

FORREST ROBERT STEVENS

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Assistant Professor
Department of Geography & Geosciences
University of Louisville
Louisville, KY 40292
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CURRICULUM VITAE

RESEARCH INTERESTS

Integrated modeling and quantitative spatial analyses of human-environment, socio-ecological systems and natural resource management; land systems science, remote sensing, rural lands and livelihoods

EDUCATION

2015 – Ph.D., University of Florida – Gainesville, Florida

Ph.D. in Geography, minor in land change modeling

Committee: Dr. Jane Southworth (advisor), Dr. Greg Kiker, Dr. Timothy Fik, Dr. Robert Fletcher

Dissertation: *Methodologies of Scale and Studies of Interacting Forest and Land System Dynamics*

2009 – M.S., University of Florida – Gainesville, Florida

M.S. in Geography, minor in natural resource management modeling

Committee: Dr. Jane Southworth (advisor), Dr. Greg Kiker, Dr. Timothy Fik

Thesis: *Defining Differences in Remote Sensing Data Sources: Linking Landsat and ASTER Data for Longitudinal Research*

1998 – B.A., University of Chicago – Chicago, Illinois

B.A. in Biology with Honors, specializing in Ecology and Evolution; Dean's List

Concentration GPA 3.9/4.0; cumulative GPA 3.6/4.0

1994 – Pocatello High School – Pocatello, Idaho

ACADEMIC APPOINTMENTS

2014 – Assistant Professor, University of Louisville, Department of Geography and Geosciences –

Louisville, Kentucky

Appointed at rank of Lecturer, Fall 2014, elevated to Assistant Professor, Fall 2015. Mandatory tenure decision in 2019-2020.

TEACHING

2014- – Assistant Professor, University of Louisville, Department of Geography and Geosciences –

Louisville, Kentucky

- GEOG 540-01, Geography and Human-Environment Interactions (3 semesters)
- GEOS 200-03, The Global Environment (3 semesters)
- GEOS 200-HON, The Global Environment, Honors Course (1 semester)
- GEOS 390/590, Unmanned Aerial Systems (UAS) Technologies (1 semester)
- GEOG 365-01, Biogeography (4 semesters)
- GEOG 556-01, Advanced Remote Sensing (1 semester)
- GEOG 385-01, Introduction to Programming for GIS (5 semesters)
- GEOG 685-01, Graduate Introduction to Programming and Geoprocessing Using R (5 semesters)

2013-2014 – Adjunct, Department of Geography, University of Florida – Gainesville, Florida

- GEO6938/4938 Programming for GIS and Spatial Data Analysis, Python and ArcGIS

2006, 2008, 2011 – Graduate Teaching Assistantships, University of Florida – Gainesville, Florida

- GEO6938/4938 Introduction to Programming and Geoprocessing Using R

- GEO6938/4938 Programming Python for GIS and Remote Sensing
- GEO5134/4938 Remote Sensing of the Environment (TA and lab instructor)

FUNDED RESEARCH GRANTS

- 2018 – University of Louisville Research and Creative Activities Grant.** PI: Forrest R. Stevens. Measuring Land Function Change in Southern Africa – Using Unmanned Aerial Systems in Mixed Woodland Savannas. (\$2,000 for August 2018 – July 2019)
- 2017 – NASA ROSES LCLUC.** PI: Son Nghiem, California Institute of Technology. UofLSub-award Co-Is: Forrest R. Stevens and Andrea Gaughan. Land Use Status, Change and Impacts in Vietnam, Cambodia and Laos. (\$157,794 for January 2018 – December 2020)
- 2017 – NASA ROSES Human Planet Initiative.** PI: Robert Chen, Columbia University. UofLSub-award Co-Is: Forrest R. Stevens and Andrea Gaughan. Population and Infrastructure on Our Human Planet: Supporting Sustainable Development Through Improved Spatial Data and Models for Human Settlements, Infrastructure, and Population Distribution Based on Earth Observations. (\$95,000 for September 2017 – August 2020)
- 2015 – National Science Foundation Geography and Spatial Science (GSS).** PI: Andrea Gaughan, Co-I: Lin Cassidy, Narcisa G. Pricope, Forrest R. Stevens, and Joel Hartter. Change and Adaptation in Southern Africa: Climate and Land System Dynamics of the Kavango-Zambezi Transfrontier Conservation Area. (\$325,000 for June 2016 – May 2019, NSF Geospatial Sciences Program, Award #1560700)
- 2015 – Bill and Melinda Gates Foundation.** Global Population Mapping for 2000-2020. PI: Andrew J. Tatem, University of Southampton, WorldPop. UofL Sub-award PIs: Forrest R. Stevens, Andrea Gaughan. (Total: \$1,831,442; UofL Sub-Award: \$401,689)
- 2015 – World Bank.** Research funding for producing Argentina population maps. Co-Is: Andrea Gaughan, Forrest R. Stevens. (\$10,873)
- 2015 – Microsoft Azure Research Award.** Cloud-based, supercomputing research resources. PI: Forrest R. Stevens. (\$20,000)
- 2014-2017 – USDA AFRI Agricultural and Natural Resources Science for Climate Variability and Change.** PI: Joel Hartter, University of Colorado, Boulder. Co-Is: Mark Ducey, Larry Hamilton, Michael Palace, Forrest R. Stevens. (\$900,000)
- 2014 – Google Faculty Research Award.** Research funding to support Google Compute Engine and Earth Engine integration for gridded population mapping. Co-Is: Forrest R. Stevens, Andrea Gaughan. (\$50,000)
- 2010-2014 – USDA CSREES Disaster Resilience for Rural Communities.** Communities and Forests in Oregon (CAFOR). Coauthor and non-PI consultant (\$399,868)
- 2010-2011 – NSF I-Cubed Program Interdisciplinary Research Project Award.** Linking Social and Land Change Networks: A Mixed Methods Approach in a Water Limited Landscape. PI (\$2,433)
- 2009-2012 – NASA Land-Cover/Land-Use Change Program, Earth Systems Program Grant.** Understanding and predicting the impact of climate variability and climate change on land use and land cover change via socio-economic institutions in Southern Africa. Coauthor and non-PI researcher (\$870,000)
- 2008 – Mazamas Foundation Graduate Research Grant.** Sensing Change: Analyzing Land Cover Changes in Wallowa County, Oregon. PI (\$1,500)

PENDING AND UNFUNDED RESEARCH GRANT APPLICATIONS

- 2018 – National Science Foundation Geography and Spatial Science (GSS).** PI: Jonathan Salerno, Colorado State University. UofLSub-award Co-Is: Andrea Gaughan, Forrest R. Stevens. Adaptive human migration in changing environments: Using recent empirical patterns to inform forecasts under climate and socioeconomic scenarios. (\$500,000 for December 2019 – November 2022)
- 2018 – University of Louisville Victor Olorunsola Award.** PI: Forrest R. Stevens. Characterizing the Nature of Land Use Intensity in a Southern African Savanna. (\$2,000 for August 2018 – July 2019)
- 2017 – USDA NIFA Climate and Land Use Program.** PI: Joel Hartter, University of Colorado, Boulder. Co-Is: Forrest R. Stevens, Cassandra Moseley, Bruce Evan Goldstein, Nils Christoffersen, Nick Goulette, Dennis Becker, Paige Fischer, Mark Ducey, David L. Peterson, Lawrence Hamilton, Jeff Kline, Emily Jane Davis, Imtiaz Rangwala. Communities and Forests: Adapting to Climate Change in the Intermountain West. (\$4,000,000 for September 2017 – August 2021)
- 2016 – NASA ROSES.** PI: Son Nghiem, California Institute of Technology. UofLSub-award Co-Is: Andrea

