

Curriculum Vitae

LAURA C. BOWLING

Assistant Professor

Department of Agronomy

Purdue University, West Lafayette, IN 47906

Phone: (765) 494-8051 Fax: (765) 496-2926 E-mail: bowling@purdue.edu

Education

Ph.D., Civil and Environmental Engineering, University of Washington, 2002

M.S.C.E., Civil and Environmental Engineering, University of Washington, 1997

B.S.E., Civil Engineering and Operations Research, Princeton University, 1993

Teaching/Research Activities

Hydrometeorology/hydroclimatology and hydrologic modeling from field to continental scales; water quality, primarily nutrient and sediment transport; hydrologic model development with respect to improved physical process representation; hydrologic impacts of land use and climate change; assessment of best management practices to minimize stormwater runoff; hydroinformatics and time series statistics; and application of remote sensing in hydrologic modeling.

Funded Research Projects (Current)

Lettenmaier, D.P., **L.C. Bowling** and K. McDonald, Diagnosis and prognosis of effects of changes in lake and wetland extent on the regional carbon balance of northern Eurasia, NASA, 02/01/2005 – 01/31/2006, \$35,434 (Purdue subcontract to UW).

Wood, E.F., **L.C. Bowling** and A. Oltchev, An integrated understanding of the terrestrial water and energy cycles across the NEESPI domain through observations and modeling, NASA, 09/01/2006 – 09/31/2008, \$194,166 (Purdue subcontract to Princeton).

Frankenberger, J., E. Kladviko, J. Lowenboerg-DeBouer, S. Brouder, and **L.C. Bowling**, Drainage water management impacts on nitrate load, soil quality and farm profitability in a Midwestern watershed, USDA Cooperative State Research Service, 09/15/2004 – 09/14/2007, \$580,000.

Bowling, L.C., K. Cherkauer, D. Niyogi and B. Pijanowski, Multisensor/multiscale assessment of urban impacts in the Great Lakes region, NASA LCLUC Program, 09/15/2006 – 09/14/2009, \$580,000.

Experience

Assistant Professor, January 2004-present, Department of Agronomy, Purdue University, West Lafayette.

Research Scientist, August 2002-April 2003, Department of Civil and Environmental Engineering, University of Washington, Seattle.

Graduate Research Assistant/Graduate Fellow, August 1995 – July 2002, Department of Civil and Environmental Engineering, University of Washington, Seattle.

Professional Affiliations

Member, American Society of Agricultural and Biological Engineers, Soil Science Society of America, American Geophysical Union, Indiana Water Resources Association

Honors/Awards/Synergistic Activities

- Essential Science Indicators, New Hot Paper, 2004
- Seventh Annual ARCUS Award for Arctic Research Excellence, Honorable Mention, 2003
- NASA Earth System Science Fellowship, 1997 – 2000

- Valle Graduate Fellowship, 1995
- Peer-reviewer for several journals – Journal of Hydrometeorology, International Journal of Remote Sensing, Journal of Environmental Engineering, Journal of Environmental Management, Journal of Geophysical Research, Geomorphology, Global Change Biology, Journal of Hydrology, Water Resources Research
- Peer-reviewer for agency proposals – NASA, NSF

PUBLICATIONS

Refereed (last four years, out of total 13 refereed journal articles):

