

STEVEN J. BURIAN, Ph.D., P.E., ENV SP
Professor of Civil & Environmental Engineering

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EDUCATION

Ph.D. 1999 Civil Engineering; The University of Alabama, Tuscaloosa, AL.
M.S.E. 1995 Environmental Engineering; The University of Alabama, Tuscaloosa, AL.
B.S. 1993 Civil Engineering; University of Notre Dame, Notre Dame, IN.

RESEARCH INTERESTS

Dr. Burian's research helps to provide clean water, reduce risk from water-related hazards, and improve performance of water systems from site to global scales. Using computer modeling, systems analysis, hydroinformatics, and field studies, his research group contributes to the engineering of sustainable and resilient urban water infrastructure systems, including stormwater, wastewater, and water supply. Focus areas include decentralization strategies, restorative green infrastructure design, smart water networks, climate impacts analysis, vulnerability and flood consequence assessment, adaptation engineering, and water interdependencies with energy, food security, and ecosystem services.

PROFESSIONAL REGISTRATIONS

- Professional Engineer, State of Utah
 - Envision™ Sustainability Professional (ENV SP)
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PROFESSIONAL EXPERIENCE

- **Professor (7/16 – present), Associate (7/09 – 6/16), and Assistant (8/03 - 6/09)**
Dept. of Civil & Environmental Engineering, University of Utah, Salt Lake City, UT.
- **Director, Water Center (6/17-present)**
University of Utah, Salt Lake City, UT. <http://water.utah.edu/>
- **Project Director, U.S.-Pakistan Centers for Advanced Studies in Water (12/14-present)**
University of Utah, Salt Lake City, UT. <http://water.utah.edu/>
- **Associate Director, Global Change and Sustainability Center (4/12-present)**
University of Utah, Salt Lake City, UT. <http://environment.utah.edu/>

- **Co-director, Sustainability Curriculum Development (1/11-6/14)**
University of Utah, Salt Lake City, UT.
- **Assistant Professor (1/00 – 7/03)**
Department of Civil Engineering, University of Arkansas, Fayetteville, AR.
- **NASA/ASEE Faculty Fellow (4/02-8/02)**
Mesoscale Atmospheric Processes Branch, NASA Goddard Space Flight Center, Greenbelt, MD. **Research Topics:** Downscaling analysis coupling rain gauge and ground- and space-based radar rainfall data investigating urbanization influence on rainfall.
- **Visiting Faculty (6/01 – 8/01)**
Energy and Environmental Analysis Group, Los Alamos National Laboratory, Los Alamos, NM. **Research Topics:** Urban canopy parameterizations; GIS processing of 3D urban terrain data; Urban land-atmosphere interaction.
- **Visiting Scientist (5/00 – 8/00)**
Energy and Environmental Analysis Group, Los Alamos National Laboratory, Los Alamos, NM. **Research Topics:** Urban canopy parameterizations, GIS processing of 3D urban terrain data.
- **Graduate Research Assistant (6/98 – 12/99)**
Energy and Environmental Analysis Group, Los Alamos National Laboratory, Los Alamos, NM. **Research Topics:** Pollutant transport through urban air and water pathways; Integrated airshed-watershed-water body modeling.
- **Graduate Research Assistant (8/96 - 6/98)**
Department of Civil and Environmental Engineering, The University of Alabama, Tuscaloosa, AL. **Research Topics:** Stormwater management and modeling; Rainfall disaggregation.
- **Graduate Teaching Assistant (8/95 - 5/96)**
Department of Civil and Environmental Engineering, The University of Alabama, Tuscaloosa, AL.

TEACHING EXPERIENCE

Funded Projects

- Development of Global Learning Outcomes and Assessment in the Department of Civil and Environmental Engineering, funded through the Office for Global Engagement and College of Engineering at the University of Utah, (8/16/2016-5/14/2017), \$8,000. This

project is developing and testing global learning outcomes, assessment rubric, and assessment instruments.

