

**Scott M. Robeson****Professor**

Department of Geography  
Indiana University  
Bloomington, Indiana 47405 U.S.A.

Phone: +1-812-855-7722  
Twitter: @indianaclimate  
E-mail: srobeson@indiana.edu

**Education**

Ph.D.      Climatology, University of Delaware, 1992  
M.Sc.     Geography, University of British Columbia, 1987  
B.A.      Geography, University of Delaware, 1984

**Professional Interests**

- Recent climatic change and variability, focusing on detection at large spatial scales using the instrumental and satellite records
- Impacts of climatic variability on drought, vegetation, and related socio-environmental systems
- Analysis of environmental change using spatial statistics, time series analysis, and satellite-based remote sensing

**Professional Experience**

<i>Professor</i>	Department of Geography, Indiana University, 2005-present
<i>Adjunct Professor</i>	Department of Statistics, Indiana University, 2006-present
<i>Chair (two terms)</i>	Department of Geography, Indiana University, 2007-2013
<i>Associate Professor</i>	Department of Geography, Indiana University, 1998-2005
<i>Assistant Professor</i>	Department of Geography, Indiana University, 1992-1998

**Honorary and Professional Affiliations**

Member, Phi Beta Kappa  
Member, American Geophysical Union (AGU)  
Member, American Association of Geographers (AAG)

**Awards**

Paper of the Year Award (coauthor), Climate Specialty Group, AAG, 2017  
Distinguished Alumni Lecturer, University of Delaware, 2007  
Summer Faculty Fellowship, Indiana University, 2004  
Paper of the Year Award, Climate Specialty Group, AAG, 2003  
Trustees Teaching Award, Indiana University, 2001  
Teaching Excellence Recognition Award, Indiana University, 1997, 1998, 1999  
Outstanding Junior Faculty Award, Indiana University, 1996  
Summer Faculty Fellowship, Indiana University, 1993

<b>Research</b>
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**Publications: Refereed Journal Articles**[Google Scholar](#)

- Myers, D. T., D. L. Ficklin, **S. M. Robeson**, R. P. Neupane, A. Botero-Acosta (2021) "Calibration/validation time-period selection in hydrologic models leads to uncertainty in water balance simulations," *Hydrological Processes*.
- Au, T. F., Maxwell, J. T., Novick, K. A., **Robeson, S. M.**, Warner, S. M., Lockwood, B. R., ... & Pederson, N. (2020). Demographic shifts in eastern US forests increase the impact of late-season drought on forest growth. *Ecography*, 43, 1475-1486.
- Bregy, J. C. J. T. Maxwell, **S. M. Robeson**, J. T. Ortengren, P. T. Soulé, & P. A. Knapp (2020) "Spatiotemporal variability of tropical cyclone precipitation using a high-resolution, gridded (0.25° x 0.25°) dataset for the eastern United States, 1948–2015," *Journal of Climate*, 33(5), 1803-1819.
- Bussberg, N. W., J. Maxwell, **S. M. Robeson**, & C. Huang (2020), "The effect of end-point adjustments on smoothing splines used for tree-ring standardization," *Dendrochronologia*, 60, 125665.
- Kaplan, K.H., K. J. Kirk, K. M. Lich, ..., **S. M. Robeson**, ..., and D. C. Knudsen (2020) "Accessibility to emergency food systems in south-central Indiana evaluated by spatiotemporal indices of pressure at county and pantry level. *Nature Food* 1, 284–291.
- Khodaei, M., T. Hwang, J. Kim, S. P. Norman, S. M. Robeson, & C. Song (2020) "Monitoring Forest Infestation and Fire Disturbance in the Southern Appalachian Using a Time Series Analysis of Landsat Imagery," *Remote Sensing*, 12(15), 2412.
- Robeson, S. M.**, Maxwell, J. T., & Ficklin, D. L. (2020) "Bias correction of paleoclimatic reconstructions: A new look at 1,200+ years of Upper Colorado River flow," *Geophysical Research Letters*, 47, e2019GL086689.
- Roy, S., **Robeson, S. M.**, Ortiz, A. C., & Edmonds, D. A. (2020). Spatial and temporal patterns of land loss in the Lower Mississippi River Delta from 1983 to 2016. *Remote Sensing of Environment*, 250, 112046.
- Babb, A. M., D. C. Knudsen, **S. M. Robeson** (2019) "A critique of the objective function utilized in calculating the Thrifty Food Plan," *PLOS ONE*, 14(7), 1-12.
- Hamlet, A. F., K. Byun; **S. M. Robeson**; M. Widhalm; M. Baldwin (2019) "Impacts of climate change on the state of Indiana: Future projections based on statistical downscaling," *Climatic Change*. 1-15.
- Huang, C., H. Zhang, **S. M. Robeson**, J. Shields (2019) "Intrinsic random functions on the sphere," *Statistics and Probability Letters*, 146, 7-14.
- Maxwell, J. T., Harley, G. L., Mandra, T. E., Yi, K., Kannenberg, S. A., Au, T. F., **S. M. Robeson** et al (2019) "Higher CO<sub>2</sub> concentrations and lower acidic deposition have not changed drought response in tree growth but do influence iWUE in hardwood trees in the Midwestern United States. *Journal of Geophysical Research: Biogeosciences*, 124.
- Strange, B., J. T. Maxwell, **S. M. Robeson**, G. L. Harley, M. D. Therrell, D. L. Ficklin (2019) "Comparing three approaches to reconstructing streamflow using tree rings in the Wabash River Basin in the Midwestern, US," *Journal of Hydrology*. 573 (2019) 829–840.
- Ficklin, D. L., J. Abatzoglou, **S. M. Robeson**, S. Null, J. Knouft (2018) "Natural and managed watersheds show similar responses to recent climate change," *Proceedings of the National Academy of Science*, 115(34), 8553-8557.
- Jessee (Nowicki), M. A., M. W. Hamburger, K. Allstadt, D. J. Wald, **S. M. Robeson**, H. Tanyas, M. Hearne, and E. M. Thompson (2018) "A global empirical model for near real-time assessment of seismically-induced landslides," *Journal of Geophysical Research: Earth Surface*, 123, 1835–1859.

