

Charles N. Kroll, PhD, PE
Professor
Environmental Resources Engineering
SUNY College of Environmental Science and Forestry
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EDUCATION

- **Cornell University**, School of Civil and Environmental Engineering.
Doctor of Philosophy in Civil Engineering (Environmental and Water Resource Systems Engineering). January 1996.
Thesis Title: Censored Data Analyses in Water Resources.
Major Professor: Dr. Jery Stedinger
Minor Professors: Dr. Wilfried Brutsaert
Dr. Michael Walters

- **Tufts University**, Department of Civil and Environmental Engineering.
Master of Science in Civil Engineering. August 1989.
Thesis Title: Estimation and Usage of Baseflow Recession Constants.
Major Professor: Dr. Richard Vogel
Minor Professors: Dr. Linfield Brown
Dr. Jack Ridge

- **Tufts University**, Department of Mechanical Engineering. Bachelor of Science in Mechanical Engineering. May 1987. Graduated Magna Cum Laude.

PROFESSIONAL EXPERIENCE

- **Chair**, Environmental Resources and Forest Engineering, SUNY College of Environmental Science and Forestry, Syracuse, NY, 2008 - 2011.

- **Professor**, Environmental Resources and Forest Engineering, SUNY College of Environmental Science and Forestry, Syracuse, NY, 2009 - present.

- **Associate Professor**, Environmental Resources and Forest Engineering, SUNY College of Environmental Science and Forestry, Syracuse, NY, 2002 - 2009.

- **Visiting Scientist**, National Institute of Water & Atmospheric Research Limited (NIWA), Christchurch, New Zealand, Spring 2006.

- **Assistant Professor**, Environmental Resources and Forest Engineering, SUNY College of Environmental Science and Forestry, Syracuse, NY, 1996 - 2002.

- **Lecturer**, School of Civil and Environmental Engineering, Cornell University, Ithaca, NY, 1995 - 1996.

- **Teaching Assistant**, School of Civil and Environmental Engineering, Cornell University, Ithaca, NY, 1991 - 1995.
- **Instructor**, School of Civil and Environmental Engineering, Cornell University, Ithaca, NY, Summer 1992, 1994, and 1996.
- **Consultant**, Cornell Information Technologies, Cornell University, Ithaca, NY, 1992.
- **Staff Engineer and Staff Hydrologist**, GZA GeoEnvironmental Technologies, Inc., Newton Upper Falls, MA, 1989 - 1991.
- **Research Assistant**, Civil and Environmental Engineering Department, Tufts University, Medford, MA, 1987 -1989.

TEACHING AND ACADEMIC HONORS

- **SUNY Chancellor's Award for Excellence in Teaching**, 2014.
- **Tufts University Department of Civil and Environmental Outstanding Achievement Award**, 2010.
- **ESRI Award for Best Scientific Paper in Geographic Information Systems**, 1st Place, ASPRS, 2007.
- **ESF Foundation Award for Exceptional Achievement in Teaching**, SUNY College of Environmental Science and Forestry, 2004.
- **Excellence in Teaching Award**. School of Civil and Environmental Engineering, Cornell University, Award given for continued excellence as a teaching assistant, 1994 academic year.
- **John Perry Award for Teaching**. School of Civil and Environmental Engineering, Cornell University, Award given to best teaching assistant in department, 1993.
- **Employee Commendation Award**, GZA GeoEnvironmental Technologies, Inc., Award given for developing new soil vapor extraction modeling protocols and promotional materials, 1990.

MEMBERSHIPS AND CERTIFICATIONS

- Certified Professional Engineer, New York State, License Number 082971, 2005.
- Chair of the SUNY ESF Campus Review Committee (CRC) for Tenure and Promotion, 2015 – 2017.
- Study Area Leader, Graduate Program in Environmental Science, Environmental Monitorings and Modeling, 2012 – 2017.

- ERE Representative to SUNY ESF CRC, 2011 – 2017.
- Chair of ERE Department Review Committee for Tenure and Promotion, 2011 – 2017.
- Associate Editor, Water Resources Research, 2003 - 2005.
- Undergraduate Curriculum Coordinator, Environmental Resources and Forest Engineering, SUNY ESF, 2006 – 2009.
- Member of International Association of Hydrological Sciences (IAHS) working group on Low Streamflow Prediction at Ungauged Basins (PUBs), 2006 – 2013.
- Member of IAHS Panta Rhei working group on Anthropogenic and Climatic Controls on Water Availability (ACCuRAcY), 2015 – 2018.
- SUNY ESF Representative, Consortium of Universities to Advance Hydrologic Science, Inc. (CUAHSI), 2004 – 2007.
- Advisor Forest Engineering Club, SUNY ESF, 2000-2009.
- Board of Directors, Cayuga Lake Watershed Network, 2007 – 2008.
- Reviewer for Water Resources Research, Journal of Hydrology, Journal of Hydrologic Engineering, Journal of Water Resources Planning and Management, Advances in Water Resources, Canadian Water Resources Journal, Environmental Protection Agency, Department of Agriculture, and National Science Foundation.
- Member United States Hydrologic Frequency Analysis Work Group.
- Member of the American Society of Civil Engineers (ASCE).
- Member of the American Geophysical Union (AGU).
- Member of Tau Beta Pi (national engineering honor society).
- Member of the Graduate Program in Environmental Studies: Environmental Systems and Risk Management Group and Water and Wetland Resource Group, SUNY ESF
- Passed OSHA 40-hour hazardous waste health and safety training course.