- Pathway to Global Outcomes in Civil and Environmental Engineering, funded through a Global Learning Across the Disciplines (GLAD) grant from the University of Utah Office Global Engagement, (5/15/2015-5/14/2016), \$8,000. This Project seeks to enable Civil and Environmental Engineering graduates to have an impact professionally in a global society by applying their skills in local and global contexts.
- Exploring Water Sustainability in Cities: A Course Module Linking Geoscience, Engineering, and Society, Funded through Carleton University (prime sponsor NSF through the Carleton InTeGrate Project), PI with Co-PIs M. Jha, M. Shepherd, G. Richard, (10/7/13-10/6/15), \$45,000.
- University of Utah Interdisciplinary Teaching Seed Grant Award, with E. Barbanell, Development of interdisciplinary engineering-philosophy course “Hydrotopia: Water in the West”, (7/1/08-6/30/09), \$8,000. Co-developed a new course with Ed Barbanell from Philosophy to integrate philosophy, planning, science, policy, and engineering students together to learn water management concepts, values, and technologies. The course was taught for the first time in the spring 2009 semester and the student feedback has been exceptional. Students are learning how different perspectives view sustainable water management and how integrating different perspectives can lead to a “Hydrotopia”.

Teaching Workshops

- Wasatch Experience, Integrating Sustainability into Curriculum and Courses at the University of Utah, 2014 and 2016, Salt Lake City, UT.
- Flipped Classroom, U.S.-Pakistan Centers for Advanced Studies in Water, Mehran University of Engineering and Technology, 18 May 2017, Jamshoro, Sindh, Pakistan.
- Mentor, ASCE ExCEEEd Teaching Workshop, 2010-2012.
- Asst. Mentor, ASCE ExCEEEd Teaching Workshop, 2006-2009.

University Courses Taught

University of Utah, Department of Civil & Environmental Engineering

- Undergraduate Required: Hydraulics (10 times), Hydrology
- Undergraduate/Graduate Elective: Hydrotopia: Water Management in the West (4 times), Stormwater Management and Design (2 times), Sustainability Practicum (4 times), Sustainable Urban Water Engineering (6 times), Professional Practice and Design (4 times)
- Graduate: Hydroinformatics (4 times), Advanced GIS, Flood Modeling and Simulation (3 times), Pipeline Hydraulic Analysis, Urban Hydrology Field Measurements (2 times), Watershed Modeling (2 times)

Note: All courses were developed as new courses or were significantly revised

University of Arkansas, Department of Civil Engineering

- Undergraduate Required: Hydraulics (5 times), Hydrology (3 times)

- Graduate: Hydrologic & Hydraulic Modeling, Stormwater Quality Management (2 times)
Note: All courses were developed as new courses or were significantly revised

The University of Alabama, Department of Civil & Environmental Engineering

- Undergraduate Required: Computational Methods for Civil Engineers (second section), Environmental Chemistry Laboratory (laboratory section)

Selected Recent Professional Workshops and Short Courses Instructed

- *Climate Vulnerability Assessment and Adaptation of Water Systems*, U.S.-Pakistan Centers for Advanced Studies in Water, Mehran University of Engineering and Technology, 11-12 May 2017, Jamshoro, Sindh, Pakistan.
- *Capacity Building to Advance the Education of Water Engineers to Achieve the Water Sustainable Development Goal*, 1-day workshop at the Water and Environment in the New Millennium: Education and Capacity Building. 3-5 December 2016, University of Tehran, Tehran, Iran. With Professor Andre Niemann, Professor Charlotte de Fraiture, and Dr. Mercedes Ward.
- *Sustainability Policy Implementation*, 3-day module at the United Nations Summer School on Sustainability Transition Policies and Practices, Yonsei University International Campus, Incheon, Republic of Korea, August 2013 and August 2014.

SYNERGISTIC ACTIVITIES

- Director, University of Utah Water Center (water.utah.edu). Burian helped organize and lead water researchers at the University of Utah (UU) in the establishment of a nexus for water-related research. With an emphasis on supporting interdisciplinary research, the Water Center catalyzes research teams, cultivates research projects and initiatives, and supports researchers with guidance, staff, and technical support. Burian serves as the director and facilitates coordination of the Water Center activities with other sustainability-related research entities at the University of Utah.
- Project Director, U.S.-Pakistan Centers for Advanced Studies in Water (water.utah.edu/uspcasw), 2014-present. Burian led the establishment of the USAID-funded USPCASW, creating a partnership between the University of Utah (UU) and Mehran University of Engineering and Technology (MUET) in Pakistan. Since the launch in 2014, the Center has instituted effective governance, initiated externally-funded research projects, developed a semester exchange program, and created MS and PhD degree programs in water engineering, water management, environmental engineering, and WASH sciences. Cross-cutting programs have also been created in technology commercialization, women's empowerment, sustainable development, and climate resilience. Overall, the collective efforts of USPCASW under Burian's leadership are supporting the multi-institution and multi-national USAID program to advance higher education in Pakistan and other nations as part of the \$127 million USAID Centers for Advanced Studies Program.