- Aslan, A., A. F. Rahman, and **S. M. Robeson** (2018) "Investigating the use of ALOS PRISM data in detecting mangrove succession and disturbance through canopy height estimation," *Ecological Indicators*, **87**, 136-143.
- Hwang, T., H. Gholizadeh, D. A. Sims, K. A. Novick, E. R. Brzostek, R. P. Phillips, D. T. Roman, **S. M. Robeson**, and A. F. Rahman (2017) "Capturing species-level drought responses in a temperate deciduous forest using ratios of photochemical reflectance indices between sunlit and shaded canopies," *Remote Sensing of Environment*, **199**, 350-359.
- Ferrara, M., F. Groff, Z. Moon, K. Keshavamurthy, **S. M. Robeson**, and C. Kieu (2017) "Large-scale control of the lower stratosphere on variability of tropical cyclone intensity," *Geophysical Research Letters*, doi: 10.1002/2017GL073327.
- Willmott, C. J., **S. M. Robeson**, K. Matsuura (2017), "Climate and other models may be more accurate than reported," *Eos*, **98**, 13-14.
- Sharma, K., **S. M. Robeson**, P. Thapa, and A. Saikia (2017) "Land-use/land-cover change and forest fragmentation in the Jigme Dorji National Park, Bhutan," *Physical Geography*, **38**, 18-35.
- Maxwell, J. T., G. L. Harley, and **S. M. Robeson** (2016) "On the declining relationship between tree growth and climate in the Midwest United States: The fading drought signal," *Climatic Change*, **138**, 127-142. **AAG CLIMATE SPECIALTY GROUP "PAPER OF THE YEAR AWARD" FOR 2017**
- Aslan, A., A. F. Rahman, M. W. Warren, and **S. M. Robeson** (2016) "Mapping spatial distribution and biomass of coastal wetland vegetation in Indonesian Papua by combining active and passive remotely sensed data," *Remote Sensing of Environment*, **183**, 65-81.
- Ficklin, D. L., **S. M. Robeson**, and J. H. Knouft (2016), "Impacts of recent climate change on trends in baseflow and stormflow in United States watersheds," *Geophysical Research Letters*, **43**, doi:10.1002/2016GL069121.
- Gholizadeh, H. and **S. M. Robeson** (2016) "Revisiting empirical ocean-colour algorithms for remote estimation of chlorophyll content at the global scale," *International Journal of Remote Sensing*, **37**, 2682-2705.
- Ficklin, D. L., J. T. Abatzoglou, **S. M. Robeson**, and A. Dufficy (2016), "The influence of climate model biases on projections of aridity and drought," *Journal of Climate*, **29**, 1269-1285.
- Huang, C., H. Zhang, and **S. M. Robeson** (2016) "Intrinsic random functions and universal kriging on the circle," *Statistics and Probability Letters*, **108**, 33-39.
- Schoof, J. T. and **S. M. Robeson** (2016) "Projecting changes in regional and local climate extremes in the United States," *Weather and Climate Extremes*, **11**, 28-40.
- Gholizadeh, H., **S. M. Robeson**, A. F. Rahman (2015) "Comparing the performance of multispectral vegetation indices and machine-learning algorithms for remote estimation of chlorophyll content: A case study in the Sundarbans mangrove forest," *International Journal of Remote Sensing*, **36**, 3114-3133.
- Robeson, S. M.** (2015) "Revisiting the recent California drought as an extreme value," *Geophysical Research Letters*, **42**, 6771-6779.
- Willmott, C. J., **S. M. Robeson**, K. Matsuura, D. Ficklin (2015) "Assessment of three dimensionless measures of model performance," *Environmental Modelling and Software*, **73**, 167-174.
- Robeson, S. M.**, C. J. Willmott, and P. D. Jones (2014) "Trends in hemispheric warm and cold anomalies," *Geophysical Research Letters*, **41**, 9065-9071.
- Robeson, S. M.**, A. Li, and C. Huang (2014) "Point-pattern analysis on the sphere," *Spatial Statistics*, **10**, 76-86.
- Sato, N. and **S. M. Robeson** (2014) "Trends in the near-zero range of the minimum air-temperature distribution," *Physical Geography*, **35**, 429-442,
- Bogonovich, M., **S. Robeson**, and M. Watson, (2013) "Patterns of North American fern and lycophyte richness at three taxonomic levels," *American Fern Journal*, **103**, 193-214.
- Huang, C., H. Zhang, and **S. M. Robeson** (2012) "A simplified representation of the covariance structure of axially symmetric processes on the sphere," *Statistics and Probability Letters*, **82**, 1346-1351.