FUNDED RESEARCH (only primary Principal Investigator awards listed)

A Decision Support System to Develop, Analyze, and Optimize Urban and Community Forests, \$285,340, Role: Principle Investigator, Collaborators: Ted Endreny, SUNY ESF, Dave Nowak, USDA Forest Service, and Scott Maco, Davey Tree, USDA Forest Service, US Department of Agriculture Forest Service National Urban and Community Forest Program, 2016-2019.

A New i-Tree Tool for Assessment Forest Impacts on Urban Ecosystems, \$257,183, Role: Principle Investigator, Collaborators: Ted Endreny, SUNY ESF, and David Nowak, USDA Forest Service, US Department of Agriculture Forest Service National Urban and Community Forest Program, 2011-2015.

An Evaluation of Permeable Pavement, \$69,894, Role: Principle Investigator, National Grid, 2012 – 2014.

SUNY ESF Information Technology, \$238,000, Role: Principle Investigator, US Department of Education, 2009-2010.

Urban Forest Spatial Modeling, \$75,000, USDA Forest Service, Role: Principle Investigator, Collaborator: Dr. David Nowak, USDA Forest Service, 2007-2011.

Consumptive Use Mitigation Plan, \$36,926, Susquehanna River Basin Commission (SRBC), Role: Principle Investigator, Collaborator: Dr. Zhenxing Zhang, SRBC, 2007.

Improving the Estimation of Low Streamflow Statistics at Ungauged River Sites, \$87,000, USDA Career Enhancement Award, Role: Principle Investigator, 2005-2007.

An Assessment of New Advances in Low Streamflow Estimation and Characterization, \$155,000, United States Geological Survey (USGS), Role: Principle Investigator, USGS, 2004 – 2006.

The Impact of Forest Management on Hydrology and Biogeochemistry, \$72,000, United States Department of Agriculture (McIntire-Stennis), Role: Principle Investigator, Collaborators: Elizabeth Boyer and Myron Mitchell, SUNY ESF, 2001 -2004.

A National Assessment of Low Streamflow Estimation Methodology, \$363,000, Role: Principle Investigator, Collaborator: Rich Vogel, Tufts University, United States Environmental Protection Agency and National Science Foundation 1999 – 2003.

The Development of a Regionalized Approach to Estimate Low Streamflow Frequency at Ungauged River Sites in the Northeastern United States, \$41,000, USGS Water Resources Institute, 1997-1999.

The Effect of Forest Harvesting on Streamflow Generation and Water Quality in a Catskill Mountain Watershed, \$72,000, USDA-CSREES/McIntire Stennis Program, Role: Principle Investigator, Collaborator: Dr. Jeffrey McDonnell, SUNY ESF (now of Oregon State University), 1997-2000.

PUBLISHED WORK

Books

Salas, J.D., Kroll, C.N., Cancelliere, A., Bonifacio, F., Raynal, J.A. and Lee, R.R. (2019). Low Flows and Droughts, Chapter 8, in *Statistical Analysis of Hydrologic Variables: Methods and Applications*, eds. Teegavarapu, R.S.V., Salas, J.D., and Stedinger, J.R., American Society of Civil Engineering.

Laaha, G., Hisdal, H., Kroll, C.N., van Lanen, H.A.J., Sauquet, E., Tallaksen, L.M., Woods, R. and Young A. (2013). Prediction of low flows at ungauged basins, Ch. 8 of *Runoff Prediction in Ungauged Basins: Synthesis across Processes, Places and Scales*, eds. Blöschl, G., M. Sivapalan, T. Wagener, and A. Viglione, Cambridge University Press, pp. 163-188.

Kroll, C.N. (2005). Modeling recession curves and low streamflows, in Part 11: Rainfall-Runoff Modelling, *Encyclopedia of Hydrological Sciences*, M.G. Anderson and J.J. McDonnell editors, John Wiley & Sons, Inc., Hoboken, NJ.

Journal Publications

Vogel, R.M. and Kroll, C.N. (2019). Nonstationary or Stationary Frequency Analysis, *Water Resources Research*, being revised for resubmission.

Lin, J. and Kroll, C.N. (2019). Ecosystem service-based sensitivity analyses of i-Tree Eco, *Arboriculture & Urban Forestry*, revised and resubmitted May 2019.

Nyelele, C. and Kroll, C.N. (2019). The equity of urban forest ecosystem services and benefits in the Bronx, NY, *Ecosystem Services*, submitted May 2019.

Hecht, J.S., Vogel, R.M., McManamay, R.A., Kroll, C.N. and Reed J.M. (2019). Decision trees for hypothesis tests of hydrologic alteration for hydropower-ecosystems, *Journal of Water Resources Planning and Management*, accepted with minor revisions June 2019.

Bhatti, S.J., Kroll, C.N. and Vogel, R.M. (2019). Another look at the probability distribution of low streamflow series in the United States, *Journal of Hydrologic Engineering*, accepted May 2019.