- Associate Director, Global Change and Sustainability Center (GCSC) (environment.utah.edu). Burian has served as Associate Director of the GCSC at the UU since 2012. Duties have included stimulating the formation of interdisciplinary teams for research, teaching, service, and outreach initiatives, with primary emphasis on large interdisciplinary research initiatives. For research, the directive has been to support large pan-campus interdisciplinary sustainability research initiatives, with special focus in areas related to water, infrastructure, hazards, energy, and climate. An example of success is the previously mentioned USPCASW project, funded by USAID. Recent effort has been directed toward developing an efficient process, administrative oversight, and tools to support interdisciplinary research team formation, research idea creation, proposal development, and successful proposal outcomes. In teaching, Burian co-led the creation of the Wasatch Experience Sustainability Teaching Workshop (<http://sustainability.utah.edu/academics/workshop.php>) with Professor Dan McCool at UU in 2014-2015, and is involved in the continued delivery of the workshop.
- Principle Investigator, NSF InTeGrate Course Module on *Water Sustainability in Cities*. Worked with interdisciplinary team of researchers to produce new course module for use in wide range of water courses at undergraduate level, and extensible to graduate level. Module incorporates flipped classroom instruction, data-driven exercises, and project-based learning activities. The course materials are available through the InTeGrate project web site: http://serc.carleton.edu/integrate/teaching_materials/water_cities/index.html
- Organizer, 2014-2015 Wasatch Experience, Sustainability Teaching Workshop at the University of Utah. Helped to develop and deliver the first sustainability-focused teaching workshop experience at the University of Utah.
- Co-director, Sustainability Curriculum Development, University of Utah, 2011-2014. Activities included creating and delivering a sustainability teaching workshop, conducting fact-finding interviews with program directors across the country, soliciting input from faculty and students at the University of Utah, helping to design and implement two certificate programs, and developing teaching and learning materials related to sustainability.
- Mentor, American Society of Civil Engineers (ASCE) ExCEED Teaching Workshop. Participated as assistant mentor and mentor 2005-2012. Provided hands-on teaching and learning instruction to new civil engineering faculty members at national workshop. Delivered seminars and demonstrations on teaching and learning. Conduct collaborative scholarly activities related to engineering education.
- Interdisciplinary Team Teaching. Developed and co-taught several courses on interdisciplinary topics in sustainability and water resources. From 2008 to present, worked to integrate humanities and social sciences perspectives into water resources engineering by offering a multidisciplinary water resources management course originally funded through the Office of Interdisciplinary Studies at the University of Utah. From 2007 to 2010, co-developed and co-taught an interdisciplinary service-learning sustainability practicum course with professors from Geology & Geophysics, Biology, and Architecture & Urban Planning.

- Project-Based Learning. Partnered on numerous occasions with local designers and engineers to engage students with team project experiences, service learning opportunities, and professional practice exposure.
 - National Building Statistics Database (NBSD). Since 2004, developed and disseminated a high resolution database of urban canopy parameters for use by the mesoscale meteorological, climate, and atmospheric dispersion modeling communities.
 - Selected Professional Service Commitments: Chair, ASCE Rainwater Harvesting Technical Committee; Executive Committee Member for Utah Section of American Water Resources Association; Member, Institute for Sustainable Infrastructure, Education and Training Committee; ASEE Civil Engineering Division Secretary/Treasurer (2015-2017), Mid-Term Director (2017-present).
 - University Service Commitments: Executive Committee Member for Global Change and Sustainability Center.
 - Mentored and hosted post-graduate researchers: Dr. Sangmin Shin (University of Utah postdoc, 2016-present), Dr. Fengli Zhang (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences, 2016-2017), Dr. Dasch Houdeshel (University of Utah postdoc, 2014), Dr. Maryam Astaraie-Imani (University of Exeter, Centre for Water Systems, 2014) Ms. Nidaa Al-Shakarchi (Iraq Ministry of Housing and Construction, 2011), Dr. Quanmin Bu (Jiangsu Province Security Department, China, 2013), Dr. Eun Sung Chung (Seoul National University, 2009-2010), Dr. Meichun Yan (Hohai University, 2008), Dr. Jae-Sung Jung (Sunchon National University, Korea, 2005-2006).
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ACTIVE PROFESSIONAL MEMBERSHIPS