- Willmott, C. J., **S. M. Robeson**, and K. Matsuura (2012) “A refined index of agreement,” *International Journal of Climatology*, **32**, 2088–209.
- Hayes, J. J. and **S. M. Robeson** (2011) “Relationships between fire severity and post-fire landscape pattern following a large mixed-severity fire in the Valle Vidal, New Mexico, USA,” *Forest Ecology and Management*, **261**, 1392-1400.
- Huang, C., H. Zhang, and **S. M. Robeson** (2011) “On the validity of covariance and variogram functions on the sphere,” *Mathematical Geosciences*, **43**, 721-733.
- Nickl, E., C. J. Willmott, K. Matsuura, **S. M. Robeson** (2010), “Changes in annual land-surface precipitation over the 20<sup>th</sup> and early 21<sup>st</sup> century,” *Annals of the Association of American Geographers*, **100**, 1-11.
- Hayes, J. J. and **S. M. Robeson** (2009) “Mapping spatial variability of landscape pattern change with moving-window metrics following a large wildfire in northeastern New Mexico, USA”, *Physical Geography*, **30**, 410-429.
- Willmott, C. J., K. Matsuura, and **S. M. Robeson**, (2009) “Ambiguities inherent in sums-of-squares-based error statistics,” *Atmospheric Environment*, **43**, 749-752.
- Robeson, S. M.** (2008) “Applied climatology: Drought”, *Progress in Physical Geography*, **32**, 303-309.
- Enser, L. A. and **S. M. Robeson** (2008) “Statistical characteristics of daily precipitation: Comparisons of gridded and point datasets,” *Journal of Applied Meteorology and Climatology*, **47**, 2468–2476.
- Schoof, J. T., S. C. Pryor, and **S. M. Robeson** (2007) “Downscaling daily maximum and minimum temperature in the Midwestern USA: A hybrid empirical approach”, *International Journal of Climatology*, **27**, 439-454.
- Willmott, C. J., **S. M. Robeson**, and K. Matsuura (2007) “Geographic box plots,” *Physical Geography*, **28**, 331-344.
- Robeson, S. M.** and L. A. Enser (2006) “Daily precipitation grids for South America (peer-reviewed comment)” *Bulletin of the American Meteorological Society*, **87**, 1095-1096.
- Robeson, S. M.** and J. A. Doty (2005) “Identifying rogue air-temperature stations using cluster analysis of percentile trends,” *Journal of Climate*, **18**, 1275-1287.
- Janis, M. J., and **S. M. Robeson** (2004) “Determining the spatial representativeness of air-temperature records using variogram nugget time series,” *Physical Geog.*, **25**, 513-530.
- Robeson, S. M.** (2004) “Trends in time-varying percentiles of daily minimum and maximum temperature over North America,” *Geophysical Research Letters*, **31**, L04203.
- Schoof, J. T. and **S. M. Robeson** (2003) “Seasonal and spatial variations of serial and cross-correlation matrices used by stochastic weather generators,” *Climate Res.*, **24**, 95-102.
- Batistella, M., **S. Robeson**, and E. Moran (2003) “Settlement design, forest fragmentation, and landscape change in Rondônia, Amazônia,” *Photogrammetric Engineering and Remote Sensing*, **69**, 805-812.
- Robeson, S. M.** (2002) “Relationships between mean and standard deviation of air temperature: Implications for global warming,” *Climate Research*, **22**, 205-213.
- AAG CLIMATE SPECIALTY GROUP “PAPER OF THE YEAR AWARD” FOR 2003**
- Robeson, S. M.** (2002) “Increasing growing-season length in Illinois during the 20<sup>th</sup> century,” *Climatic Change*, **52**, 219-238.
- Burcsu, T. K., **S. M. Robeson**, and V. J. Meretsky (2001) “Identifying the distance of vegetative edge effects using Landsat TM data and geostatistical methods,” *Geocarto International*, **16**, 59-68.
- Grimmond C. S. B., **S. M. Robeson**, and J. Schoof (2000) “Spatial variability of micro-climatic conditions within a mid-latitude deciduous forest,” *Climate Research*, **15**, 137-149.
- Hook, K. W. and **S. M. Robeson** (1998) “Simulation of daily total wind energy using a time-series model,” *Physical Geography*, **19**, 463-484.
- Robeson, S. M.** and M. J. Janis (1998) “Comparison of temporal and unresolved spatial variability in multiyear time-averages of air temperature,” *Climate Research*, **10**, 15-26.

- Robeson, S. M.** and K. A. Shein (1997) "Spatial coherence and decay of wind speed and power in the north-central USA," *Physical Geography*, **18**, 479-495.
- Robeson, S. M.** (1997) "Spherical methods for spatial interpolation: Review and evaluation," *Cartography and Geographic Information Systems*, **24**, 3-20.
- Vörösmarty, C.J., C.J. Willmott, B.J. Choudhury, A.L. Schloss, T.K. Stearns, **S. M. Robeson**, and T. J. Dorman (1996) "Analyzing the discharge regime of a large tropical river through remote sensing, ground-based climatic data, and modeling," *Water Resources Research*, **32**, 3137-3150.
- Willmott, C. J., **S. M. Robeson**, M. J. Janis (1996) "Comparison of methods for estimating time-averaged precipitation using data from the USA," *International Journal of Climatology*, **16**, 1103-1115.
- Robeson, S. M.** (1995) "A spatial resampling perspective on the depiction of global air temperature anomalies," *Bulletin of the American Meteorological Society*, **76**, 1179-1183.
- Willmott, C. J. and **S. M. Robeson** (1995) "Climatologically aided interpolation (CAI) of terrestrial air temperature," *International Journal of Climatology*, **15**, 221-229.
- Robeson, S. M.** (1995) "Resampling of network-induced variability in estimates of terrestrial air temperature change," *Climatic Change*, **29**, 213-229.
- Robeson, S. M.** (1994) "Influence of spatial sampling and interpolation on estimates of terrestrial air temperature change," *Climate Research*, **4**, 119-126.
- Willmott, C. J., **S. M. Robeson**, and J. J. Feddema (1994) "Estimating continental and terrestrial precipitation averages from raingauge networks," *International Journal of Climatology*, **14**, 403-414.
- Hanson B., K. Klink, K. Matsuura, **S. M. Robeson**, and C. J. Willmott (1992) "Vector correlation: Review, exposition, and geographic application," *Annals of the Association of American Geographers*, **82**, 103-116.
- Willmott, C. J., **S. M. Robeson**, and J. J. Feddema (1991) "Influence of spatially variable instrument networks on climatic averages," *Geophysical Research Letters*, **18**, 2249-2251.
- Robeson, S. M.** and D. G. Steyn (1990) "Evaluation and comparison of statistical forecast models for daily maximum ozone concentrations," *Atmospheric Environment*, **24B**, 303-312.
- Robeson, S. M.** and D. G. Steyn (1989) "A conditional probability density function for forecasting ozone air quality data," *Atmospheric Environment*, **23**, 689-692.