Lin, J., Kroll, C.N., Nowak, D.J. and Greenfield, E.J. (2019). A review of urban forest modeling: implications for management and future research, *Urban Forestry & Urban Greening*, accepted May 2019.

Nyelele, C., Kroll, C.N. and Nowak, D.J. (2019). Present and future ecosystem services of trees in the Bronx, NY, *Urban Forestry & Urban Greening*, 42, 10-20, <https://doi.org/10.1016/j.ufug.2019.04.018>.

Roodsari, B.K., Chandler, D.G., Kelleher, C. and Kroll, C.N. (2018). A comparison of SAC-SMA and Adaptive Neuro-fuzzy Inference System for real-time flood forecasting in small urban catchments, *Journal of Flood Risk Management*, <https://doi.org/10.1111/jfr3.12492>.

Stagnitta, T.J., Kroll, C.N. and Zhang Z. (2018). A comparison of methods for low streamflow estimation from spot measurements, *Hydrologic Processes*, 32(4), 480-492.

Bodnaruk, E.W., Kroll, C.N., Yang, Y., Hirabayashi, S., Nowak, D.J. and Endreny, T.A. (2017). Where to plant urban trees? A spatially explicit methodology to explore ecosystem service tradeoffs, *Landscape and Urban Planning*, 157, 457-467.

Allaire, M.C., Vogel, R.M. and Kroll C.N. (2015). The hydromorphology of an urbanizing watershed using multivariate elasticity, *Advances in Water Resources*, 86, 147-154.

- Kroll, C.N., Croteau, K.E. and Vogel, R.M. (2015). Hypothesis tests for hydrologic alteration, *Journal of Hydrology*, 530, 117-126.
- Cabaraban, M.T.I., Kroll, C.N., Hirabayashi, S. and Nowak, D.J. (2013). Modeling of air pollutant removal by dry deposition to urban trees using a WRF/CMAQ/i-Tree Eco coupled system, *Environmental Pollution*, 176, 123-133.
- Kroll, C.N. and Song, P. (2013). Impact of multicollinearity on small sample hydrologic regression models, *Water Resources Research*, 49, doi:10.1002/wrcr.20315.
- Thomas, B.F., Vogel, R.M., Kroll, C.N. and Famiglietti, J.S. (2013). Estimation of the base flow recession constant under human interference, *Water Resources Research*, 49(11), 7366-7379, DOI: 10.1002/wrcr.20532.
- Tao, W., Shi, S. and Kroll, C.N. (2013). Influences of wood preservation, lumber size, and weather on field leaching of red pine lumber, *Journal of Hazardous Materials*, 260, 296-304, DOI: 10.1016/j.jhazmat.2013.05.006.
- Matonse, A.H. and Kroll, C.N. (2013). Applying hillslope-storage models to simulate low streamflow at a watershed scale, *Journal of Hydrology*, 494, 20-31.
- Hirabayashi, S., Kroll, C.N. and Nowak, D.J. (2012). Development of a distributed air pollutant dry deposition modeling framework, *Environmental Pollution* 171, 9–17.
- Hirabayashi, S., Kroll, C.N. and Nowak, D.J. (2011). Component-based development and sensitivity analyses of an air pollutant dry deposition model, *Environmental Modeling and Software*, 26(6), 804-816.
- Lyons, R.P., Kroll, C.N. and Scholz, C.A. (2011). An energy-balance hydrologic model for the Lake Malawi Rift Basin, East Africa, *Global and Planetary Change*, 75(1-2), 83-97.
- Gao, Y, Vogel, R.M., Kroll, C.N., Poff, N.L. and Olden, J.D. (2009). Development of representative indicators of hydrologic alteration, *Journal of Hydrology*, 374, 136-147.
- Matonse, A.H. and Kroll, C.N. (2009). Simulating low streamflows with hillslope-storage models, *Water Resources Research*, 45, W01407, doi:10.1029/2007WR006529.
- Zhang, Z. and Kroll, C.N. (2007). The baseflow correlation method with multiple gauged sites, *Journal of Hydrology*, 347(3-4), 371-380.
- Zhang, Z. and Kroll, C.N. (2007). A Closer Look at Baseflow Correlation, *Journal of Hydrologic Engineering*, ASCE, 12(2): 190-196.
- Wechsler, S.P. and Kroll, C.N. (2006). Quantifying DEM Uncertainty And Its Effect On Topographic Parameters, *ASPRS Journal*, 72(9): 1081-1090.