- American Geophysical Union (AGU)
 - American Meteorological Society (AMS)
 - American Society of Civil Engineers (ASCE)
 - American Society for Engineering Education (ASEE)
 - American Water Resources Association (AWRA)
 - American Water Works Association (AWWA)
 - Chi Epsilon (National Civil Engineering Honor Society)
 - International Association for Urban Climate (IAUC)
 - International Association of Hydrological Sciences (IAHS)
 - Water Environment Federation (WEF)
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HONORS AND AWARDS

- 2016 Outstanding Teacher, College of Engineering, University of Utah
- 2015 Outstanding Faculty Award, Department of Civil and Environmental Engineering, University of Utah
- 2013 Kingfisher Bend Ranch Excellence in Teaching Award, College of Engineering, University of Utah

- 2013 Outstanding Paper Award, Journal of Flood Risk Management, paper entitled 'Monte Carlo-based flood modelling framework for estimating probability weighted flood risk,' Kalyanapu, A. Judi, D, McPherson, T., and Burian. S.J. volume 5, 37-48.
- 2012 University of Utah Center for Teaching and Learning Faculty Fellow
- 2012 American Water Resources Association Utah Section, Outstanding Service in the Academic Sector
- 2012 Chi Epsilon Excellence in Teaching Award for the Rocky Mountain District
- 2011 Glen L. Martin Best Paper Award for the Civil Engineering Division of American Society for Engineering Education (ASEE)
- 2010 Department of Civil and Environmental Engineering Outstanding Researcher
- 2009 American Society of Civil Engineers Utah Engineering Educator of the Year
- 2007-2008 Department of Civil and Environmental Engineering Outstanding Undergraduate Teacher
- 2007 Early Career Teaching Award, University of Utah
- 2003-2004 ASCE Teacher Appreciation Award, Department of Civil & Environmental Engineering, University of Utah
- 2002-2003 Outstanding Researcher, Department of Civil Engineering, University of Arkansas
- 2002 Baum Teaching Grant Award, University of Arkansas
- 2001-2002 Outstanding Teacher, Department of Civil Engineering, University of Arkansas
- Tau Beta Pi, National Engineering Honor Society
- 1998 AWRA Alabama State Section Scholarship Award
- 1998 Alabama Water Environment Association (AWEA) Jim Gray Memorial Scholarship
- Best Oral Presentation, Ph.D. Category, 4th Annual Alabama Student Conference on Water Resources, April 17, 1998
- Graduate Council Research Fellow, The University of Alabama, 1997-1998
- President, 1997 Outstanding AWRA Student Chapter
- Best Student Paper, Graduate Division, 1997 AWRA / Universities Council on Water Resources (UCOWR) Student Paper Competition
- 1997 ASCE Tuscaloosa Chapter Service/Leadership Award

RESEARCH PROJECTS

Grants and Contracts

- Smart Water Data Acquisition and Analytics Technologies for Improving Efficiency of Water and Power Network Operations, Utah Science and Technology Research Initiative (USTAR), PI, (8/1/2017-7/31/2018), \$125,000.
- Application of Consequence-Based Resilience to Urban Water, Transportation, and Electric Power Infrastructure, Pacific Northwest National Laboratory, PI, (10/1/2016-9/30/2017), \$110,252.