- Gaughan, Forrest R. Stevens. South Asian Rural-Urban Transformation and Impacts in a Changing Climate. (\$157,794 for September 2016 – August 2019)
- 2014 – National Science Foundation Geography and Spatial Science (GSS).** PI: Andrea Gaughan, Co-I: Narcisa G. Pricope, Forrest R. Stevens, and Joel Hartter. Change and Adaptation in Southern Africa: Climate and Land Systems Dynamics of the Kavango-Zambezi Transfrontier Conservation Area. (\$399,127 for May 2015 – April 2018)
- 2013 – NSF Dynamics of Coupled Natural and Human Systems (CNH).** PI: Russel G. Congalton. Coauthor and post-doc research associate
- 2013 – NSF Geography and Spatial Sciences Grants (GSS),** coauthor and non-PI consultant
- 2012 – NSF Dynamics of Coupled Natural and Human Systems (CNH),** coauthor and post-doc research associate
- 2012 – NSF Geography and Spatial Sciences Grants (GSS),** coauthor and non-PI consultant
- 2012 – Land-Cover/Land-Use Change for Early Career Scientists (LCLUC),** NASA Science Mission Directorate, Earth Science Division, coauthor and non-PI consultant
- 2012 – National Center for Ecological Analysis and Synthesis Working Group Grant,** NCEAS, UC Santa Barbara, PI
- 2010 – NASA Carbon Cycle Science,** NASA Science Mission Directorate, Earth Science, coauthor and non-PI consultant (\$889,656.00 budgeted)
- 2009 – NSF BCS Geography and Regional Science Grants,** coauthor and non-PI consultant (\$339,270 budgeted)
- 2009 – CFERP Community and Forest Pre-Dissertation Fellowship Program,** Community Forestry & Environmental Research Partnerships (\$2,000 budgeted)

REFEREED ARTICLES

- Gaughan, A. E., **Stevens, F. R.**, Pricope, N. G., Hartter, J., Cassidy, L., & Salerno, J. (2019). Operationalizing Vulnerability: Land System Dynamics in a Transfrontier Conservation Area. *Land*, 8(7), 111. <https://doi.org/10.3390/land8070111>
- Kolarik, N. E., Ellis, G., Gaughan, A. E., & **Stevens, F. R.** (2019). Describing seasonal differences in tree crown delineation using multispectral UAS data and structure from motion. *Remote Sensing Letters*, 10(9), 864–873. <https://doi.org/10.1080/2150704X.2019.1629708>
- Lloyd, C. T., Chamberlain, H., Kerr, D., Yetman, G., Pistoletti, L., **Stevens, F. R.**, ... Tatem, A. J. (2019). Global spatio-temporally harmonised datasets for producing high-resolution gridded population distribution datasets. *Big Earth Data*, 3(2), 108–139. <https://doi.org/10.1080/20964471.2019.1625151>
- Sinha, P., Gaughan, A. E., **Stevens, F. R.**, Nieves, J. J., Sorichetta, A., & Tatem, A. J. (2019). Assessing the spatial sensitivity of a random forest model: Application in gridded population modeling. *Computers, Environment and Urban Systems*, 75, 132–145. <https://doi.org/10.1016/J.COMPENVURBSYS.2019.01.006>
- Hartter, J., Hamilton, L. C., Boag, A. E., **Stevens, F. R.**, Ducey, M. J., Christoffersen, N. D., ... Palace, M. W. (2018). Does it matter if people think climate change is human caused? *Climate Services*, 10, 53–62. <https://doi.org/10.1016/j.cliser.2017.06.014>
- Boag, A., Hartter, J., Hamilton, L., Christoffersen, N., Oester, P., **Stevens, F. R.**, Palace, M., & Ducey, M. (2018). Climate change beliefs and forest management in eastern Oregon: implications for individual adaptive capacity. *Ecology and Society* 23(4):1. <https://doi.org/10.5751/ES-10355-230401>.
- Marsik, M., Staub, C. G., Kleindl, W. J., Hall, J. M., Fu, C.-S., Yang, D., **Stevens, F. R.**, & Binford, M. W. (2018). Regional-scale management maps for forested areas of the Southeastern United States and the US Pacific Northwest. *Scientific Data*, 5, 180165. Retrieved from <https://doi.org/10.1038/sdata.2018.165>
- Reed, F. J., Gaughan, A. E., **Stevens, F. R.**, Yetman, G., Sorichetta, A., Tatem, A. J. (2018). Gridded Population Maps Informed by Different Built Settlement Products. *Data*, 3(33). <https://doi.org/10.3390/data3030033>
- Gelcer, E., Fraisse, C. W., Zotarelli, L., **Stevens, F. R.**, Perondi, D., Barreto, D. D., Malia, H. A., Ecole, C. C., Montone, V., Southworth, J. (2018). Influence of El Niño-Southern oscillation (ENSO) on agroclimatic zoning for tomato in Mozambique. *Agricultural and Forest Meteorology*, 248. <https://doi.org/10.1016/j.agrformet.2017.10.002>
- Nieves, J. J., **Stevens, F. R.**, Gaughan, A. E., Linard, C., Sorichetta, A., Hornby, G., ... Tatem, A. J. (2017). Examining the correlates and drivers of human population distributions across low-and middle-income countries. *Journal of the Royal Society Interface*, 14(137). <https://doi.org/10.1098/rsif.2017.0401>
- Thomson, D. R., **Stevens, F. R.**, Ruktanonchai, N. W., Tatem, A. J., & Castro, M. C. (2017). GridSample: An R