- Hirabayashi, S. and Kroll, C.N. (2006). Automating regional descriptive statistic computations for environmental modeling, *Computers & Geosciences*, 33(4): 457-464.
- Kroll, C.N., Luz, J.G., Allen, T.B. and Vogel, R.M. (2004). Developing a watershed characteristics database to improve low streamflow prediction, *Journal of Hydrologic Engineering*, ASCE, 9(2): 116-125.
- Kroll, C.N. and Vogel, R.M. (2003). Closure to "Probability Distribution of Low Streamflow Series in the United States" by Charles N. Kroll and Richard M. Vogel, *Journal of Hydrologic Engineering*, 8(5): 297-298.
- Reilly, C.F. and Kroll, C.N. (2003). Estimation of 7-day, 10-year low-streamflow statistics using baseflow correlation, *Water Resource Research*, 39(9): 1236.
- Douglas, E.M., Vogel, R.M. and Kroll, C.N. (2002). Impact of streamflow persistence on hydrologic design, *Journal of Hydrologic Engineering*, ASCE, 7(3): 220-227.
- Kroll, C.N. and Vogel, R.M. (2002). The probability distribution of low streamflow series in the United States, *Journal of Hydrologic Engineering*, ASCE, 7(2): 137-146.
- Welsch, D.L., Kroll, C.N., McDonnell, J.J. and Burns, D.A. (2001). Topographic controls on the chemistry of subsurface stormflow, *Hydrologic Processes*, 15(10): 1925-1937.
- Douglas, E.M., Vogel, R.M. and Kroll, C.N. (2000). Trends in floods and low flows in the United States: impact of spatial correlation, *Journal Of Hydrology*, 240(1-2): 90-105.
- Kroll, C.N. and Stedinger, J.R. (1999). Development of Regional Regression Relationships with Censored Data, *Water Resources Research*, 35(3): 775-784.
- Kroll, C.N. and Stedinger, J.R. (1998). Regional hydrologic analysis: Ordinary and generalized least squares revisited, *Water Resources Research*, 34(1): 121-128.
- Kroll, C.N. and Stedinger, J.R. (1996). Estimation of Distributional Moments and Quantiles for Censored Data, *Water Resources Research*, 32(4): 1005-1012.
- Vogel, R.M. and Kroll, C.N. (1996). Estimation of Baseflow Recession Constants, *Water Resources Management*, 10: 303-320.
- Vogel, R.M. and Kroll, C.N. (1992). Regional Geohydrologic-Geomorphic Relationships for the Estimation of Low-Flow Statistics, *Water Resources Research*, 28(9): 2451-2458.
- Vogel, R.M. and Kroll, C.N. (1991). The Value of Streamflow Record Augmentation Procedures In Low-Flow and Flood-Flow Frequency Analysis, *Journal of Hydrology*, 125: 259-276.
- Vogel, R.M. and Kroll, C.N. (1990). Generalized Low-Flow Frequency Relationships For Ungaged Sites, *Water Resources Bulletin*, 26(2): 241-253.

Vogel, R.M. and Kroll, C.N. (1989). Low Flow Frequency Analysis Using Probability Plot Correlation Coefficients, *Journal of Water Resource Planning and Management*, 115(3): 338-357.

Conference Publications

Song, P, and Kroll, C.N. (2011). The Impact of Multicollinearity on Hydrologic Regional Regression Models, EWRI Proceedings, Palm Springs, CA, 2011.

Hirabayashi, S., Kroll, C.N., and Nowak, D. (2011). Urban Forest Effects-Dry Deposition (UFORE-D), www.itreetools.org, <http://itreetools.org/eco/resources/UFORE%20Model%20Descriptions%20V1%201.pdf>.

Ng, M, Vogel, R.M, and Kroll, C.N. (2010). Multivariate Non-stationary Stochastic Streamflow Models for Two Urban Watersheds, EWRI, Environmental and Water Resources Congress, May 2010, Providence, R.I.

Laaha, G., Saquet, E., Hisdal, H., Kroll, C.N., van Lanen, H.A.J., Tallaksen, L.M., and Woods, R. (2010). FRIEND's contribution to the PUB Benchmark Assessment Report on low flow estimation. In: *Global Change: Facing Risks and Threats to Water Resources* (Proc. of the Sixth World FRIEND Conference, Fez, Morocco, October 2010), IAHS Publ. 340, 54-60.

Kroll, C.N., and Vogel, R.M. (2002). A National Assessment of Low-Streamflow Estimation Using a Physically Based Statistical Methodology: A Review of Recent Findings and New Directions, in proceedings of the 2002 ASCE Environmental and Water Resources Institute (EWRI) conference, Roanoke, Virginia.

Reilly, C.F., and Kroll, C.N. (2002). Estimation of Low Flow Frequency Using Cross Correlation of Baseflow Measurements, in proceedings of the 2002 ASCE Environmental and Water Resources Institute (EWRI) conference, Roanoke, Virginia.

Luz, J.G., and Kroll, C.N. (2002). Principal Component Analysis Used for Interpreting Watershed Characteristics for Using in Low Flow Studies, in proceedings of the 2002 ASCE Environmental and Water Resources Institute (EWRI) conference, Roanoke, Virginia.

Allen, T.B., and Kroll, C.N. (2002). Effect of Spatial Data Resolution on the Ability of Regional Regression Models to Estimate Low-Flow Statistics, in proceedings of the 2002 ASCE Environmental and Water Resources Institute (EWRI) conference, Roanoke, Virginia.

Douglas, E.M., Vogel, R.M., and Kroll, C.N. (2001). Impact of Streamflow Persistence on Hydrologic Design, in proceedings of the 2001 ASCE World Water Congress, Orlando, Florida.

Kroll, C.N., and Luz, J.G., and Vogel, R.M. (2001). Development of a Watershed Characteristic Database: Investigating Improvements in Low Streamflow Prediction, in proceedings of the 2001 ASCE World Water Congress, Orlando, Florida.

Kroll, C. N., and Stedinger, J.R. (1994). Low-Flow Frequency Analysis with Censored Data, Proceeding of the ASCE Water Resources Planning and Management Division Conference, Denver, Colorado.