- IRES: Life Cycle Management and Ecosystem Services Applied to Urban Agriculture, NSF, Co-PI with D. Apul (PI), C. Gruden (5/1/2016-4/30/2019), \$249,968.
- Urban Water Infrastructure Resiliency: Metrics, Model Linkage, and Sensitivity, Pacific Northwest National Laboratory, PI, (2/1/2016-10/31/2016), \$93,000.
- The Energy-Water-Food Nexus within the backdrop of an Urbanized Globe: How Can GPM Help? NASA, Co-PI with M. Shepherd (PI), M. Jin (Co-PI) (3/15/2016-3/14/2019), \$447,663 (\$123,905 Utah Budget).
- Prediction of Nonlinear Climate Variations Impacts on Eutrophication and Ecosystem Processes and Evaluation of Adaptation Measures in Urban and Urbanizing Watersheds, EPA, Co-PI with M. Barber (PI), R. Goel (Co-PI), S. Hinners (Co-PI), B. Clark (Co-PI), (9/1/2015-8/31/2018), \$999,969.
- EAGER: Developing experimental and modeling strategies to estimate nitrous oxide emissions from urban engineered ecosystems, NSF, Co-PI with R. Goel (PI), (5/15/2015-5/14/2017), \$95,418.
- U.S.-Pakistan Centers for Advanced Studies in Water, USAID, PI, (12/18/2014-12/17/2019), \$9.9 million
- Farmington Bay Water Budget Model, Jordan River/Farmington Bay Water Quality Council, PI, (3/1/2013-2/28/2014), \$88,848.
- A New Probabilistic Approach To Analyze Climate Variability Impacts on Eco-Hydrologic Response and Water Management System Reliability, University of Utah Funding Incentive Grant, Co-PI with C. Strong (PI), (5/15/13-5/14/14), \$29,000.
- Chapter on Geographic Data for the CB Agent Effects Manual No. 1, DTRA, Co-PI with S. Linger (PI) and P. Dennison (Co-PI), (5/15/2013-8/31/2015), \$505,000 (\$51,000 Utah Budget).
- Urban-Snow Relationships: Process Studies and a New Framework for Optimizing and Managing Urban Water Systems in the GPM Era, NASA, Co-PI with M. Shepherd (PI) and M. Jin (Co-PI), (5/15/2013-5/14/2016), \$455,521 (\$125,981 Utah Budget).
- Collaborative Research: Analysis of Decentralized Harvested Rainwater Systems Using the Urban Water Infrastructure Sustainability Evaluation (uWISE) Framework, NSF, Co-PI with D. Apul (PI), (8/15/2012-8/14/2016), \$308,000 (\$140,000 Utah Budget).
- Performance of Stormwater Bioretention Systems in Utah's Climate and Hydrologic Conditions, USGS, PI with Co-PI C. Pomeroy, (3/1/2012-2/28/2013), \$106,000.
- Collaborative Research: CI-WATER, Cyberinfrastructure to Advance High Performance Water Resource Modeling, NSF, Senior Personnel with N. Jones (PI) and many others, (1/1/2012-8/31/2015), \$3,435,873 (~\$600,000 Utah Budget).
- Impact of Humans on Precipitation Variability, Climate and the Water Cycle: Preparing for the GPM Era, NASA, Co-PI with M. Shepherd (PI) and M. Jin (Co-PI), (4/1/2010-3/31/2014), \$406,345 (\$100,000 Utah Budget).
- Water Solutions for Future Unconventional Oil Development, Institute for Clean and Secure Energy, University of Utah, PI, (7/01/08-3/31/2010), \$57,345.
- Water multi-infrastructure simulation technology (MIST): Validation and expansion of decision support, Los Alamos National Laboratory, PI, (6/14/07-6/14/08), \$39,881.

- New approaches to treat produced water and perform water availability impact assessments for U.S. oil sands and oil shale development, Utah Heavy Oil Center, Co-PI with R. Goel (PI), A. Hong (Co-PI), and B. McPherson (Co-PI), (5/15/07-11/14/08), \$130,000.
- Coupled biophysical-hydrological response to climate variability, University of Utah Funding Incentive Grant, PI with K. Hultine (Co-PI), (5/15/07-5/14/08), \$26,000.
- Impacts of humans on precipitation variability, climate, and water cycle, NASA, Co-PI with M. Shepherd (PI) and M. Jin (Co-PI), (2/1/2007-1/31/2010), \$471,774 (\$91,890 Utah Budget).
- Urban enhancements to meteorological modeling and observations, Defense Threat Reduction Agency (DTRA), PI with M. Shepherd (Co-PI) and M. Jin (Co-PI), (3/19/2007-8/31/2009), \$437,439.
- National building statistics database, Los Alamos National Laboratory, PI, (5/1/2004-4/30/2007), \$152,000.
- Graphical user interface development in ArcMap GIS for data management and pre-processing of EPANET water distribution models, Los Alamos National Laboratory, PI, (1/1/2004-3/31/2007), \$252,945.
- Development of regional regression equations for hydrologic estimates and precipitation depth, duration, frequency maps for the State of Arkansas, University of Arkansas, PI, (7/1/2004-6/30/2006), \$109,992.
- Understanding the impact of urbanization on short and long term precipitation variability and land surface hydrologic processes, NASA, Collaborative Team composed of NASA Goddard Space Flight Center (PI: Shepherd), University of Maryland (PI: Jin), and University of Utah (PI: Burian), (10/01/2003-9/30/2006), \$68,797 (Utah Budget).
- Analysis of 3D building databases for establishing urban morphological characteristics, Los Alamos National Laboratory, PI, (9/15/03-3/1/04), \$12,601.
- Acquisition of a High Accuracy/Resolution Landscape and Structure Characterization System (HARLS-CS) for Anthropology, Archaeology, Architecture, Biology and Geosciences, NSF Co-PI with Limp (PI), Kvamme, Bajwa, and Beaupre (8/1/03-7/31/06), \$349,452 (Major Research Instrumentation Award, made significant contributions to proposal, but left University of Arkansas before award arrived, no transfer of equipment/funds to U. of Utah).
- GIS-based BMP planning tool for stormwater quality management, Mack-Blackwell Rural Transportation Center, Arkansas State Highway and Transportation Department, PI with Co-PI F. Edwards (Co-PI), (7/01/02-6/30/04), \$198,735 (external: \$167,281).
- Development of guidelines for construction best management practices, Arkansas State Highway and Transportation Department, Co-PI with F. Edwards (PI), (7/1/02-6/30/04), \$260,724 (external: \$210,409).
- Derivation of urban canopy parameters for mesoscale meteorological and plume dispersion models, U.S. EPA, PI, (6/01/02-2/28/03), \$21,848.
- Analysis of 3D building databases for establishing urban morphological characteristics, Los Alamos National Laboratory, PI, (2/01/02-1/31/03), \$15,985.