- package to generate household survey primary sampling units (PSUs) from gridded population data. *International Journal of Health Geographics*, 16(1). <https://doi.org/10.1186/s12942-017-0098-4>
- Linard, C., Kabaria, C. W., Gilbert, M., Tatem, A. J., Gaughan, A. E., **Stevens, F. R.**, Sorichetta, A., Noor, A. M., & Snow, R. W. (2017). Modelling changing population distributions: an example of the Kenyan Coast, 1979–2009. *International Journal of Digital Earth*. doi:17538947.2016.1275829
- Patel, N. N., **Stevens, F. R.**, Huang, Z., Gaughan, A. E., Elyazar, I., & Tatem, A. J. (2016). Improving Large Area Population Mapping Using Geotweet Densities. *Transaction in GIS, Early Access*. doi:10.1111/tgis.12214.
- Boag, A., Hamilton, L. C., Hartter, J., **Stevens, F. R.**, Palace, M. W., & Ducey, M. J. (2016). Shifting environmental concern in rural eastern Oregon: The role of demographic and place-based factors. *Population and Environment (Online Early Access)*. doi:10.1007/s11111-016-0261-z
- Hamilton, L.C., Hartter, J., Keim, B.D., Boag, A.E., Palace, M.W., **Stevens, F.R.** & Ducey, M. J. (2016). Wildfire, climate, and perceptions in northeast Oregon. *Regional Environmental Change (Online Early Access)*. doi: 10.1007/s10113-015-0914-y
- Fischer, A. P., Spies, T. A., Steelman, T. A., Moseley, C., Johnson, B. R., Bailey, J. D., Ager, A. A., Bourgeron, P., Charnley, S., Collins, B. M., Kline, J. D., Leahy, J. E., Littell, J. S., Millington, J. D. A., Nielsen-Pincus, M., Olsen, C. S., Pavaglio, T. B., Roos, C. I., Steen-Adams, M. M., **Stevens, F. R.**, Vukomanovic, J., White, E. M., & David, M. J. S. (2016). Wildfire risk as a socio-ecological pathology. *Frontiers in Ecology and the Environment* 14(5):276-284. doi:10.1002/fee.1283.
- Gaughan, A. E., **Stevens, F. R.**, Huang, Z., Nieves, J., Sorichetta, A., Shengjie, L., Xinyue, Y., Linard, C., Hornby, G., Hay, S. I., Hongjie, Y., & Tatem, A. J. (2016) Spatiotemporal patterns of population in mainland China, 1990 to 2010. *Scientific Data* 3:160005. doi:10.1038/sdata.2016.5.
- Sorichetta, A., Hornby, G. M., **Stevens, F. R.**, Gaughan, A. E., Linard, C., & Tatem, A. J. (2015). High-resolution gridded population datasets for Latin America and the Caribbean in 2010, 2015, and 2020. *Scientific Data*, 2(150045). doi:10.1038/sdata.2015.45
- Schneider, A., Mertes, C. M., Tatem, A. J., Tan, B., Sulla-Menashe, D., Graves, S. J., Patel, N. N., Horton, J. A., Gaughan, A. E., Rollo, J. T., Schelly, I. H., **Stevens, F. R.**, & Dastur, A. (2015). A new urban landscape in East–Southeast Asia, 2000–2010. *Environmental Research Letters*, 10(3), 034002. doi:10.1088/1748-9326/10/3/034002
- Stevens, F. R.**, Gaughan, A. E., Linard, C., & Tatem, A. J. (2015). Disaggregating Census Data for Population Mapping Using Random Forests with Remotely-Sensed and Ancillary Data. *PLOS ONE*, 10(2), e0107042. doi:10.1371/journal.pone.0107042
- Harterter, J., **Stevens, F. R.**, Hamilton, L. C., Congalton, R. G., Ducey, M. J., & Oester, P. T. (2015). Modelling Associations between Public Understanding, Engagement and Forest Conditions in the Inland Northwest, USA. *PLOS ONE*, 10(2), e0117975. doi:10.1371/journal.pone.0117975
- Hall, J., Staub, C., Marsik, M., **Stevens, F. R.**, Binford, M. (2015) Scaling categorical spatial data for earth systems models. *Global Change Biology*, 21: 1–3. doi: 10.1111/gcb.12708.
- Patel, N., Angiuli, E., Gamba, P., Gaughan, A., Lisini, G., **Stevens, F. R.**, Tatem, A. J., Trianni, F. (2015). Multitemporal settlement and population mapping from Landsat using Google Earth Engine. *International Journal of Applied Earth Observation and Geoinformation* 03/2015; 35(Part B):199–208.
- Deville, P., Linard, C., Martin, S., Gilbert, M., **Stevens, F. R.**, Gaughan, A. E., Blondel, V. D., Tatem, A. J.. (2014) Dynamic population mapping using mobile phone data. *Proceedings of the National Academy of Sciences of the United States of America*, Early Access, October, 27, 2014. doi:www.pnas.org/cgi/doi/10.1073/pnas.1408439111
- Gaughan, A. E., **Stevens, F. R.**, Linard, C., Patel, N. N., & Tatem, A. J. (2014). Exploring nationally and regionally defined models for large area population mapping. *International Journal of Digital Earth*, (October), 1–18. doi:10.1080/17538947.2014.965761
- Staub, C. G., **Stevens, F. R.**, Waylen, P. R. (2014). The geography of rainfall in Mauritius: Modelling the relationship between annual and monthly rainfall and geomorphic factors. *Applied Geography*. 01/2014; 54:222–234.
- Hamilton, L. C., Hartter, J., Safford, T. G., & **Stevens, F. R.** (2013). Rural Environmental Concern: Effects of Position, Partisanship, and Place. *Rural Sociology*, 79(2), 257–281. doi:10.1111/ruso.12023
- Tatem, A. J., Gaughan, A. E., **Stevens, F. R.**, Patel, N. N., Jia, P., Pandey, A., & Linard, C. (2013). Quantifying the effects of using detailed spatial demographic data on health metrics: a systematic analysis for the AfriPop, AsiaPop, and AmeriPop projects. *The Lancet*, 381, S142. doi:10.1016/S0140-6736(13)61396-3
- Staub, C. G., Binford, M. W., & **Stevens, F. R.** (2013). Elephant herbivory in Majete Wildlife Reserve, Malawi. *African Journal of Ecology*, 51(4), 536–543. doi:10.1111/aje.12064
- Gaughan, A. E., **Stevens, F. R.**, Linard, C., Jia, P., & Tatem, A. J. (2013). High Resolution Population

- Distribution Maps for Southeast Asia in 2010 and 2015. (F. Pappalardo, Ed.) PLOS ONE, 8(2), e55882. doi:10.1371/journal.pone.0055882
- Gaughan, A. E., **Stevens, F. R.**, Gibbes, C., Southworth, J., & Binford, M. (2012). Linking vegetation response to seasonal precipitation in the Okavango-Kwando-Zambezi catchment of southern Africa. *International Journal of Remote Sensing* 33(21):6783-6804.
- Southworth, J., Marsik, M., Qiu, Y., Perz, S., Cumming, G., **Stevens, F. R.**, Rocha, K., Duchelle, A., & Barnes, G. (2011). Roads as drivers of change: Trajectories across the tri-national frontier in MAP. *Remote Sensing* 3(5):1047-1066.
- Marsik, M., **Stevens, F. R.**, & Southworth, J. (2011). Patterns and rates of land cover change in Pando, northern Bolivia from 1986 to 2005. *Progress in Physical Geography*:1-22.
- Pfister, C. A., & **Stevens, F. R.** (2003). Individual variation and environmental stochasticity: Implications for matrix model predictions. *Ecology* 84 (no. 2):496-510.
- Pfister, C. A., & **Stevens, F. R.** (2002). The genesis of size variability in plants and animals. *Ecology* 83 (no. 1):59-72.

MANUSCRIPTS IN-PRESS, UNDER REVIEW/REVISION

- Stevens, F. R.**, Gaughan, A. E., Nieves, J. J., King, A., Sorichetta, A., Linard, C., Tatem, A. J. (2019, **In-Press**). Comparisons of two global built area land cover datasets in methods to disaggregate human population in eleven countries from the Global South. to *International Journal of Digital Earth*, August 2018.
- Gaughan, A.E., Stevens, F.R., Pricope, N., Hartter, J., Cassidy, L., and J.D. Salerno. Operationalizing Vulnerability: Land System Dynamics in a Transfrontier Conservation Area. to *Applied Geography*, December 2018.
- Nieves, J. N., Sorichetta, A., Linard, C., Bondarenko, M., Steele, J. E., **Stevens, F. R.**, Gaughan, A. E., Carioli, A., Clarke, D., Esch, T., and A. J., Tatem. Modeling built-settlements between remotely sensed observations. to *Remote Sensing of Environment*, November 2018.
- Salerno, J., Gaughan, A. E., **Stevens, F. R.**, Drake, M. D., Cassidy, L., Pricope, N., Hartter, J. Widespread consequential impacts on human food security from conflicts with wildlife. to *Conservation Biology*, November 2018.
- Pricope, N., Cassidy, L., Salerno, J.D., Gaughan, A.E., **Stevens, F.R.**, Hartter, J., Drake, M. Broader integration for broader impact: multi-level engagement and adaptive management in socio-ecological systems research. to *Society and Natural Resources*, November 2018.
- Cassidy, L., Salerno, J., Gaughan, A. E., **Stevens, F. R.**, Hartter, J., Pricope, N., Durcharme, F., Kosmas, S., Maseka, H., Klingelhoefter, E., and P. Mupeta-Muyamwa. An opportunity to refocus global elephant conservation. to *Frontiers Ecology and Environment*, September 2018.
- Kugler, T. A., Grace, K., Wrathall, D. J., de Sherbinin, A., Van Riper, D., Aubrecht, C., Comer, D., Adamo, S. B., Cervone, G., Engstrom, R., Hultquist, C., Gaughan, A. E., Linard, C., Moran, E., **Stevens, F. R.**, Tatem, A. J., Tellman, B., Van Den Hoek, J. People & Pixels 20 years later: The current data landscape and research trends blending population and environmental data. to *Population and Environment*, July 2018.
- Onda, K., Sinha, P., Gaughan, A. E., **Stevens, F. R.**, Kaza, N. The missing millions: Undercounting urbanisation in India. to *Population and Environment*, July 2018.