Vogel, R.M., and Kroll, C.N. (1989). Estimation of Baseflow Recession Constants, Recent Advances in the Modeling of Hydrologic Systems, D.S. Bowles and P.E. O'Connell, eds., D. Reidel Publishing Co., Dordrecht, Holland.

Vogel, R.M., Kroll, C.N., and Driscoll, K.M. (1989). Regional Geohydrologic-Geomorphic Relationships For The Estimation of Low-Flows, Proceeding of the International Conference on Channel Flow and Catchment Runoff, Charlottesville, VA.

Reports

Gilbert, D.G., Hassett, J.M., and Kroll, C.N. (2001). *An Operational Model of the Seneca River Section of the New York State Canal System*, prepared for the New York State Canal Corporation, Syracuse, New York.

Kroll, C.N. (1998). *An Economic Analysis of Disinfection Alternatives at the Ithaca Wastewater Treatment Plant*, prepared for the Ithaca Wastewater Treatment Plant, Ithaca, New York.

CONFERENCES

Sessions Convened

New Methods for Hydrologic Drought Characterization, Prediction, and Assessment, Fall AGU Meeting, San Francisco, California, December 2018.

Sociohydrology: Modeling Feedbacks in Complex Coupled Natural Human Water Systems, Fall AGU Meeting, San Francisco, California, December 2015.

Urban Ecosystem Services: Monitoring, Modeling, and Management, Fall AGU Meeting, San Francisco, California, December 2015.

Regional Flood Frequency and the Hydrology of Extreme Events, Fall AGU Meeting, San Francisco, California, December 2000.

Hydrologic Forecasting and Prediction, Spring AGU Meeting, Washington, D.C., May/June 2000.

Statistical Methodology in Hydrology, Fall AGU Meeting, San Francisco, California, December 1998.

Presentations

Kroll, C.N., Bhatti, S.J. and Vogel, R.M. (2018). Examination of Probability Distribution Fit to Low Streamflow Series in the United States, Fall AGU Meeting, Washington, D.C., December 10, 2018.

Kroll, C.N., Stagnitta, T.J., and Vogel, R.M. (2015). Use of spot measurements to improve the estimation of low streamflow statistics, Fall AGU Meeting, San Francisco, CA, December 12, 2015.

Allaire, M., Vogel, R.M., and Kroll, C.N. (2014). The Hydromorphology of an Urbanizing Watershed Using Multivariate Elasticity, Fall AGU Meeting, San Francisco, CA, December 18, 2014.

Kroll, C.N., and Metz, K.A. (2014). Hypothesis Test for Hydrologic Alteration, Fall AGU Meeting, San Francisco, CA, December 18, 2014.

Bodnaruk, E.W., Kroll, C.N., Endreny, T.A., Hirabayashi, H., Yang, Y. (2014). Hypothesis Test for Hydrologic Alteration, Fall AGU Meeting, San Francisco, CA, December 15, 2014.

Henry, N., Kroll, C.N., and Endreny, T.A. (2014). Predictions of Flow Duration Curve Shifts Due to Anthropogenic and Climatic Changes, Fall AGU Meeting, San Francisco, CA, December 18, 2014.

Kwon, P.Y.S., Endreny, T.A., Kroll, C.N., and Williamson, T. (2014). Modeling the Effects of Land Use and Climate Change on Streamflow in the Delaware River System, Fall AGU Meeting, San Francisco, CA, December 18, 2014.

Kroll, C.N., and Metz, K.A. (2014). Partial least squares regression to develop FDC's at ungaged river sites, CUAHSI UCAR Annual Conference, Tufts University, June 2014.

Kroll, C.N., and Endreny, T.A. (2013). A New i-Tree Tool for Assessing Forest Impacts on Urban Ecosystems, NUCFAC Board of Directors Meeting, Pittsburg, PA, November 2013.

Agyeman, F., Tao, W., and Kroll, C.N. (2013). Effects of Particle Size of Food Waste on Biogas Production and Digestate Dewaterability in Co-Digestion with Dairy Manure, Annual NYWEA Meeting, New York City, NY, February 2013.

Agyeman, F., Tao, W., and Kroll, C.N. (2013). Effects of Particle Size of Food Waste on Biogas Production and Digestate Dewaterability in Co-Digestion with Dairy Manure, Central Chapter of NYWEA Spring Meeting, April 2013

Agyeman, F., Tao, W., and Kroll, C.N. (2013). Effects of Particle Size of Food Waste on Biogas Production and Digestate Dewaterability in Co-Digestion with Dairy Manure, SUNY Brockport Masters Level Graduate Research Conference, April 2013.