- Development of construction site stormwater pollution prevention BMP workshop, Arkansas Highway and Transportation Department, Co-PI with F. Edwards (PI), (10/16/01-6/30/02), \$56,080 (external \$40,000).
 - Construction site erosion control BMP workshops, demonstrations, and demonstration of effectiveness, U.S. EPA and Arkansas Soil and Water Conservation Commission, Co-PI with F. Edwards (PI), T. Soerens (Co-PI), Steele (Co-PI), M. Boyer (Co-PI), (7/01/01-6/30/03), \$218,858 (external: \$178,443).
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SOFTWARE AND DATABASES

Software (most recent versions listed)

- Flood Inundation Prediction Tool and Decision Support System, version 2 (2008). ArcGIS extension coded in Visual Basic .NET providing hydraulics model building capabilities, extreme rainfall flood simulation capability, and interfacing with damage estimation and consequence assessment software. Includes documentation (user manual and technical documentation). Programming Team: Dave Judi, Alfred Kalyanapu, Amanda Gilliland, Scott Mansell, Woo Suk Han.
- Dam Break Simulator, version 1 (2006). Visual Basic .NET code for simulating dam break hydrographs to feed into existing flood modeling tools. Includes documentation (user manual and technical documentation). Primary Programmer: Woo Suk Han.
- Hurricane Surge Inundation Simulator, version 1 (2006). Visual Basic .NET code for simulating inundation from hurricane storm surge events. Includes documentation (user manual). Primary Programmer: Scott Mansell.
- Water Distribution Model Builder (WDMB), Version 2.1 (2006). Visual Basic .NET ArcGIS extension for the National Infrastructure Simulation and Analysis Center's Water Infrastructure Simulation Environment. Includes documentation (user manual and technical documentation). Primary Programmer: Pooja Mutha.
- UMAP (Urban Morphological Analysis Processor), Version 2. (2005). Visual Basic for Applications (VBA) code for the ArcGIS geographic information system software package. Developed to process three-dimensional building data and compute gridded urban canopy parameters for mesoscale meteorological and urban dispersion models. Includes documentation (user manual and technical documentation). Primary Programmers: Andrew McKinnon and WooSuk Han.

Databases

- National Building Statistics Database, Version 2. (2008). High-resolution gridded building statistics and morphological parameters for use in mesoscale meteorological and urban dispersion models. Version contains 42 cities in the U.S. accompanied by documentation and distributed on CD to 100+ member user group, LA-UR-08-1921, Los Alamos National Laboratory.
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EDUCATION RESEARCH PUBLICATIONS