**Publications:** *Invited Chapters*

- Robeson, S. M.** and T. Wright (2017) "Temperature," in D. Richardson et al. (eds.) *The International Encyclopedia of Geography*. Wiley-Blackwell, New York.
- Robeson, S. M.** (2005) "Statistical climatology," pp. 687-694 in J. E. Oliver (ed.) *Encyclopedia of World Climatology*. Springer, New York.
- Robeson, S. M.** (1997) "Statistical considerations," pp. 22-35 in R. D. Thompson and A. Perry (eds.) *Applied Climatology: Principles and Practices*. Routledge, London.
- Robeson, S. M.** and C. J. Willmott (1996) "Spherical spatial interpolation and terrestrial air temperature variability," pp. 111-115 in M.F. Goodchild et al. (eds.) *GIS and Environmental Modeling: Progress and Research Issues*. GIS World, Ft. Collins, CO.

**Publications:** *Monographs*

- Robeson, S. M.** (1993) *Spatial Interpolation, Network Bias, and Terrestrial Air Temperature Variability*. Publications in Climatology Series, Volume 46. Center for Climatic Research, University of Delaware, Newark, DE. 51pp.

**Publications:** *Other*

- M. Widhalm, A. Hamlet, K. Byun, S. Robeson, M. Baldwin, P. Staten, C. Chiu, J. Coleman, B. Hall, K. Hoogewind, M. Huber, C. Kieu, J. Yoo, and J. Dukes (2018) "Indiana's Past & Future Climate: A Report from the Indiana Climate Change Impacts Assessment," Indiana Climate Change Impacts Assessment (IN CCIA), <https://ag.purdue.edu/indianaclimate/indiana-climate-report/>.
- Widhalm, M., S. Robeson, B. Hall, M. Baldwin, and J. Coleman (2018) "Indiana's Climate Trends: A Resource for the Indiana Climate Change Impacts Assessment," Indiana Climate Change Impacts Assessment (IN CCIA), <https://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=1001&context=climatetr>.
- Huang, C., H. Zhang, and **S. Robeson** (2009) *On the validity of covariance and variogram functions on the sphere*. Technical Report 09-01, Department of Statistics, Indiana University, Bloomington.
- Robeson, S. M.** (2004) "Temperature trends for max, min, and in between," *Bulletin of the American Meteorological Society*, **85**, 500-501.
- Robeson, S. M.** (2004) "Trends in time-varying percentiles of daily minimum and maximum temperature over North America," *Preprints, 14<sup>th</sup> Conference on Applied Climatology* (Seattle, WA), American Meteorological Society, Boston, MA.
- Schoof, J. T. and **S. M. Robeson** (2002) "Seasonal and spatial variations of serial and cross-correlation matrices used by stochastic weather generators," *Preprints, 13<sup>th</sup> Conference on Applied Climatology* (Portland, OR), American Meteorological Society, Boston, MA.
- Legates, D. R., R. E. Davis, O. F. Frauenfeld, and **S. M. Robeson** (2000) "A non-correlation-based approach to the search for anthropogenic climate change signals," *Preprints, 15<sup>th</sup> Conference on Probability and Statistics in the Atmospheric Sciences* (Asheville, NC), American Meteorological Society, Boston, MA.
- Robeson, S. M.** (2000) "Increasing growing-season length in Illinois as an indicator of climatic change," *Preprints, 12<sup>th</sup> Conference on Applied Climatology* (Asheville, NC), American Meteorological Society, Boston, MA.
- Grimmond, C. S. B., **S. M. Robeson**, and J. Schoof (1999) "Variability in below-canopy climatic conditions during the growing season within an eastern North American deciduous forest," in R. J. de Dear and J. C. Potter (eds.), *Proceedings of the International Conference on Biometeorology*, Sydney, Australia (ICBP03.05).
- Robeson, S. M.**, C. S. B. Grimmond, and J. Schoof (1998) "Comparison of open-site and below-canopy climatic conditions within an eastern North American deciduous forest," pp. 84-187 in *23<sup>rd</sup> Conference on Agricultural and Forest Meteorology* (Albuquerque, NM), American Meteorological Society, Boston, MA.
- Robeson, S. M.** and K. A. Shein (1996) "Impacts of climatic variability on wind energy resources in the Dakotas," pp. 72-75 in *Symposium on Environmental Applications*, American Meteorological Society, Boston, MA.
- Shein, K. A. and **S. M. Robeson** (1996) "Interannual, seasonal, and diurnal variability of wind power in the Midwest," pp. 597-605 in *Windpower 1995*, American Wind Energy Association, Washington, D.C.
- Nicodemus, M. L., **S. M. Robeson**, and W. T. Hodge (1985) *Human Biometeorology, An Updated Selected Bibliography*. NOAA Tech. Memorandum NESDIS NCDC--4.