NON-REFEREED ARTICLES

- Boag, A. E., Hartter, J., Hamilton, L. C., **Stevens, F. R.**, Ducey, M. J., Palace, M. W., Christofferson, N. D., Oester, P. T. (2015). *Forest Views - Shifting Attitudes Toward the Environment in Northeast Oregon*. Durham, NH: Carsey Institute, University of New Hampshire.
- Hartter, J., **Stevens, F. R.**, Hamilton, L. C., Oester, P. T., Congalton, R. G., Ducey, M. J., & Crowley, M. (2014). *Forest management and wildfire risk in Inland Northwest*. Durham, NH: Carsey Institute, University of New Hampshire.
- Hartter J., Hamilton, L. C., **Stevens, F. R.**, Congalton, R. G., & Ducey, M. (2012). *Research Uncovers Social Attitudes Toward Changing Forests*. Quarterly Connection. Fall 2012. Wallowa Resources. Enterprise, OR.
- Hamilton L. C., Hartter, J., **Stevens, F. R.**, Congalton, R. G., & Ducey, M. (2012). *Forest views: Northeast Oregon survey looks at community and environment*. Carsey Institute, University of New Hampshire. Durham, NH.
- Gaughan, A. E., **Stevens, F. R.**, Gibbes, C., Southworth, J., Keys, E., Child, B., Waylen, P., Kiker, G., Muñoz-

Carpena, R., & Binford, M. W. (2009). Climate, land-use/land-cover change and institutional response: A multi-scalar approach to human-environment interactions in southern Africa. Newsletter of the Global Land Project International Project Office No. 5, pp. 5-7.

ADVISING

Post-Doctoral Researchers

Sinha, Parmanand. Ph.D. (2016-2018) *WorldPop global data production, population modelling, and spatial statistics.*

Graduate Students

Nieves, Jeremiah. M.S. (2016, co-advised) University of Louisville. *Global Population Distributions and the Environment: Discerning Observed Global and Regional Patterns*

Peters, Faye. M.S. (2016) University of Louisville. *Analyzing the Extent and Intensity Relationship of Kudzu (*Pueraria montana*) Infestations with Vegetation Indices.*

Jensen, Brock. M.S. (non-matriculated) University of Louisville. *A Microclimatic Look at Ixodes Scapularis: Distribution Projection Based on Non-Random Sampling.*

King, Adam. M.S. (co-advised, non-matriculated) University of Louisville. *Mobility and Climate-Induced Population Movement in Bangladesh From Mobile Phone Records.*

Reed, Philip. M.S. (2018, co-advised) University of Louisville. *Adaptations of Dasytic Process within WorldPop Distribution Estimates.*

Nick Kolarik (Anticipated 2019, co-advised) University of Louisville. *A multi-plot assessment using an unmanned aerial system (UAV) in a dryland savanna environment.*

Laura Krauser (Anticipated 2020, co-advised) University of Louisville. *Land Cover Change and Demographic Shifts in Southeast Asia.*

Graduate Student Committees

Caixeta, Fernando. M.S. (2016) University of Louisville. *A Spectral Mixture Analysis of Land Cover Change in the Zambezi Region, Namibia.*

Neha Angal. M.A. (2016) University of Louisville. *Effect of migration, carrying capacity, and fecundity on the formation of clinal patterns during range expansions.*

Perkins, James. M.S. (2019) University of New Hampshire. *Analysis of Forest Biometrics Using Drone-Acquired Imagery.*

Weaver, Ariel. M.S. (Anticipated 2019, Fulbright Research Namibia) University of Louisville. *An Object-Based Spatio-Temporal Analysis of Land Cover Change in the Zambezi Region of Namibia, 1990-2014.*

Sexton, Aaron. M.S. (Anticipated 2020) University of Louisville. *Inter- and Intra-annual Variability for the Onset of the Rainy Season in KAZA.*

Undergraduate Theses

Laura Krauser, 2015-2016 (senior honor's thesis committee, reader, Fulbright Study Finalist)

Michael Shaw, 2015-2016 (senior thesis)

Thomas Jeffords, 2014-2015 (senior thesis)

Morgan Kee, 2014-2015 (senior thesis)

Yi Ling Chan, 2014-2015 (senior honor's thesis committee, reader)

Christina Davis, 2016-2017 (senior thesis)

Claire Taxes, Morgan Cooper, Karsen Woods, 2016-2017 (senior thesis, group)

Lindsay Evans, 2017-2018 (senior thesis)

Alice Mower, 2017-2018 (senior thesis)

Wilson Persky, 2017-2018 (senior thesis)

Logan Young 2018-2019 (senior thesis)

Ben Michels 2018-2019 (senior thesis)

Jonathan Yann 2018-2019 (senior thesis)

Independent Studies

Garrett Seay, 2016, Introductory Graduate Programming for Geospatial Sciences

Colleen Wootten, 2016, Introductory Undergraduate Programming for Geospatial Sciences