Peer-Reviewed

21. Burian, S.J., Ward, M., Stevenson, D., Ahmad, S., Gates, T., Mahar, R.B., Lashari, B., Banuri, T., Chaudhry, A., Ullman, J.L., (2018). "Assessment of a peer mentoring program to build capacity for course development and delivery." *American Society for Engineering Education (ASEE) Annual Conference Proceedings*, 24-27 June, 2018, Salt Lake City, UT, USA.
20. Burian, S.J., Jha, M., Richard, G., Shepherd, J.M. (2017). "An interdisciplinary learning module on water sustainability in cities." *American Society for Engineering Education (ASEE) Annual Conference Proceedings*, 25-28 June, 2017, Columbus, OH, USA.
19. Burian, S.J., Ward, M., Banuri, T., Chaudhry, M.A., Ahmad, S., Lashari, B., Mahar, R.B., Stevenson, D., VanDerslice, J., Ansari, K., Babar, M., and Qureshi, A.L. (2017). "Higher education capacity building in water resources engineering and management to support achieving the sustainable development goal for water in Pakistan." *American Society for Engineering Education (ASEE) Annual Conference Proceedings*, 25-28 June, 2017, Columbus, OH, USA.
18. Burian, S.J., Ward, M., Banuri, T., Chaudhry, M.A., Ahmad, S., Lashari, B., Ansari, K. (2016). "Higher education capacity building to support achieving the sustainable development goal for water in Pakistan." *Water and Environment in the New Millennium: Education and Capacity Building*. 3-5 December 2016, University of Tehran, Tehran, Iran.
17. Schmucker, D., Burian, S.J., and Lenart, J. (2016). "A Civil infrastructure system perspective – Not just the built environment." *American Society for Engineering Education (ASEE) Annual Conference Proceedings*, 26-29 June, 2016, New Orleans, LA, USA.
16. Ward, M., Bowen, B., Burian, S., Cachelin, A., and McCool, D. (2016). "Institutionalizing sustainability curriculum at the University of Utah." *Journal of Environmental Studies and Sciences*, 6(1), 425-431, DOI 10.1007/s13412-015-0315-z.
15. Burian, S.J., Schmucker, D., Lenart, J., Tavakol-Davani, H., Romero, P., and Barber, M.E. (2016). "Developing global learning outcomes in a civil engineering program." *American Society for Engineering Education (ASEE) Annual Conference Proceedings*, 26-29 June, 2016, New Orleans, LA, USA.
14. Gosselin, D., Burian, S.J., Lutz, T., and Maxson, J. (2016). "Integrating geoscience into education about environment, society, and sustainability using place-based learning: three examples." *Journal of Environmental Studies and Sciences*, 6(3), 531-540, DOI 10.1007/s13412-015-0238-8.

13. Schmucker, D. and Burian, S.J. (2015). "History and heritage as a vehicle for contemporary issues." *American Society for Engineering Education (ASEE) Annual Conference Proceedings*, 14-17 June, 2015, Seattle, WA, USA.
12. Burian, S.J. and Apul, D. (2015). "Cross-Institution Collaborative Learning (CICL) to connect water resources design with sustainability analysis." *American Society for Engineering Education (ASEE) Annual Conference Proceedings*, 14-17 June, 2015, Seattle, WA, USA.
11. Burian, S.J. and Reynolds, S.K. (2014). "Using a sustainable infrastructure rating system in the civil engineering capstone design course." *American Society for Engineering Education (ASEE) Annual Conference Proceedings*, 15-18 June, 2014, Indianapolis, IN, USA.
10. Burian, S.J., Horsburgh, J.S., Rosenberg, D.E., Ames, D.P., Hunter, L.G., and Strong, C. (2013). "Using interactive video conferencing for multi-institution, team-teaching." *American Society for Engineering Education (ASEE) Annual Conference Proceedings*, 23-26 June, 2013, Atlanta, GA, USA.
9. Burian, S.J. and Romero, P. (2012). "Engineering study abroad program on sustainable infrastructure combining engineering and non-engineering students." *American Society for Engineering Education (ASEE) Annual Conference Proceedings*, 10-13 June, 2012, San Antonio, TX, USA.
8. Blevins, M. and Burian (2012). "Analysis of the sustainability culture in civil and environmental engineering and mechanical engineering programs." *American Society for Engineering Education (ASEE) Annual Conference Proceedings*, 10-13 June, 2012, San Antonio, TX, USA.
7. Burian, S.J., Barbanell, E.M., Blevins, M. (2011). "Avoiding another Tower of Babel: Bridging communication barriers among students and instructors from civil engineering, humanities, and other disciplines in a multidisciplinary course." *American Society for Engineering Education (ASEE) Annual Conference Proceedings*, 26-29 June, 2011, Vancouver, BC, Canada.
6. Kunberger, T., Burian, S.J., Lutey, W.A., Morse, A.N., O'Neill, R., Sanford Bernhardt, K.L., and Welker, A.L. (2011). "Twenty-first century civil engineering: An overview of who, what, and where." *American Society for Engineering Education (ASEE) Annual Conference Proceedings*, 26-29 June, 2011, Vancouver, BC, Canada.
5. Burian, S.J. (2010). "Teaching sustainability in a civil engineering curriculum." *American Society for Engineering Education (ASEE) Annual Conference Proceedings*, 20-23 June, 2010, Louisville, KY.
4. Burian, S.J. and Barbanell, E.M. (2010). "Hydrotopia: Integrating civil engineering and humanities to teach water resources engineering and management." *American Society for*