## External Funding

### *Funding as Principal Investigator (PI) or Co-PI:*

- United States Geological Survey (USGS), “Near Real-Time Assessment of Seismically Induced Landslides,” (\$89,833), 2016-2017. PIs: M. Hamburger and **S. Robeson**, 2017-2018.
- United States Geological Survey (USGS), “Development of a globally applicable model for near real-time prediction of seismically induced landslides,” (\$73,829), 2014-2016. PIs: M. Hamburger and **S. Robeson**.
- National Science Foundation (NSF), “Collaborative Research: Axially symmetric processes and intrinsic random functions on the sphere,” (\$218,582), 2012-2015. PIs: C. Huang, H. Zhang, and **S. Robeson**.
- National Science Foundation (NSF), “Collaborative Research: Spatial resilience of agriculturalists to coupled ecological and hydrological variability in rural Zambia,” (\$700,000), 2010-2014. PIs: T. Evans, K. Caylor, and **S. Robeson**
- National Science Foundation (NSF), “Hemispheric-scale changes in air-temperature probability distributions,” (\$119,963), 2005-2008. PI: **S. Robeson**.
- National Science Foundation (NSF), “Estimating recent climatic change via historical air-temperature frequency distributions,” (\$93,867), 2002-2005. PI: **S. Robeson**.
- National Oceanic and Atmospheric Administration (NOAA) and Department of Energy (DOE), “Searching for anthropogenic climate change signals using non-correlation-based approaches,” (\$50,000), 1999-2000. PIs: D. Legates, R. Davis, and **S. Robeson**.
- National Institute for Global Environmental Change, Department of Energy (DOE), “The effect of variability in microclimate and regional climate on the productivity of neotropical migrant landbirds in midwestern forests, Part III,” (\$150,000), 1996-1997. PIs: D. Whitehead, S. Grimmond, and **S. Robeson**.
- National Science Foundation (NSF), “Field instrumentation for environmental remote sensing,” (\$35,000), 1996-1999. Matching funds from Indiana University provide a total award of \$74,702. PI: **S. Robeson**.
- National Institute for Global Environmental Change, Department of Energy (DOE), “The effect of variability in microclimate and regional climate on the productivity of neotropical migrant landbirds in midwestern forests, Part II,” (\$153,423), 1995-1996. PIs: D. Whitehead, S. Grimmond, and **S. Robeson**.
- National Science Foundation (NSF), “Impacts of climatic variability and climatic change on wind energy resources,” (\$25,000), 1995-1996. PI: **S. Robeson**.
- National Institute for Global Environmental Change, Department of Energy (DOE), “The effect of variability in microclimate and regional climate on the productivity of neotropical migrant landbirds in midwestern forests, Part I,” (\$90,000), 1994-1995. PIs: D. Whitehead, S. Grimmond, and **S. Robeson**.

*Supervision of Funded Research as Project Director:*

- National Oceanic and Atmospheric Administration (NOAA), “Improving Process-Level Understanding of the Factors Underlying Long-Term Trends and Year to Year Variability in Carbon Sequestration of Northeastern Forests” (\$45,000), 2011-2014. PI: S. Robeson (transferred from D. Dragoni).
- Department of Energy (DOE), “Ecosystem-atmosphere exchange over a mixed deciduous forest in the Midwest: How does the carbon budget respond to short- and long-term climate variability?” (\$457,706), 2010-2012. PI: D. Dragoni
- Department of Energy (DOE), “Ecosystem-atmosphere exchange of carbon, water and energy over a mixed deciduous forest in the Midwest,” (\$630,500), 2007-2010. PI: D. Dragoni
- Department of Energy (DOE), “Disturbance, succession and forest carbon dynamics: an ecosystem-scale experiment at the UMBS Ameriflux site,” (\$141,200), 2007-2009. PI: D. Dragoni



## Teaching and Mentoring

### Chair or co-chair of Ph.D. Committees:

- *Isioma Nwayor* (Ph.D.), in progress
- *Samapriya Roy* (Ph.D.), 2019, “Spatial analysis of hydrological vulnerability in deltaic environments” (co-chair w/Doug Edmonds)
- *Aslan* (Ph.D.), 2017, “Novel uses of active and passive remotely sensed data for monitoring spatiotemporal dynamics of mangroves” (co-chair w/Faiz Rahman)
- *Hamed Gholizadeh* (Ph.D.), 2016, “Multispectral vegetation indices and machine-learning algorithms for remote estimation of chlorophyll content”
- *Bin Deng* (Ph.D.), 2011, “Reproducing heterogeneity in near-surface temperature from homogeneous temperature in the free atmosphere” (co-chair w/Hans Peter Schmid)
- *Norma Froelich* (Ph.D.), 2009, “Modeling of thermotopographic flows in forested terrain” (co-chair w/Hans Peter Schmid)
- *James Hayes* (Ph.D.), 2008, “Spatial and compositional variability associated with forest fire severity in a Ponderosa Pine forest of northeastern New Mexico”
- *Noriyuki Sato* (Ph.D.), 2008, “Impacts of climatic change and variability on winter-road maintenance in North America”
- *Michael Janis* (Ph.D.), 2000, “Confounding climatic change: the problem of spatially unrepresentative air temperature records”