- Kroll, C.N. (2012). Hydromorphology and Sociohydrology: Water, People, and the Shape of Our Future, SUNY ESF Hydrology and Biogeochemistry Seminar, March 2012.
- Kroll, C.N., Isla-Cabaraban, M.T., Nowak, D., Hirabayashi, H., and Endreny, T. (2011). Modeling of Air Pollutant Removal by Urban Trees Using a WRF/CMAQ/i-Tree Coupled System, Fall AGU Meeting, San Francisco, CA, December 2011. ^[L]_[SEP]
- Hirabayashi, S., Nowak, D., Endreny, T.A., Kroll, C.N., and Maco, S. (2011). i-Tree: Tools to assess and manage structure, function, and value of community forests, Fall AGU Meeting, San Francisco, CA, December 2011. ^[L]_[SEP]
- Shi, S., Tao, W., and Kroll, C.N. (2011). Field-scale leaching of heavy metals from preservative treated wood, NYWEA 83rd Annual Meeting & Exhibition, New York, NY, February 2011.
- Shi, S., Tao, W., and Kroll, C.N. (2011). Copper leaching from preservative-treated wood, NSF CMMI Research and Innovation Conference 2011, Atlanta, GA, January 2011.
- Laaha, G., Saquet, E., Hisdal, H., Kroll, C.N., van Lanen, H.A.J., Tallaksen, L.M., and Woods, R. (2010). FRIEND's contribution to the PUB Benchmark Assessment Report on low flow estimation. Sixth World FRIEND Conference, Fez, Morocco, October 2010.
- Kroll, C.N., (2009). Low streamflow prediction at ungauged river sites: How best to use a small quantity of streamflow data, Fall AGU Meeting, San Francisco, CA, December, 2009.
- Sheng, Y., Li, J., Luo, J. Kroll, C.N., Yao, T., Wu, Y., and Li, X. (2009). Satellite-observed Regional-scale assessment of Lake Dynamics across the Tibetan Plateau, Fall AGU Meeting, San Francisco, December 2009.
- Matonse, A.H., and Kroll, C.N. (2009). Applying hillslope models at a watershed scale. Spring AGU Joint Assembly, Toronto, Canada, May 2009.
- Sheng, Y, Shah, C.A., Smith, L.C., Kroll, C.N., Yao, T, Wu, Y, Li, X. (2008). Shrinkage of Paleo Tibetan Lakes Identified from High-Resolution Satellite Imagery, American Association of Geographers (AAG) Meeting, San Francisco, December 2008.
- Gao, Y., Vogel, R.M., Kroll, C.N., Poff, N.L., and Olden, J.D. (2008). Development of Representative Indicators of Hydrological Alteration Using Principal Component Analysis, European Geophysical Union (EGU) Meeting, Vienna, Austria, April 2008. (EGU Young Scientist Outstanding Poster Presentation).
- Sheng, Y., Luo, J., Shah, C.A., Kroll, C.N., Li, X., Yao, T., and Wu, Y. (2007). Satellite-based Paleo and Recent Lake Changes across the Tibetan Plateau, Fall American Geophysical Union (AGU) Meeting, December 2007.

- Kroll, C.N., Zheng, Z., and Hirabayashi, S. (2007). Low streamflow prediction at ungaged river sites: how best to use a small quantity of streamflow data, Spring European Geophysical Union (EGU) Meeting, Vienna, Austria, April 2007.
- Ke, Y., Quackenbush, L., and Kroll, C.N. (2007). Forest Species Classification and Tree Crown Delineation Using Quickbird Imagery, ASPRS Annual Meeting, Tampa, FL, May 2007.
- Quackenbush, L., Ke, Y., and Kroll, C.N. (2007). Investigating New Advances in Forest Species Classification, ASPRS Annual Meeting, Tampa, FL, May 2007.
- Sheng, Y., Smith, L.C., Shah, C.A., Kroll, C.N., Yao, T., Wu, Y., and Li, X. (2007). Shrinkage of Paleo Tibetan Lakes Identified from High-Resolution Satellite Imagery, Annual Meeting of the Association of American Geographers (AAG), San Francisco, CA, April 2007.
- Sheng, Y., Smith, L.C., Shah, C.A., Kroll, C.N., Yao, T., Wu, Y., and Li, X.. (2007). Paleo Tibetan Lake Extent Mapping from High-Resolution Satellite Imagery and SRTM Digital Elevation Models, NASA Land-Cover and Land-Use Change Science Team Meeting, College Park, MD, April 2007.
- Sheng, Y., Shah, C.A., Smith, L.C., Kroll, C.N., Li, X., Wu, Y., Yao, T. (2006). Paleo Tibetan Lake Extent Mapping from High-Resolution Satellite Imagery and Digital Elevation Models: A Case Study of Dagze Lake, Fall American Geophysical Union (AGU) Meeting, San Francisco, CA, December 2006.
- Kroll, C.N. (2006). The Development of a new IAHS PUBs Working Group: Low Stream Flows and Hydrologic Drought, PUBs Meeting, Corvallis, OR, October 2006.
- Zhang, Z., and Kroll, C.N. (2006). Estimation of low streamflow statistics using baseflow correlation with multiple gauged sites, Spring American Geophysical Union (AGU) Meeting, Baltimore, MD, May 2006.
- Kroll, C.N., Zhang, Z., and Hirabayashi, S. (2005). A comparison of regional regression and baseflow correlation for estimating low streamflow statistics, Fall AGU meeting, San Francisco, California, December 2005.
- Matonse, A.H., and Kroll, C.N. (2005). Simulation of baseflow and low streamflow statistics using the SAC-SMA model and a SAC-SMA/Hillslope-Storage Boussinesq model, Fall AGU meeting, San Francisco, California, December 2005.
- Hirabayashi, S., and Kroll, C.N. (2005). Developing A Geospatial Data Model To Derive Watershed Characteristics For Low Streamflow Prediction, Spring AGU meeting, New Orleans, Louisiana, May 2005