1. **Bowling, L.C.**, D.L. Kane, R.E. Gieck, L.D. Hinzman and D.P. Lettenmaier, 2003, The role of surface storage in a low-gradient arctic watershed, *Water Resources Research*, vol.39, NO.4, 1087-1099, doi:10.1029/2002WR001466.
2. **Bowling, L.C.**, D.P. Lettenmaier, B. Nijssen, L.P. Graham, D.B. Clark, M. El Maayar, R. Essery, S. Goers, Y.M. Gusev, F. Habets, B. van den Hurk, J. Jin, D. Kahan, D. Lohmann, X. Ma, S. Mahanama, D. Mocko, O. Nasonova, G.Y. Niu, P. Samuelsson, A.B. Shmakin, K. Takata, D. Verseghy, P. Viterbo, Y. Xia, Y. Xue, Z.L. Yang, 2003, Simulation of high latitude hydrological processes in the Torne-Kalix basin, PILPS Phase 2e, 1: Experiment description and summary intercomparisons, *Journal of Global and Planetary Change*, 38(1-2), 1-30.
3. Nijssen, B., **L.C. Bowling**, D.P. Lettenmaier, D.B. Clark, M. El Maayar, R. Essery, S. Goers, Y.M. Gusev, F. Habets, B. van den Hurk, J. Jin, D. Kahan, D. Lohmann, X. Ma, S. Mahanama, D. Mocko, O. Nasonova, G.Y. Niu, P. Samuelsson, A.B. Shmakin, K. Takata, D. Verseghy, P. Viterbo, Y. Xia, Y. Xue, and Z.L. Yang, 2003, Simulation of high latitude hydrological processes in the Torne-Kalix basin: PILPS Phase 2(e) 2: Comparison of model results with observations, *Journal of Global and Planetary Change*, 38(1-2), 31-53.
4. **Bowling, L.C.**, D.P. Lettenmaier, B. Nijssen, J. Polcher, R.D. Koster and D. Lohmann, 2003, Simulation of high latitude hydrological processes in the Torne-Kalix basin: PILPS Phase 2(e) 3: Equivalent model representation and sensitivity experiment, *Journal of Global and Planetary Change*, 38(1-2), 55-71.
5. Cherkauer, K. A., **L. C. Bowling** and D. P. Lettenmaier, 2003, Variable Infiltration Capacity (VIC) Cold Land Process Model Updates, *Journal of Global and Planetary Change*, 38(1-2), 151-159.
6. **Bowling, L.C.**, J.W. Pomeroy and D.P. Lettenmaier, 2004. Parameterization of blowing snow sublimation in a macroscale hydrology model, *Journal of Hydrometeorology*, 5(5).
7. Su, F., J.C. Adam, **L.C. Bowling**, and D.P. Lettenmaier, 2005, Streamflow Simulations of the Terrestrial Arctic Domain , *Journal of Geophysical Research*, 110, D08112, doi:10.1029/2004JD005518.
8. Doten, C.O., **L.C. Bowling**, E.P. Maurer, J.S. Lanini and D.P. Lettenmaier, 2005, A spatially distributed model for the dynamic prediction of sediment erosion and transport in mountainous forested watersheds, *Water Resources Research*, Vol. 42, No. 4, W0441710.1029/2004WR003829.

Technical Papers/Proceedings (Last four years, out of total 10 non-refereed publications):

1. Kane, D.L., R.E. Gieck and **L.C. Bowling**, 2003, Impacts of Surficial Permafrost Landforms on Surface Hydrology. Proceedings: 8th International Conference on Permafrost, Zurich, Switzerland.
2. Frankenberger, J. E. Kladvko, J. Gutwein, R. Adeuya, **L. Bowling**, B. Carter, S. Brouder, J. Lowenberg-DeBoer and J. Brown, 2005, On-farm monitoring to assess the impacts of drainage water management, Paper No. 052027, Tampa, Florida: ASABE Annual International Meeting.
3. Goss, A. M., **L. Bowling**, J. Harbor. Assessing the Historical Impacts of Landscape Transformation on Water Fluxes. Proceedings of American Water Resources Association Spring Specialty Conference: Geographic Information Systems and Water Resources IV, Houston, TX, May 2006.
4. Ale, S., **Bowling, L. C.**, Brouder, S. M. and Frankenberger, J.R. 2006. Simulating the effects of drainage water management using DRAINMOD. ASABE Paper No. 062313. St. Joseph, Mich.: ASABE Annual International Meeting.
5. Frankenberger, J.R., E. Kladvko, R. Adeuya, **L. Bowling**, B. Carter, S. Brouder, J. Lowenberg-DeBoer, and J. Brown. 2006. Drainage water management impacts on nitrate load, soil quality, and crop yield. Proc. Innovations in Reducing Nonpoint Source Pollution Conf., Nov. 28-30, Indianapolis, Indiana.