### Chair or co-chair of Masters Committees:

- *Sara Johnson* (M.S.), in progress, “Persistence of upper-air flow and its influence on spatial variability of air-temperature anomalies”
- *Leonard Satterlee* (M.S.), 2019, “Impacts of precipitation distributions on the evaluation of drought”
- *Jared Desrochers* (M.S.), 2009, “Analyzing snowfall change and teleconnection relations with a standardized snowfall index”
- *Melissa Davis* (M.S.), 2009, “Using local and synoptic meteorological conditions to estimate the probability of Santa Ana Events”
- *Leslie Ensor* (M.S.), 2005, “Statistical differences in gridded and point precipitation datasets in the Midwestern United States”
- *Jeffrey Doty* (M.S.), 2003, “Radiant land-surface temperature of a deciduous forest: the effectiveness of satellite measurement and tower-based validation”
- *Julie Hanson* (M.A.), 2001, “Understanding deforestation processes in northwestern Yucatan, Mexico through geographical information system analysis of satellite imagery”
- *Kelley Hook* (M.A.), 1998, “Development and application of a mathematical time-series model to simulate daily total wind energy”
- *Karsten Shein* (M.A.), 1995, “Wind speed variability in the midwestern United States 1961-1990: implications for wind power assessment”

**Chair or co-chair of undergraduate research committees:**

- *Jordan Schnell* (B.S.E.S.), 2011, “Effect of removing ENSO variability from the global mean temperature record”
- *Benjamin Fraser* (I.M.P.), 2010, “Green roofs for sustainable urban ecology” (co-chair w/B. Fischer)

**Ph.D. Student Committee Member:**

Tsun Fung Au	Ph.D., Geography	in progress
Jordan Blekking	Ph.D., Geography	in progress
Josh Bregy	Ph.D., Geography	in progress
Mahsa Khodae	Ph.D., Geography	in progress
Ben Lockwood	Ph.D., Geography	in progress
David Massey	Ph.D., Geography	in progress
Mitchell Owens	Ph.D., Geography	in progress
Daniel Myers	Ph.D., Geography	in progress
Ryan O’Loughlin	Ph.D., Hist. and Phil. of Sci.	in progress
Rubaya Pervin	Ph.D., Geography	in progress
Sacha Siani	Ph.D., Geography	in progress
The-Anh Vu	Ph.D., Earth and Atm. Sci.	in progress
Nicholas Bussberg	Ph.D., Statistical Science	2020
Ao Li	Ph.D., Statistical Science	2020
Matthew Craig	Ph.D., Biology	2019
Mary Damm	Ph.D., Biology	2019
Anna N. Jessee	Ph.D., Geol. Science	2017
Jacob Shields	Ph.D., Statistical Science	2017
Trevis Matheus	Ph.D., Geography	2017
Philip Roth	Ph.D., Geography	2015
Zachary Machunda	Ph.D., Geography	2014
Mark Bauer	Ph.D., Geol. Science	2014
Richard Thurau	Ph.D., Env. Science	2013
Marc Bogonovich	Ph.D., Biology	2012
Bassil El-Masri	Ph.D., Geography	2011
Bradley Lane	Ph.D., Geography	2010
Elizabeth Mack	Ph.D., Geography	2010
Dawn O’Neal	Ph.D., Biology	2010
Shanon Donnelly	Ph.D., Geography	2009
Theresa Burcsu	Ph.D., Env. Science	2006
Wenjie Sun	Ph.D., Geography	2006
Justin Schoof	Ph.D., Geography	2004
Amy Lilienfeld	Ph.D., Geography	2003
Mateus Batistella	Ph.D., Env. Science	2001
David Travis	Ph.D., Geography	1994

**Masters Student Committee Member:**

Seth Adelsperger	M.S., Geography	in progress
Daniel Fobi	M.A., Geography	in progress
Marika Lapham	M.S., Geography	in progress
Drew Heiderscheidt	M.A., Geography	in progress
Sriram Sridhar	M.S., Statistical Science	in progress
Megan Engh	M.S., Geography	2020.
M. VanCompernelle	M.S., Geography	2018
Brandon Strange	M.S., Geography	2018
Jimmy Andrade	M.A., Geography	2018
Jordan Blekking	M.S., Geography	2017
Anika Tabassum	M.S., Geography	2017
Tyler Schlachter	M.S., Geography	2017
Matthew Wenzel	M.S., Geography	2016
William Burke	M.S., Geography	2016
Zachary Moon	M.S., Geol. Science	2016
Karly Schmidt	M.S., Geography	2015
Trevis Matheus	M.S., Geography	2014
Cameron Meyer	M.A., Geography	2012
Catherine Brabant	M.S., Geography	2010
Charles Winkle	M.A., Geography	2010
Jessica Howe	M.S., Geography	2008
Shanon Donnelly	M.A., Geography	2003
Norma Froelich	M.S., Geography	2003
Nathan Polderman	M.S., Geography	2002
Noriyuki Sato	M.A., Geography	2001
Sean Potter	M.S., Geography	2000
Justin Schoof	M.S., Geography	1999
Melanie Roy	M.A., Geography	1996
Jane Southworth	M.A., Geography	1996