- Zhang, Z., and Kroll, C.N. (2005). Estimation of Low Streamflow Statistics at Ungauged Sites Using Baseflow Correlation, Spring AGU meeting, New Orleans, Louisiana, May 2005.
- Kroll, C.N., and Luz, J.G. (2003). Use of Logit and Tobit Regression in Low Streamflow Modeling, Fall AGU meeting, San Francisco, California, December 2003.
- Kroll, C.N., and Zhang, Z. (2002). A Further Investigation of Baseflow Correlation to Estimation Low Streamflow Statistics at Ungauged River Sites, Fall AGU meeting, San Francisco, California, December 2002.
- Kroll, C.N., and Vogel, R.M. (2002). A National Assessment of Low-Streamflow Estimation Using a Physically Based Statistical Methodology: A Review of Recent Findings and New Directions, 2002 ASCE Environmental and Water Resources Institute (EWRI) conference, Roanoke, Virginia, May 2002.
- Reilly, C.F., and Kroll, C.N. (2002). Estimation of Low Flow Frequency Using Cross Correlation of Baseflow Measurements, 2002 ASCE Environmental and Water Resources Institute (EWRI) conference, Roanoke, Virginia, May 2002.
- Luz, J.G., and Kroll, C.N. (2002). Principal Component Analysis Used for Interpreting Watershed Characteristics for Using in Low Flow Studies, 2002 ASCE Environmental and Water Resources Institute (EWRI) conference, Roanoke, Virginia, May 2002.
- Allen, T.B., and Kroll, C.N. (2002). Effect of Spatial Data Resolution on the Ability of Regional Regression Models to Estimate Low-Flow Statistics, 2002 ASCE Environmental and Water Resources Institute (EWRI) conference, Roanoke, Virginia, May 2002.
- Kroll, C.N., and Luz, J.G., and Vogel, R.M. (2001). Development of a Watershed Characteristic Database: Investigating Improvements in Low Streamflow Prediction, 2001 ASCE World Water Congress, Orlando, Florida, May 2001.
- Douglas, E.M., Vogel, R.M., and Kroll, C.N. (2001). Impact of Streamflow Persistence on Hydrologic Design, 2001 ASCE World Water Congress, Orlando, Florida, May 2001.
- Kroll, C.N., and Reilly, C.F. (2000). A Comparison of Low Streamflow Quantile Estimators for Intermittent River Sites, Fall AGU Meeting, San Francisco, California, December 2000.
- Douglas, E.M., Vogel R.M., and Kroll C.N. (2000). Trends in Floods and Low flows in the United States, Spring AGU Meeting, Washington, D.C., May 2000.
- Kroll, C.N., Ferris, R.J., and Camp, J.T. (1999) Links between Hydrology, Topography, and Chemistry in Shallow Subsurface Stormwater, Fall AGU Meeting, San Francisco, California, December 1999.

Welsch, D.L., McDonnell, J.J., Burns, D.A., and Kroll, C.N. (1999). A Topographic Index Approach to Describe the Spatial Distribution of Solute Concentrations in Shallow Groundwater of a Headwater Catchment, Spring AGU Meeting, Boston, Massachusetts, May 1999.

Conway, M.J., and Kroll, C.N. (1998). An Analysis of Overland Flow Routing Methodology for Extracting Watershed Characteristics From Digital Elevation Models (DEMs), Fall AGU Meeting, San Francisco, California, December 1998.

Welsch, D.L., Hjerdt, K.N., McDonnell, J.J., and Kroll, C.N. (1998). Assessing the Role of the Capillary Fringe in Streamflow Generation: A Laboratory Hillslope Study, Spring AGU Meeting, Boston, Massachusetts, May 1998.

Kroll, C.N., and Conway, M.J. (1998). An Analysis of Distributional Fit to Regional Low Streamflow Series Throughout the United States, Spring AGU Meeting, Boston, Massachusetts, May 1998.

Kroll, C.N. (1996). Models of Low Streamflow Series With Zero Discharges, Fall AGU Meeting, San Francisco, California, December 1996.

Kroll, C. N., and Stedinger, J.R. (1994). Low-Flow Frequency Analysis with Censored Data, ASCE Water Resources Planning and Management Division Conference, Denver, Colorado, May 1994.

GRADUATE STUDENT TRAINING

Past Graduate Students

Osama Younis, MPS, 2019, A Distributional Assessment of Low Streamflow Statistics, Current Position: PhD Student, Alberta, Canada.

Naomi Henry, MPS, 2018, Methods for Estimating Flow Duration Curves and Daily Streamflow for Historic and Present Conditions, Current Position: Data Scientist, New York City, NY.

Shumaila Bhatti, MS, 2018, An Examination of Probability Distribution Fit to Low Streamflow Series in the United States, Current Position: PhD Student, SUNY ESF.

Namrata, Shenoy, MPS, 2017, Corporate sustainability within the food industry, Current Position: Environmental Health and Safety, Facebook, Seattle, WA.

Timothy Stagnitta, MS, 2016, A comparison of methods for low streamflow estimation from spot measurements, Current Position: Sanitary Engineer Rhode Island Department of Environmental Management, Providence, RI.

