

Josh Perlman

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SUMMARY

Geographer specializing in geoinformatics, including GIS, remote sensing, and related computer programming, with applied research specialties in agricultural and environmental modeling. Use simulation modeling, machine learning, and geospatial analysis to study greenhouse gas emissions from agriculture, classification of global fires from satellite data, and crop yields. Strive for high proficiency in both proprietary and open source geospatial solutions, with a focus on flexible, automated data processing and analysis.

EDUCATION

PhD Geography, University of California, Davis, June 2013
BS Natural Resources, Cornell University, May 2007 (*Summa Cum Laude*)

TECHNICAL PROFICIENCIES

GIS: ArcGIS 9.x/10.x, gdal and OGR (primarily in R with rgdal)

Remote Sensing: ENVI, R raster package

Spatial Analyses: geostatistics, point patterns, autoregressive models, geographically weighted regression (primarily in R)

Programming: Python, C, R

Machine Learning: Random Forest

PROFESSIONAL EXPERIENCE

UNIVERSITY OF CALIFORNIA, Davis, CA

Graduate Student Researcher 10/2008 – 6/2012

Vector and raster GIS data processing with R and ArcGIS for a California Energy Commission-funded study on agriculture and climate change in California. Modeled greenhouse gas emissions from agriculture at the national scale using the Denitrification-Decomposition (DNDC) model with a wide variety of GIS data, including weather and land use data, in studies funded by the Natural Resources Defense Council and the J.G. Boswell Foundation. Work from this position has resulted in several papers that have been or will be submitted to peer-reviewed journals, as well as several professional conference presentations.

Teaching Assistant, Applied Research Methods 1/2011-3/2011

Developed content for and led weekly discussion sections for 40 students to review core research concepts and expand on class lecture material. Assisted students individually with papers and homework assignments. Graded homework and exams.

UNITED STATES GEOLOGICAL SURVEY, Menlo Park, CA

Contractor 7/2010-8/2010

Wrote research report on scenario analysis for developing land use and land cover change projections, the results of which are used by USGS and other federal agencies for climate change modeling.

CLIMATE ACTION RESERVE, Los Angeles, CA

Program Assistant 8/2007-8/2008

Supported voluntary reporting and verification of greenhouse gas emissions for large corporations, government agencies, small businesses, and NGOs, by providing group trainings and individual guidance on emissions reporting and verification protocols. Supported the launch of the Climate Action Reserve's offsets registry, including initial development of operating procedures.

AWARDS

Received over \$90,000 in funding for research and education from various awards:

Provost's Dissertation Year Fellowship • Geography Graduate Group Fellowships • Jastro Shields Fellowships • NSF Research Experience for Undergraduates (REU) grant

PUBLICATIONS

Haden V.R., A.D. Hollander, **J. Perlman**, T. O'Geen, L.E. Jackson. A geospatial index of vulnerability to climate, urbanization and socioeconomic risks for California agriculture. In prep.

Haden V.R., M.T. Niles, M. Lubell, **J. Perlman**, L.E. Jackson. Global and local concerns: What motivates farmers to mitigate and adapt to climate change? Submitted to PLoS One in July 2012.

Perlman, J., R. Hijmans, and W. Horwath. A metamodeling approach to estimate N₂O emissions from agricultural soils. In prep.

Perlman, J., R. Hijmans, and W. Horwath. Estimating N₂O emissions for large regions with the DNDC model. In prep.

PROFESSIONAL PRESENTATIONS

- Haden V.R., A.D. Hollander, **J. Perlman**, T. O'Geen, L.E. Jackson. (2012) A geospatial index of vulnerability to climate, urbanization and socioeconomic risks for California agriculture. Poster presented at the AAAS Conference, February 16, 2012, Vancouver, BC, Canada.
- Haden V.R., **J. Perlman** (2012) The California Agricultural Vulnerability Index: A tool for climate change adaptation and land use planning. Oral presentation given at the Western Cooperative Soil Survey and Western Soil Science Society of America Conference, June 26, 2012, Davis CA, USA
- Haden V.R., M.T. Niles, M. Lubell, **J. Perlman**, L.E. Jackson (2012) Global and local concerns: What motivates farmers' to mitigate and adapt to climate change? (2012) Paper presented at the Midwest Political Science Association Annual Conference, April 13, 2012, Chicago, IL, USA.
- Niles, M.T., V.R. Haden, M. Lubell, **J. Perlman**, L.E. Jackson. (2012) Farmer perspectives on global and local climate change: How beliefs and attitudes affect mitigation and adaptation behavior. Poster presented at the AAAS Conference, February 16, 2012, Vancouver, BC, Canada.
- Niles, M.T., V.R. Haden, M. Lubell, **J. Perlman**, L.E. Jackson. (2012) Farmer perspectives on global and local climate change: How beliefs and attitudes affect mitigation and adaptation behavior. Poster presented at the Planet Under Pressure Conference, March 26, 2012, London, England.
- Perlman, J.**, R. Hijmans, and W. Horwath (2012) Estimating N₂O emissions from US corn production with the DNDC model. Poster presented at the Association of American Geographers Annual Meeting, February 25, 2012, New York, NY.
- Perlman, J.**, R. Hijmans, and W. Horwath (2012) Estimating N₂O emissions from US maize production with the DNDC Model. Paper presented at the California Geographical Society Annual Meeting, April 28, 2012, Davis, CA.