**Instructional Grants and Funding:**

- Research and the University Graduate School, Research Investment Fund Grant for Unix Workstations (Project Title: “Scale Dependence of Land-Atmosphere Interactions: Linking Local-Scale Processes to Regional-Scale Outcomes”), 2002, \$12,000. Co-developed with T. Evans, J. Odland, S. Grimmond.
- College of Arts and Sciences, Course Development Grant for Intensive Summer Field Course in Geography (G135/G235), 2001, \$10,000. Co-developed with D. Conway.
- Indiana University Campuswide Writing Program, Office of Academic Affairs and the Dean of Faculties, Writing-Teaching Course Development Grant for G336 (Environmental Remote Sensing), 1995, \$1500.
- Indiana University Office of Information Technologies, New Computing Initiatives Program, “Data Sharing and Color Printing for the Department of Geography,” 1995, \$19,175.
- Indiana University Office of Information Technology, Student Technology Program, “Visual Imaging for the Departments of Anthropology and Geography” (with Kevin Hunt, Anthropology), 1994, \$13,324.
- Indiana University Office of Information Technology, Student Technology Program, “Instructional Technology Equipment for Student Building 150” (with Kevin Hunt, Anthropology), 1994, \$22,800.
- Indiana University College of Arts and Sciences, Course Development Grant for TOPICS course, E105: Environmental Change, 1994, \$1500.
- Indiana University Departmental Computer Planning Program, “Unix Server for Climatological Analysis,” 1993, \$28,900.
- Indiana University Student Technology Program, “Color LCD Projection System,” 1993, \$6,900.

**Courses Taught:**

	<i>Course (# of times taught)</i>	<i># students</i>
<i>Currently:</i>	G109 Weather and Climate (3)	50-180
	G250/577 Computer Methods in Geography (15)	25-30
	G304/340/532 Physical Climatology (17)	25-40
	G444/544 Climate Change Impacts (2)	25
	G488/588 Applied Spatial Statistics (17)	20-25
	G501 Research in Geography II (4)	4-8
<i>Previously:</i>	E105 Environmental Change (3)	60-90
	G235 Introduction to Geographic Methods (5)	25-30
	G336 Environmental Remote Sensing (5)	24-30
	G431/531 Dynamic Meteorology (1)	8
	G477/577 Applied Climatology (1)	12
	G489/589 Atmospheric Data Analysis (4)	8-10
	G602 Seminar in Climatology (2)	6

**Internship/Research/Readings Courses:**

## G400: Internship in Geographical Analysis

I occasionally help to set up and administer internships. While director of the undergraduate program in the early 2000s, I supervised over 10 internships per year and established guidelines for faculty oversight of internships.

## G450: Undergraduate Readings and Research in Geography:

I supervise 1-2 readings or research courses per year for undergraduate students.

## G830: Graduate Readings in Geography / G840: Graduate Research in Geography:

I supervise 2-3 readings or research courses per year for graduate students.

## Service

### Professional Service:

Journal Article Reviewing (\* indicates frequent reviewer):

1. *Annals of the Association of American Geographers*
2. *Applied Energy*
3. *Applied Geography*
4. *Atmosphere-Ocean*
5. *Atmospheric Chemistry and Physics*
6. *Atmospheric Environment*
7. *Bragantia*
8. *Bulletin of the American Meteorological Society*
9. *Cartography and Geographic Information Systems*
10. *Climate Dynamics*
11. *Climate Research\**
12. *Environmental Modelling and Software*
13. *Forests*
14. *Frontiers in Earth Science*
15. *Geo: Geography and Environment\**
16. *Geographical Analysis*
17. *Geography Compass\**
18. *Geophysical Research Letters\**
19. *GIScience and Remote Sensing*
20. *Global and Planetary Change*
21. *Hydrology and Earth System Science*
22. *International Journal of Biometeorology*
23. *International Journal of Climatology\**
24. *International Journal of Geographic Information Science*
25. *International Journal of Remote Sensing*
26. *Journal of the Air and Waste Management Association*
27. *Journal of the American Water Resources Association*
28. *Journal of Applied Meteorology*
29. *Journal of Applied Meteorology and Climatology\**
30. *Journal of Atmospheric and Oceanic Technology*
31. *Journal of Climate*
32. *Journal of Environmental Engineering*
33. *Journal of Geophysical Research – Atmospheres*
34. *Journal of Hydrologic Engineering*
35. *Journal of Hydrology*
36. *Journal of Statistics Education*
37. *Landscape Ecology*
38. *Natural Hazards*
39. *Physical Geography\**
40. *PLOS ONE\**
41. *Population and Environment*
42. *Professional Geographer*
43. *Remote Sensing Letters*
44. *Science*

45. *Southwestern Geographer*
46. *Springer Plus*
47. *Theoretical and Applied Climatology*
48. *Water Resources Bulletin*
49. *Water Resources Research*
50. *Weather and Climate Extremes*

Editorial Positions and Boards:

- Associate Editor, *Journal of Applied Meteorology and Climatology*, American Meteorological Society, 2009-2012, 2017-
- Editorial Board, *Geo: Geography and Environment*, 2014-
- Editorial Board, *Physical Geography*, Bellwether Publishing, 2009-
- Editorial Board, *Geography Compass*, Blackwell Publishing, 2006-2017

Proposals Reviewed:

- National Institute for Climatic Change Research, Department of Energy
- National Institute for Global Environmental Change, Department of Energy
- National Oceanic and Atmospheric Administration, Climate and Global Change Program
- National Science Foundation, Arctic System Science Program
- National Science Foundation, Geography and Spatial Science Program
- National Science Foundation, Major Research Instrumentation Program
- National Science Foundation, Office of Polar Programs
- National Science and Engineering Research Council, Canada
- U.S. Civilian Research and Development Foundation