- Stevens, F.R.**, Gaughan, A.E., Pricope, N., Weaver, A., Olsen, S., Kolarik, N., Drake, M., Bradshaw, A. (2018). Exposing land functions and vulnerability using multiscale, satellite and UAS data. American Association of Geographers Annual Meeting, April 10-14, 2018. New Orleans, LA.
- Gaughan, A. E., **Stevens, F. R.**, Pricope, N., Cassidy, L., Hartter, J., Salerno, J. (2018). Adaptive capacity framing for household vulnerability in a dryland system. American Association of Geographers Annual Meeting, April 10-14, 2018. New Orleans, LA.
- Bradshaw, A., Pricope, N., **Stevens, F. R.**, Gaughan, A. E., Kolarik, N., Olsen, S. (2018). Utilizing UAV and RapidEye Imagery of a Heterogenous Savanna Landscape for Structural Vegetation Analysis. American Association of Geographers Annual Meeting, April 10-14, 2018. New Orleans, LA.
- Pricope, N., Gaughan, A. E., **Stevens, F. R.**, Cassidy, L., Hartter, J., Salerno, J. (2018). Conceptualizing and operationalizing household vulnerability through environmental stressors and livelihood activities in the world's largest transfrontier conservation area. American Association of Geographers Annual Meeting, April 10-14, 2018. New Orleans, LA.
- Stevens, F.R.**, Gaughan, A.E., Tatem, A.J., Sorichetta, A, and C. Linard. (2017). The Dynamics of Population, Built-up Areas and their Evolving Associations in Gridded Population across Time and Space. American Geophysical Union, December 12, 2017. New Orleans, LA.
- Gaughan, A.E., Stevens, F.R, Tatem, A.J., Sorichetta, A, and C. Linard. (2017). People in Pixels: Gridding the World's Population. American Geophysical Union, December 12, 2017. New Orleans, LA.
- Boag, A. E., Hartter, J., Ducey, M. J., Palace, M. W., **Stevens, F. R.**, Hamilton, L. C. (2017). Site-level factors determining post-fire conifer regeneration in eastern Oregon. Society of American Foresters National Conventions, November 15-19, 2017. Albuquerque, NM.
- Stevens F.R.**, Gaughan A.E., Tatem A.J., Linard C., Sorichetta A., Hornby G.M., Nieves, J. (2017). Increases in Spatiotemporal Resolution for Modelling Human Population Distribution Globally. American Association of Geographers Annual Meeting, April 5-9, 2017. Boston, MA.
- Stevens, F. R.**, Gaughan, A. E., Tatem, A. J., Linard, C., Sorichetta, A., Hornby, G. M., & Nieves, J. (2016). Mapping Population Change Through Time – Methodological Advances for WorldPop Temporal Data. American Association of Geographers Annual Meeting, March 29-April 2. San Francisco, CA.
- Perkins, J., Palace, M. W., **Stevens, F. R.**, Ducey, M. J. (2016). Estimation of Forest Biometrics Using Unmanned Aerial Systems. American Association of Geographers Annual Meeting, March 29-April 2. San Francisco, CA.
- Stevens, F. R.**, Gaughan, A. E., Nieves, J., Patel, N. N., Linard, C., & Tatem, A. J. (2015). Expanding WorldPop methods, data availability, and applications. Kentucky Association of Mapping Professionals Summer Quarterly Meeting, August 6. Louisville, KY.
- Gaughan, A. E., Nieves, J., **Stevens, F. R.** (2015). WorldPop Global Population and Urban Extent Mapping Using Google Compute Engine. Kentucky EPSCor Conference, May 22. Lexington, KY.
- Gaughan, A. E., **Stevens, F. R.**, Nieves, J. Sorichetta, A., Tatem, A. J., Shengjie, L., Huang, Z. & Linard, C. (2015). Spatiotemporal patterns of Mainland China's population 1990 to 2010. American Association of Geographers Annual Meeting, April 21-25. Chicago, IL.
- Stevens, F. R.**, Gaughan, A. E., Nieves, J., Hornby, G., Sorichetta, A., & Tatem, A. J. (2015). The Challenges of Mapping the Denominator – the Past, Present and Future of the WorldPop Project. American Association of Geographers Annual Meeting, April 21-25. Chicago, IL.
- Nieves, J., **Stevens, F. R.**, Gaughan, A. E., Patel, N. N., Linard, C., & Tatem, A. J. (2015). The Value of Urban Extents in High Resolution Population Mapping. American Association of Geographers Annual Meeting, April 21-25. Chicago, IL.
- Stevens, F. R.**, Hartter, J., Hamilton, L., Ducey, M., & Congalton, R. (2014). Changing Communities and Forests of the Inland Northwest: Perceptions and Realities. American Association of Geographers Annual Meeting, April 8-12. Tampa, FL.
- Gaughan, A. E., Tatem, A. J., Linard, C., **Stevens, F. R.**, & Patel, N. (2014). Detailed Spatial Demographic Data in Land Change Systems. American Association of Geographers Annual Meeting, April 8-12. Tampa, FL.
- Patel, N. N., Gamba, P., Tatem, A. J., **Stevens, F. R.**, & Gaughan, A. E. (2014). The role of High Resolution Population Mapping in Validating Extraction of Urban Settlements from the Google Earth Engine. American Association of Geographers Annual Meeting, April 8-12. Tampa, FL.
- Tatem, A. J., Gaughan, A. E., **Stevens, F. R.**, Patel, N. N., Jia, P., Pandey, A., & Linard, C. (2013). Quantifying

the effects of using detailed spatial demographic data on health metrics: a systematic analysis for the AfriPop, AsiaPop, and AmeriPop projects. Global Health Metrics and Evaluation Conference, June 17-19. Seattle, WA.

- Stevens, F. R.,** Gaughan, A. E., Tatem, A. J., & Linard, C. (2013). Refining area-to-grid population assignment using ancillary data and nonparametric, ensemble models. Association of American Geographers Annual Meeting, April 9-14. Los Angeles, CA.
- Gaughan, A. E., Tatem, A. J., Linard, C., **Stevens, F. R.,** & Jia P. (2013). High-resolution population mapping – Southeast Asia. Association of American Geographers Annual Meeting, April 9-14. Los Angeles, CA.
- Gaughan, A. E., Tatem, A. J., Linard, C., **Stevens, F. R.,** & Jia P. (2012). Mapping AsiaPop. Southeastern Division of the Association of American Geographers Annual Meeting, November 20. Asheville, NC.
- Podkul, T. E., & **Stevens, F. R.** (2012). Geospatial influences of control and access to water resources in Peru: A study in the geography of social networks. The Society for Applied Anthropology Annual Meeting, March 27-31. Baltimore, MD.
- Stevens, F. R.,** & Podkul, T. E. (2012). Spatializing Social and Resource Management Networks: A Case Study of Irrigation and Crops in the Cotahausi River Canyon, Peru. Association of American Geographers Annual Meeting, February 24-28. New York City, NY.
- Stevens, F. R.,** Bohrmann, T., Hein, A., Brooks, M., Lucchetti, J., Christman, M., Osenberg, C., Bolker, B. & Swain, H. (2011). Predicting Ponds, Pines and Savanna: A Recursive Time Series Modeling Approach for Messy Data. Association of American Geographers Annual Meeting, April 12-16. Seattle, WA.
- Bohrmann, T., Hein, A., **Stevens, F. R.,** Brooks, M., Lucchetti, J., Christman, M., Osenberg, C., Bolker, B. & Swain, H. (2011). Predicting a New Time Series Using Multiple Partially Observed Time Series. Statistics Meeting, March 12. Miami, FL.
- Stevens, F. R.,** Hartter, J., Boston, K., Christofferson, N., & Survis, P. (2010). Shocks to the System: A Case Study of Changing Forests in Wallowa County, Oregon with Implications for Working and Managed Landscapes. Global Land Project Open Science Meeting, October 17-19. Phoenix, AZ.
- Stevens, F. R.,** Hartter, J., Christofferson, N., Survis, P., & Boston, K. (2010). Mixed Methods for Monitoring Forest Health in Wallowa County, Oregon. Association of American Geographers Annual Meeting, April 13-18. Washington, D.C.
- Gaughan, A. E., **Stevens, F. R.,** & Gibbes, C. (2010). Linking climate to landscape: Investigating the response of vegetation to precipitation variability in a semi-arid catchment of southern Africa. Association of American Geographers Annual Meeting, April 13-18. Washington, D.C.
- Stevens, F. R.,** Hartter, J., & Boston, K. (2009). Sensing Change: Analyzing Land Cover and Forest Dynamics in Wallowa County, Oregon. Association of American Geographers Annual Meeting, March 22-27. Las Vegas, NV.
- Southworth, J., **Stevens, F. R.,** Qiu, Y., Marsik, M., Perz, S., & Rocha, K. (2009). Land Cover Change Patterns and Processes: Linking to Infrastructure Change and Resilience in Social-Ecological Systems, the Case of Southwestern Amazonia. Association of American Geographers Annual Meeting, March 22-27. Las Vegas, NV.
- Hartter, J., **Stevens, F. R.,** & Boston, K. (2009). Impacts of Landscape Change on Forest-Dependent Communities in Wallowa County, Oregon. Association of American Geographers Annual Meeting, March 22-27. Las Vegas, NV.
- Stevens, F. R.** (2008). Defining Differences in Remote Sensing Data Sources: Linking Landsat and ASTER Data for Longitudinal Research. Association of American Geographers Annual Meeting, April 15-19. Boston, MA.
- Marsik, M., **Stevens, F. R.,** Rocha, K., Southworth, J., Barra, F., Brown, F., & Perz, S. (2007). Road Expansion and Land Cover Change from 1986 to 2006 in Southwestern Amazonia. Florida Society of Geographers Annual Meeting. Jacksonville, February 9-11. Jacksonville, FL.

