Masters thesis committee in Biology for Josh Williams, 2007 Member, Masters thesis committee in Biology for Alex Lyon 2011

Department of Physical Sciences

Chair, Department of Physical Sciences June 2012-2015 & 2019 to present
Co-Director, GeoSpatial Analysis Program 2005 to Present
Member, Recruitment Committee; assisted other Physical Sciences faculty with a number of recruiting events1998-2012.
Member, Engineering Advisory Committee, 2000-2012
Member, Department Executive Committee, 2000-2015
Member, Graduate Education Committee, 2000-2001

Earth Science Program

Head, for Earth Science Faculty/Program, 2000-2012

Sponsor, Geology/Earth Science Club, Spring 2000 and Fall 2005 to Spring 2006 and Fall 2010 to Spring 2011.

Other ESU Affiliations

Member, ESU Karate Club, Fall 2004 to present. Faculty Sponsor, ESU Karate Club Fall 2011 to present.

Awards and Honors

Kansas Geological Survey

Frank C. Foley, Outstanding Geohydrology Student Award, 1992, 1993 & 1998

Emporia State University

ESU Research and Creativity Forum, Outstanding Poster Presentation, 2004

- ESU Research and Creativity Forum, Outstanding Collaborative Poster Presentation, 2005 & 2011
- Emporia State University, College of Liberal Arts and Sciences, Annual Award for Excellence in Teaching, 2005-2006

Emporia State University, Xi Phi Outstanding Faculty Award, 2006

Professional Memberships

American Geophysical Union (2006 to 2008) Kansas Association of Professional Soil Classifiers (1993 to Present) Soil Science Society of America (1992-2001) Association of American Geographers (1992-2000) Geological Society of America (1992)

Professional Meeting Attendance and Workshops

Assessment by Design Workshop, Johnson County Community College, June 19th, 2015, Olathe, Kansas.

Council of Colleges of Arts and Sciences (CCAS) 50th Annual Meeting, November 4th -7th, 2015, Washington, D.C. New Deans Workshop and Concurrent Sessions.

- Association of American Colleges and Universities (AAC&U), Network for Academic Renewal Conference, General Education and Assessment: From My Work to Our Work. February 18th 20th, 2016, New Orleans, Louisiana.
- Assessment by Design Workshop, Johnson County Community College, June 17th, 2016, Olathe, Kansas.

- Assessment Matters, Regional Community College Assessment Conference, May 5th, 2017 Johnson County Community College, Group Presentation/Break Out Session Entitled: Gaining a Greater Understanding of Embedded Core Skills in the Content of General Education Courses. Emporia State University Presenters/ General Education
 Assessment Team (GEAT) Members: Cynthia Kane Faculty University Libraries and Archives Instruction and Assessment; Katherine Daily O'Meara Faculty Department of English, Modern Languages, and Journalism; Rachelle M. Smith Faculty Department of English, Modern Languages, and Journalism; Sheryl Lidzy Faculty Department of Communication and Theatre; Christa Curl Faculty Department of Mathematics and Economics; Rich Sleezer Associate Dean of Liberal Arts & Sciences Director of General Education; Jolanna Kord Assistant Provost Institutional Research and Assessment.
- Assessment by Design Workshop, Johnson County Community College, June 16th, 2017, Olathe, Kansas.
- 2018 Kansas Natural Resources GIS Technical Meeting, Kansas Department of Agriculture Building, 1320 Research Park Drive, Manhattan, Kansas, April 4th, 2018.
- Assessment Matters, Regional Community College Assessment Conference, April 25th-26th, 2019, Johnson County Community College, Group Presentation/Break Out Session Entitled: A Multi-Lens Approach to Assessing General Education Program Goals. Emporia State University Presenters/General Education Assessment Team (GEAT) Members: Deborah Hann – Assistant Professor of Geography, Department of Social Sciences; Mallory Koci – Clinical Instructor for Ethnic and Gender Studies, Department of Interdisciplinary Studies; Jolanna Kord – Assistant Provost for Institutional Effectiveness; Richard Sleezer – Associate Dean and Director of General Education, College of Liberal Arts and Sciences.