Reviewer of Books, Book Chapters, and Reports for:

- Cambridge University Press
- W. H. Freeman
- Guilford Press
- Indiana University Press
- Prentice-Hall
- Routledge
- John Wiley & Sons
- U.S. Forest Service
- U.S. Geological Survey

External Examiner/Reviewer for Ph.D. Theses:

- University of Otago (New Zealand), Department of Geography. Jan Jojzisek, "Rainfall variability in the South Island of New Zealand." Supervisor: Prof. B. Fitzharris, 2006.
- Indian Institute of Technology, Civil Engineering Department. Shiva Nagendra, "Modelling of vehicular exhaust emissions for assessing the air quality near urban roads using artificial neural networks." Supervisor: Professor M. Khare, 1999-2003.
- Indian Institute of Technology, Civil Engineering Department. Prateek Sharma, "Air quality modelling for an urban road intersection of Delhi City." Supervisor: Professor M. Khare, 1997-99.

## External Reviewer for Tenure and/or Promotion:

- Arizona State University
- Boston University
- East Carolina University
- Georgia State University
- Hunter College, CUNY
- Illinois State University
- Kent State University
- Michigan State University
- New York University
- Ohio State University
- Oklahoma State University
- San Francisco State University
- Texas A&M University
- United Arab Emirates University
- University of Colorado
- University of Delaware
- University of Florida
- University of Georgia
- University of Kansas
- University of Memphis
- University of Miami (Florida)
- University of North Carolina
- University of Oklahoma
- University of South Carolina

## Professional Associations:

- Award Committee, Paper of the Year Competition, Climate Specialty Group, Association of American Geographers, 2004, 2005, 2006, 2009, 2015, 2019.
- Organizer and chair of many Climate Specialty Group sessions, Annual Meetings of the Association of American Geographers.
- Electronic Communications Committee, Association of American Geographers, 1994-1998.
- Young Scholar Director, Board of Directors, Climate Specialty Group, Association of American Geographers, 1993-95.



**University Service:**

- Executive Committee, Integrated Program in the Environment, 2019-present
- Advisory Board, Workshop in Methods, 2019-2021
- Faculty Search Committee Chair, Grand Challenge: Prepared for Environmental Change, 2017-18
- Advisory Board, Office of Sustainability, 2009-2010.
- Co-chair, Working Group on Academic Initiatives, Office of Sustainability, 2009-2010.
- Search Committee, Director of Sustainability, 2008-2009.
- Sustainability Task Force Working Group on Education, Outreach and Student Engagement, 2007-2008.
- BSES (Bachelor of Science in Environmental Science) Program Committee, 2002-2008.
- Outstanding Junior Faculty Award Selection Committee, Dean of Faculties, 2003, 2004.
- Bloomington Faculty Council, 1997-99.
- Bloomington Faculty Council, Associate Instructor Affairs Committee, 1997-99.
- Academic Computing Policy Committee (ACPC), 1996-97.
- ACPC planning committee on Computing for Scholarly Activities, 1997.
- Regularly consulted by faculty and graduate students in other programs regarding the availability and use of climatic data.

**College Service:**

- College Task Force on Computing in the Arts and Sciences, 2019.
- College Tenure Committee, 2016-2018.
- Bachelor of Arts in Environmental and Sustainability Studies, Curriculum Committee, 2014-2015.
- Multidisciplinary Science Building II (MSB-II), Construction and Oversight Committee, 2008-2010.
- Summer Science Outreach Committee, 2001-02.
- Dissertation Year Fellowship Selection Committee, 1996.

**Departmental Service:**

- Mentor to many junior and mid-career faculty members (2012-present).
- Departmental Coordinator, ScienceFest, 2018-present
- Director of Graduate Studies, July 2014-June 2016, Fall 2018.
- Chair, two terms, July 2007-June 2013.
- Director of Undergraduate Studies, July 2007-June 2010.
- Acting Chair, June 2003, August-December 2006.
- Library Committee, 2006-2010.
- Chair, Atmospheric Science Program, 2003-2004.
- Undergraduate Advisor and Chair of Undergraduate Committee, 1998-2002.
- Chair, Climate and Meteorology Program, 1997-98.
- Chair, Computer and Equipment Committee, 1992-96. Administrative responsibility for departmental equipment and computing facilities. Submission of proposals for New Computing Initiatives and Student Technology programs. During this time, I wrote funded technology proposals for the Department of Geography totaling over \$90,000.
- Computer and Equipment Committee, 1996-2003.
- Graduate Curriculum Committee, 1992-98.
- Minority Recruitment Committee, 1993-97.

- Salary Committee, 1994, 1998, 2002, 2007-2013, 2015.
- Honors Committee, 1993, 2000, 2007-2015.
- Advisor, Geography Club. Organized meetings, speakers, fundraising, 1993-98.

**Community Service:**

- Author of nationally circulated opinion pieces on global climate change.
- Regularly give talks in public forums on climate change and its impacts.
- Regularly answer questions from the academic and wider community regarding weather, climate, and availability of climatic data and information.
- Scientific advisor for numerous (more than 20) programs of “A Moment of Science,” National Public Radio (WFIU).
- Scientific advisor for several (approximately 5) programs of “Earth and Sky,” National Public Radio.
- Regularly provide interviews to local (Indiana Daily Student and Bloomington Herald-Times) and national media outlets regarding recent climate and weather events.