CONTRIBUTED PRESENTATIONS AT INTERNATIONAL CONFERENCES

Gaughan, A. E., **Stevens, F. R.,** Sorichetta, A., Nghiem, S., and Tatem, A. J. (2018) High Resolution Gridded Population Modeling: Spatiotemporal Methodological Considerations for Applications in Land Cover and Land Use Change. Land Use Status, Change and Impacts in Vietnam, Cambodia and Laos, International Science Team Meeting, May 7-11. Hanoi, Vietnam.

Stevens, F. R., Gaughan, A. E., Nieves, J., Tatem, A., Sorichetta, A., Shenglie, L., Huang, Z., Linard, C. (2016). Spatiotemporal Methodological Advances for Mapping Population. 3rd GLP Open Science Meeting, October 24-27. Beijing, China.

Gaughan, A. E., **Stevens, F. R.,** King, A., Tatem, A., Sorichetta, A., Hornby, G., Nieves, J., Linard, C. (2016)

Spatiotemporal Population Modelling and the Built Environment. 3rd GLP Open Science Meeting, October 24-27. Beijing, China.

- Stevens, F. R.,** Staub, C., Hall, J., Marsik, M., Hartter, J., & Binford, M. W. (2014). Multi-scale Approaches for Detecting Trends and Breaks in Time Series of Vegetation Indices. 2nd GLP Open Science Meeting, March 19-21. Berlin, Germany.
- Linard, C., Patel, N., Stevens, F. R., Huang, Z., Gaughan, A. E., Tatem, A. J. (2014). Use of active and passive VGI data for population distribution modelling: Experience from the WorldPop project. GIScience 2014 Workshop, September 14. Vienna, Austria.
- Gaughan, A. E., Tatem, A. J., Linard, C., & **Stevens, F. R.** (2014). Detailed spatial demographic data in land change: the AfriPop, AsiaPop, and AmeriPop Projects. 2nd GLP Open Science Meeting, March 19-21. Berlin, Germany.
- Brooks, M., Bohrmann, T., **Stevens, F.**, Hein, A., Christman, M., Osenberg, C., & Bolker, B. (2013). Predicting Temporally Autocorrelated Pond Depths with Irregular Time Series Data / Prédire une profondeur de bassin avec autocorrélation temporelle à l'aide de données chronologiques Irrégulières. Statistical Society of Canada Annual Meeting, May 26-29. University of Alberta, Edmonton, Alberta, Canada.
- Stevens, F. R.** (2007). Rayas y Brechas en los Datos: Valorando Imágenes de ASTER como una Alternativa a Landsat para la Región MAP. Primer Mini Map – Sensoramiento Remoto, July 6-9. Unversidad Amazônica de Pando, Cobija, Pando, Bolivia.
- Marsik, M., Rocha, K., Southworth, J., **Stevens, F. R.**, & Hoyos, N. (2007). Uso de Imágenes Landsat: Experiencias de la UF en la Región MAP. Primer Mini Map – Sensoramiento Remoto, July 6-9. Universidad Amazônica de Pando, Cobija, Pando, Bolivia.

INVITED PRESENTATIONS AND LECTURES

- Nieves, J. J., Sorichetta, A., Linard, C., Bondarenko, M., Steele, J. E., **Stevens, F. R.**, Gaughan, A. E., Carioli, A., Clarke, D. J., Esch, T., Tatem, A. J. (2019) Globally Mapping Human Settlements in the Absence of Satellite Imagery. University of Southampton Centre for Population Change Seminar, February 11. University of Southampton, Southampton, UK.
- Gaughan, A. E., Linard, C., **Stevens, F.R.**, Tatem, A.J. (2018) Remote Sensing and Gridded Population Data: Considerations for Population-Environment Research Community for a Cyber Seminar entitled, “ People and Pixels Revisited: 20 years of progress and new tools for population-environment research.” February 20-27.
- Stevens, F. R.**, Gaughan, A. E., Palace, M., Perkins, J., Ducey, M., & Hartter, J. (2016). Low Altitude Remote Sensing and the Environmental Applications of UAS. Earth STEM Day Symposium, April 22. Kentucky State University, Frankfort, KY.
- Stevens, F. R.**, Hartter, J., Hamilton, L., Ducey, M., Congalton, R., & Palace, M. (2015). Seeing the Forest for the Trees – Multiscale Analyses of Changing Forests and Communities. Department of Geography and Geosciences Colloquium Series, November 6. University of Louisville, Louisville, KY.
- Stevens, F. R.**, Gaughan, A. E. (2015). Environmental Applications of UAS. Experimental Aviation Association Monthly Meeting, September 9. Louisville, KY.
- Stevens, F. R.**, Hartter, J., Hamilton, L., Ducey, M., Congalton, R., & Palace, M. (2014). Changing Communities and Forests of the Inland Northwest: Perceptions and Realities. Coupled Human and Natural Systems in Fire-Prone Landscapes: Interconnections and Research Needs Workshop, August 4-7. Bend, OR.
- Hartter, J., **Stevens, F. R.**, Hamilton, L., Ducey, M., & Congalton, R. (2014). Wildfire and Working Landscapes in the Interior Northwest. Department of Geography Colloquium Series, April 24. University of Florida, Gainesville, FL.
- Stevens, F. R.**, Gaughan, A. E., Tatem, A. J., & Linard, C. (2013). Area-to-grid population assignment using ancillary data and random forest models. Annual IGERT Symposium, April 25. University of Florida, Gainesville, FL.
- Stevens, F. R.** (2013). Sensing Change: Methodologies of Scale and a Case Study of Land Management in Wallowa County, Oregon. Department of Geography Colloquium Series, February 28. University of Florida, Gainesville, FL.
- Stevens, F. R.**, Hartter, J., Christofferson, N., Boston, K., & Survis, P. (2011). Changing Forests in Wallowa County, Oregon with Implications for Communities and Managed Landscapes. Wallowa County Natural Resources Advisory Committee, June 28. Enterprise, OR.
- Stevens, F. R.** (2011). A Case Study of Changing Forests in Wallowa County, Oregon with Implications for Working and Managed Landscapes. Department of Geography Colloquium Series, March

24. University of Florida, Gainesville, FL.
- Stevens, F. R.** (2010). Public and Private Partnerships: Monitoring and Modeling Forest Health in Wallowa County, Oregon. Annual IGERT Symposium, May 3. University of Florida, Gainesville, FL.
- Stevens, F. R.** (2009). Measuring and Monitoring for REDD: A Remote Sensing Tutorial. UF GEO 3930 Introduction to Climate Change, November 20. University of Florida, Gainesville, FL.
- Harterter, J., **Stevens, F.R.**, & Boston, K. (2009). Analyzing Landscape Change, Forest Dynamics, and the Impacts of Change on Forest Dependent Communities. Forest Carbon Science and Management Workshop, November 17-18. Portsmouth, NH.
- Stevens, F. R.** (2009). An Introduction to Models With Applications to Global Climate Change. Presented to the UF GEO 3930 Introduction to Climate Change, February 2. University of Florida, Gainesville, FL.
- Stevens, F. R.** (2008). Uncertainty and Unpredictability: Introduction to Deterministic Models and Their Applications to Global Climate Change. Presented to the UF GEO 3930 Introduction to Climate Change, November 7. University of Florida, Gainesville, FL.
- Stevens, F. R.** (2008). Linking Landsat and ASTER Data for Longitudinal Research. Department of Geography Colloquium Series, March 5. University of Florida, Gainesville, FL.