Ethan Bodnaruk, MS, 2016, Urban forest ecosystem service optimization, tradeoffs, and disparities: a spatially explicit decision support tool, Current Position: Project Engineer, Atlantic Testing Laboratories, Syracuse, NY.

Juan Farinha, MPS, 2016, Drought in the Metropolitan Region of Sao Paulo, Brazil, Current Position: Project Engineer, Sao Jose' dos Campos, Brazil.

Ibrahim Game, MS, 2015, A comparison of air dispersion models for estimation PM2.5 and dry deposition to urban trees, Current Position: Environmental Scientist, Togo.

Kelly Metz, MS, 2015, Statistical Methods for Flow Duration Curves, Current Position: Engineer, HDR, Syracuse, NY.

Suzanne Ellsworth, MPS, 2015, A comparison of methods for remediating metals in sediments, Current Position: Staff Scientist, ARCADIS, Syracuse, NY.

Justin Dusseault, MPS, 2015, Environmental management systems and their impact on organizations' environmental performance, Current Position: Health and Safety Coordinator, Corning Inc., Corning, NY.

Maria Theresa Cabaraban, PhD, 2014, Sensivity of an Urban Dry Deposition Model to Input Land Cover, Meteorology, and Air Pollutant Concentration, Current Position: Professor, Xavier University, Philippines.

Roman Yavich, MS, 2013, An Assessment of Watershed Vulnerability Indicators in Northwestern Nicaragua, Current Position: Director of Media and Development, Azuero Earth Project.

Fred Agyeman, MPS, 2013, Effects of Particle Size of Food Waste on Methane Gas Production and Dewaterability of Digestate in Co-Digestion with Dairy Manure, Current Position: Environmental Consultant, Ghana.

Peter Song, MS, 2011, Impact of Multicollinearity on Small Sample Hydrologic Regression, Current Position: Environmental Engineering, Anchor QEA.

Satoshi Hirabayashi, PhD, 2009, GIS Analyses in Environmental Modeling, Current Position: Environmental Modeler, The Davey Tree Company.

Eben Pendleton, MS, 2009, Holistic Modeling of Agricultural Best Management Practices, Current Position: Environmental Engineer, Anchor QEA.

Osman Ahmed, MS, 2009 (Environmental Science), Drought Vulnerability in Northern Kenya, Current Position: Community Development Officer, Kenyan Northern Water Service Board.

Adao Matonse, PhD, 2009, Use of Hillslope Models for Low Streamflow Prediction, Current Position: Post-Doctorate Researcher, New York City Department of Environmental Protection.

Doreen Bwalya, MS, 2007, A Regional Assessment of Hydrological Drought in Southern Africa: A Case Study of Zambia, Current Position: Senior Engineer, Lusaka Water and Sewerage Company Ltd., Zambia.

Andrew Korik, MPS, 2007, Soil Vapor Intrusion and Exposure to Organic Solvents, Current Position: GIS Specialist, ARCADIS, NY.

Satoshi Hirabayashi, MS, 2005, Examining the Impact of Raster Datasets on Flood and Low Streamflow Regional Regression Models Using a Custom GIS Application, Current Position: PhD Candidate, SUNY ESF.

Zhenxing Zhang, PhD, 2005, Advances in Low Streamflow Statistics Estimation Using Baseflow Correlation, Current Position: Research Scientist, Susquehanna Basin River Commission, PA.

Joana Luz, PhD, 2004, Investigating Improvements in Low Streamflow Regression Models, Current Position: Professor, Federal University of Bahia, Brazil.

Adao Matonse, MS, 2003, New Directions in Semi-Distributed Hydrologic Modeling, Current Position: PhD Candidate, SUNY ESF; Engineer, Clough Harbor, NY.

Maryann Ashworth, MS, 2003, Storm Response in Two Adirondack Wetland, Current Position: Environmental Consultant, Albany, NY.

Amanda Baldauf, MS, 2003, The Origin of Onondaga Valley Brines: A Geochemical Investigation, Current Position: Environmental Consultant, Washington, DC.

Christine Reilly, MS, 2002, Estimation of Low Streamflow Statistics Using Baseflow Correlation, Current Position: PhD Candidate, University of Wisconsin, WI.

Thomas Allen, MS, 2002, Effect of Digital Elevation Model Resolution and Digitally-derived Hydrogeologic Indices on the Predictive Abilities of Low Flow Regional Regression Models, Current Position: Engineer, EcoScience Corporation, NC.

John Camp, MS, 2001, The Addition of a Surface Flow Routing Algorithm to a Simple Water Balance Hydrologic Model, Current Position: Engineer, C&S Engineers, NY.

Suzanne Wechsler, PhD, 2000, Effect of DEM Uncertainty on Topographic Parameters, DEM Scale, and Terrain Evaluations, Current Position: Associate Professor California State Long Beach, CA. [Note: While not official PhD advisor, guided PhD research during last year of dissertation.]

Daniel Welsch, MS, 1999, Relationships Between Topography and Chemistry in Subsurface Stormflow, Current Position: Assistant Professor Frostburg State University, MD.

Chia-Tsen Ko, MS, 1998, The Development of Regional Regression Models for Low Streamflow Statistics in the Northeastern United States, Current Position: Environmental Consultant, Taiwan.