CONTRIBUTED POSTERS AT CONFERENCES

- Biddle, DJ, **Stevens, F. R.**, & Gaughan, A. E. (2015). Mapping Debris-Covered Glaciers in the Cordillera Blanca, Peru: An Object-based Image Analysis Approach. American Association of Geographers Annual Meeting, April 21-25. Chicago, IL.
- Sandifer, J., Gaughan, A. E., & **Stevens, F. R.** (2015). Remotely-Sensed Heat: Variation and Change in Surface Urban Heat Islands in the Temperate Eco-Region of the United States. American Association of Geographers Annual Meeting, April 21-25. Chicago, IL.
- Nieves, J., Gaughan, A.E., & **Stevens, F. R.** (2015). WorldPop Global Population and Urban Extents Using Google Compute Engine. American Association of Geographers Annual Meeting, April 21-25. Chicago, IL.
- Linard, C., Deville, P., Martin, S., **Stevens, F. R.**, Gaughan, A. E., Gilbert, M., & Blondel, V., Tatem, A. J. (2014). Dynamic population mapping using mobile phone data. 2nd GLP Open Science Meeting, March 19-21. Berlin, Germany.
- Harterter, J., Ducey, M. J., Hamilton, L. C., Palace, M. W., **Stevens, F. R.**, Christofferson, N., & Oester, P. (2014). Climate Change Adaptation in Working Landscapes of the Intermountain Northwest. USDA NIFA Agricultural Science for Climate Variability and Change Project Directors Meeting, January 6-9. Gainesville, FL.
- Gelcer, E., **Stevens, F. R.**, Montone, V., & Fraisse, C. W. (2013). Agroclimatic zoning in Mozambique to reduce risks of tomato production. Agricultural and Biological Engineering Research Symposium, October 23. Gainesville, FL.
- Bohrmann, T., Brooks, M., Hein, A., Luchetti, J., **Stevens, F. R.**, Bolker, B., Christman, M., & Osenberg, C. (2010). Modeling ephemeral pond dynamics on the Lake Wales Ridge, Florida. UF Water Institute Symposium, February 23-25. Gainesville, FL.
- Gaughan, A., **Stevens, F. R.**, & Gibbes, C. (2010). Responses of vegetation to precipitation variability in a semi-arid catchment of southern Africa. UF Water Institute Symposium, February 23-25. Gainesville, FL.
- Gibbes, C., Gaughan, A., & **Stevens, F. R.** (2010). Modeling vegetation responses to precipitation variability in southern Africa. Graduate Student Council Interdisciplinary Research Conference, February 3. Gainesville, FL.
- Stevens, F. R.**, Gaughan, A., & Gibbes, C. (2010). Linking climate to landscape: Investigating the response of vegetation to precipitation variability in a semi-arid catchment of southern Africa. American Meteorological Society Annual Meeting, January 17-21. Atlanta, GA.
- Marsik, M., **Stevens, F. R.**, Rocha, K., & Southworth, J. (2008). Patrones y Tasas de Deforestación en Pando, Bolivia desde 1986 a 2005. IV Reunión Nacional Sobre Investigación Forestal, September 3-5. Cobija, Pando, Bolivia.
- Marsik, M., Rocha, K., **Stevens, F. R.**, & Southworth, J. (2008). Modelos e Taxas de Desmatamento em Pando, Bolivia de 1986 a 2005. Seminário Anual de Cooperação UFAC-UF, July 7-8. Universidade Federal do Acre, Rio Branco, Acre, Brazil.
- Stevens, F. R.** (2007). Bridging the Landsat Data Gap: Evaluating ASTER as an Alternative. Association of American Geographers Annual Meeting, April 17-21. San Francisco, CA.

FELLOWSHIPS AND AWARDS

- 2018** – Nominated as University of Louisville “Faculty Favorite”
- 2017** – Planet Ambassador, Planet.com (RapidEye and Planet satellite data grant and research fellowship)
- 2005-2009, 2011, 2014** – UF Presidential Fellow, University of Florida (\$65,800 + tuition)
- 2009-2011** – Quantitative Spatial Ecology, Evolution, and Environment (QSE³) IGERT Fellow, National Science Foundation (Grant No. 0801544) and University of Florida (\$89,800 + tuition)
- 2007** – Excellence in Graduate Teaching Award, University of Florida Department of Geography (\$200)
- 2006-2011** – Competitive travel grants (10) from: College of Liberal Arts and Sciences, Graduate Student Council, Land Use and Environmental Change Institute (\$250-500)
- 1997** – Howard Hughes Undergraduate Research Fellow, Howard Hughes Medical Institute (\$5,000)
- 1994** – National Science Scholar, U.S. Department of Education
- 1994** – Bausch & Lomb Science Award and the Bausch & Lomb Science Scholarship, Bausch & Lomb/University of Rochester, Rochester, New York
- 1993** – National Science Foundation Young Scholar, NSF and the University of Texas at Austin

RESEARCH CONSULTANTSHIPS AND OTHER EXPERIENCE

- 2015** – Push-Pull Food Security Modeling and Data Analysis – Zurich, Switzerland
Collaboration with Biovision and Push-Pull, a project of ICIPE, African Insect Science for Food and Health to produce a mapping, modeling, and analysis platform (<https://push-pull.appspot.com>)
- 2014** – Research Consultant, Post-Doc (2014), USDA AFRI Agricultural and Natural Resources Science for Climate Variability and Change, University of Colorado Boulder – Boulder, Colorado
Dr. Joel Hartter, PI and Post-Doc Advisor
- Co-authored grant to expand ongoing research on public/private forest management and land owner mitigation strategies to climate change and variability in Oregon
 - Developing platforms and methods for aerial imagery collected by unmanned aerial systems (UAS)
 - Combining UAS imagery with participatory mapping and remotely sensed and field-collected data
- 2012** – WorldPop Modeling Research and Assistantship, University of Southampton – Southampton, UK
Dr. Andrew Tatem
- Developing novel “random forest,” dasymetric modeling approach (<http://www.worldpop.org>)
- 2011-2014** – Coauthor and Consultant, USDA CSREES Disaster Resilience for Rural Communities Grant, University of New Hampshire – Durham, New Hampshire
Dr. Joel Hartter, Dr. Russell Congalton (Co-PI), Dr. Lawrence Hamilton (Co-PI), Dr. Mark Ducey (Co-PI)
- Co-authored grant to expand ongoing research on public/private forest management, rural community change and forest fire/pest/disease risk in NE Oregon
 - Coordinating field work and data analysis with graduate research assistants
 - Geospatial analysis that merges mail and telephone survey results with remotely-sensed data
 - Developing agent-centered, land owner and land management models for the rural Inland Northwest
- 2000** – Open source and free software development for GIS, remote sensing and modeling applications
- refnet – Creator and maintainer spatially explicit reference and authorship analyses package for R <http://refnet.r-forge.r-project.org/>
 - MODIS – Contributing programmer for the MODIS data download and processing package for R <http://r-forge.r-project.org/projects/modis/>
 - GRASS GIS – Feature development and code debugging for GRASS GIS platform and modules <http://grass.osgeo.org/>
- 2009-2011** – NSF IGERT Archbold Ephemeral Ponds Project, University of Florida – Gainesville, Florida
Dr. Benjamin Bolker, Dr. Craig Osenberg (Co-PI), Dr. Mary Christman (Co-PI)
- Collaboration produced multiple-model approach for modeling ephemeral pond dynamics
 - Developed alternatives to standard hydrologic models to account for irregular sampling strategies and allow for fore- and hind-casting from climatological data
- 2009-2010** – NASA Land-Cover/Land-Use Research of Southern Africa Dryland Region, Earth Systems Program Grant, University of Florida – Gainesville, Florida
Dr. Jane Southworth, Department of Geography
- Field work and data collection in Namibia and Zambia
 - MODIS satellite imagery processing and analysis
 - TRMM precipitation and climate-related time series analyses

2007-2008 – NSF HSD MAP Amazon Roads Project, University of Florida – Gainesville, Florida

Dr. Stephen Perz, Dr. Jane Southworth (Co-PI)

- Landsat and ASTER satellite imagery pre-processing and analysis
- Collected training samples, developed database-integrated ArcGIS data management system
- ENVI/IDL programming in addition to ERDAS Imagine processing
- International field work in Bolivia and Brazil

2006-2007 – Graduate Research Assistantship, University of Florida – Gainesville, Florida

Dr. Corene Matyas

- Developed an online, Python-based application for the retrieval and pre-processing of historical NEXRAD radar data for hurricane research

OTHER WORK EXPERIENCE

1997-2008 – Self-Employed Web/Database, and Open Source Programmer, Systems Design

1998-2003 – Data Analyst and Information Management, NWREL – Portland, Oregon

Evaluation Program, Northwest Regional Educational Laboratory

- Created fully- and semi-automated systems for handling data collection, statistical analysis, and data presentation, using diverse technologies, many with spatial or GIS components

1997-1999 – Research Assistant, University of Chicago – Chicago, Illinois

Dr. Cathy A. Pfister, Department of Ecology and Evolution

- Developed large computer simulations comparing individual-based and matrix population models

1997-1998 – Senior Honors Research Thesis, University of Chicago -- Chicago, Illinois

Dr. Cathy A. Pfister (advisor), Department of Ecology and Evolution

- Wrote and funded by grant from the Howard Hughes Medical Institute Undergraduate Research Fund
- Study of trophic interactions and nutrient exchange in Olympic Peninsula estuaries, Washington
- Ten weeks of field work and 20 weeks of lab work

1996 – Summer Field Ecology Research Assistant, Idaho State University -- Pocatello, Idaho

Dr. Nancy Huntly, Department of Ecology

- Captured, tagged, and observed pikas for metapopulation models on the Beartooth Plateau, Wyoming

MEDIA

University of Louisville Magazine for Alumni and Friends. (2017, Winter/Spring) Mapping the way to global impact. pg. 14-15. <http://louisville.epubxp.com/i/784620-winter-spring-2017/15?m4=>

UofL Thinker Annual News Letter. (2016, June). Big Data for Big Impact.

<http://louisville.edu/artsandsciences/news/all/big-data-for-a-big-impact>

UofL Today With Mark Hebert. (2016, May 30). Radio interview regarding WorldPop population modelling.

<https://soundcloud.com/uofl/05-30-16-uofl-today-stevensgaughan-chlebowymcgrew-seldon>

Science Magazine. (2015, March 6). Asia's cities swell as population surges.

<http://www.sciencemag.org/content/347/6226/1048.full>

New Scientist. (2014, October 27). Phone call pulse shows millions hitting the beach.

<http://www.newscientist.com/article/dn26460-phone-call-pulse-shows-millions-hitting-the-beach.html#.VNfgCmjF8gW>

Science Magazine. (2014, October 27) Taking the census, with cellphones.

<http://news.sciencemag.org/math/2014/10/taking-census-cellphones?rss=1>

The Conversation (2013, December) Natural disasters put Haiti and Philippines on the map.

<http://theconversation.com/natural-disasters-put-haiti-and-philippines-on-the-map-20879>

Science Daily. (2013, November 27). World Population Mapping Helps Combat Poverty, Poor Health.

<http://www.sciencedaily.com/releases/2013/11/131127110347.htm>

Earthzine: Fostering Earth Observation and Global Awareness (2013, November 27). Igniting the Power Grid in Rwanda using NASA EOS. <http://www.earthzine.org/2013/11/17/igniting-the-power-grid-in-rwanda-using-nasa-eos/>

Carsey Institute. (2011). Researchers to Survey Oregon Residents on Views about Community and Forest. Press Release, UNH Media Relations. September 2.

Jayson Jacoby. (2011). Study aims to take pulse of Northeastern Oregon's land, people. Baker City Herald. June 23, 2011. Front-page story about USDA-funded research in eastern Oregon.

Brian Addison. (2011). University studies forest, people. Wallowa County Chieftain. June 23. Front-page story

about USDA-funded research in eastern Oregon.
Bill Rautenstrauch. (2011). Study takes in-depth look at forestlands and resource-dependent communities. The Observer. June 15. Feature story about USDA-funded research in eastern Oregon.
University of New Hampshire. (2010). UNH Received \$400K Grant to Study How Changes in Ecosystems Impact Livelihoods in Resource-Dependent Areas. Press Release, UNH Media Relations. October 14.

PROFESSIONAL MEMBERSHIP

- **Association of American Geographers (AAG)**
- **American Geophysical Union (AGU)**
- **Ecological Society of America (ESA)**
- **IEEE Geoscience and Remote Sensing Society (IGARSS)**
- **Kentucky Academy of Sciences (KAS)**

PROFESSIONAL SERVICE AND OTHER ACTIVITIES

University Service:

Departmental, Divisional, Program:

- Departmental Hiring Committee (2018-2019)
- Faculty adviser for the Geography Club (2014-)
- Member departmental budget and building services committee (2016-2018)
- Chair of departmental promotional materials committee (2015-2016)
- Member of departmental graduate committee (2014-15)
- Co-coordinator for independent, weekly lab meetings with faculty and students

College (A&S):

- UofL Accolades Organizing Committee, meetings for prospective students (2019)
- UofL Accolades, speaker for prospective students (2016-2018)
- Fulbright Application Interviewer for Undergraduate Applicants (2015-2016)
- Representative (stand-in replacement) for A&S Directors of Graduate Studies (2014-15)

Service to the Profession:

- Convener for American Geophysical Union 2018 joint session, title: IN33B: Boundaries, Buildings, and 'Burbs: Foundational Geospatial Data to Support Sustainable Development, Geohealth, Hazard, and Climate Applications II Posters, December 2018. Washington, D.C.
- Convener for American Geophysical Union 2018 joint session, title: IN44A: Boundaries, Buildings, and 'Burbs: Foundational Geospatial Data to Support Sustainable Development, Geohealth, Hazard, and Climate Applications I, December 2018. Washington, D.C.
- Co-Organizer for American Association of Geographers 2018 joint session, Series title: High resolution population modeling. Paper sessions, April 2018. New Orleans, LA.
- **Reviewer for** *International Journal of Digital Earth*, *International Journal of Remote Sensing*, *American Naturalist*, *Population Health Metrics*, *Remote Sensing of Environment*, *PLOS ONE*, *Ambio*, *Big Data and Cognitive Computing*

Other Service, Professional Activities, and Collaborations:

- Invited presenter at Knight Middle School, "Science in the Community" (2018)
- **University of Florida Land Use and Environmental Change Institute (LUECI)**, collaborative research
- **NSF Professional Development "I³" Grant, Graduate Student Advisory Committee**, term 2010-2011
- **University of Florida, Graduate Student Council**, term 2007-2008
- **University of Florida, Geography Department Graduate Faculty Representative**, term 2007-2008
- **Graduate Student Senior Seminar Panelist**, University of Florida Department of Geography
- **Competitive Club Soccer Coach, National "D" License**, Leg-A-Z Sports Academy, Gainesville, Florida

LANGUAGES STUDIED

- **German** – intermediate knowledge

- **Spanish** – beginner knowledge

METRICS AND PROFILES

- [Research Gate](#)
- [ORCID](#)
- [Google Scholar](#)
- [Academia.edu](#)
- [Impactstory.org](#)
- [Mendeley \(Elsevier\)](#)