Engineering Education (ASEE) Annual Conference Proceedings, 20-23 June, 2010, Louisville, KY.

3. Burian, S.J., Kalyanapu, A., Houdeshel, D., Judi, D., and Pomeroy, C.A. (2009). "Web-based virtual laboratory for water resources engineering education." *American Society for Engineering Education (ASEE) Annual Conference Proceedings, 14-17 June, 2009, Austin, TX.*
 2. Burian, S.J., Johnson, W., Montague, F., Holt, A., Nielson, J., and David, R. (2008). "Multidiscipline team teaching approach to enhance project-based learning of sustainable design." *American Society for Engineering Education (ASEE) Annual Conference Proceedings, 22-25 June, 2008, Pittsburgh, PA.*
 1. Burian, S.J., Romero, P., Barlett, S.F. (2007). "Improving communication and leadership skills using department-consistent laboratory team experience." *American Society for Engineering Education (ASEE) Annual Conference Proceedings, 24-27 June, 2007, Honolulu, HI.*
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RESEARCH PUBLICATIONS AND PRESENTATIONS

(Mentees Underlined)

Peer-Reviewed Publications (Journal, Conference, Book Chapter, Report)

88. Sowby, R.B., Burian, S.J., Chini, C.M., and Stillwell, A.S. (2019). "Data challenges and solutions in energy-for-water: Experience of two recent studies." *Journal of American Water Works Association* (in press).
87. Hansen, C.H., Burian, S.J., Dennison, P.E., and Williams, G.P. "Evaluating trends and influences of local climate conditions on inland lake algal blooms using Google Earth Engine and remote sensing." *Lake and Reservoir Management* (under review).
86. Sowby, R.B. and Burian, S.J. "Network-scale energy intensity modeling to improve energy performance of water distribution systems." *Journal of Infrastructure Systems* (under review).
85. Devkota, J., Petit-Boix, A., Phillips, R., Vargas-Parra, M. Violeta, Alejandro, J., Gabarrell, X., Rieradevall, J., Burian, S., Apul, D. "Life cycle assessment of rainwater harvesting in urban neighborhoods: Implications of infrastructure configuration and demand patterns in the US and Spain." *Journal of Hydrology* (under review).
84. Apul, D.S., Burian, S., Devkota, J., and Tavakol-Davani, H. "Review of rainwater harvesting benefits for urban water infrastructure sustainability." *Journal of Sustainable Water in the Built Environment* (under review).

83. Panthail, J.K., Brewer, S., and Burian, S.J. "A snow water equivalent-prediction model for albedo modification studies: Using MODIS satellite data and random forests." *Journal of the American Water Resources Association* (under review).
82. Tavakol-Davani, Ha., Burian, S.J., Pomeroy, C.A., McPherson, B.J., Pascucci, V., and Apul, D. "Watershed-scale life cycle assessment of rainwater harvesting: an uncertainty analysis." *Water Research* (accepted, in press).
81. Tavakol-Davani, Ha., Burian, S.J., Butler, D., Sample, D., Devkota, J., and Apul, D. (2018). "Combining hydrologic analysis and life cycle assessment approaches to evaluate sustainability of rainwater harvesting." *Journal of Irrigation and Drainage Engineering*, 144 (11), [https://doi.org/10.1061/\(ASCE\)IR.1943-4774.0001340](https://doi.org/10.1061/(ASCE)IR.1943-4774.0001340).
80. Sowby, R.B. and Burian, S.J. (2018). "Statistical model and benchmarking procedure for energy use by U.S. public water systems." *Journal of Sustainable Water in the Built Environment*, 4(4), DOI: 10.1061/JSWBAY.0000864.
79. Shin, S., Lee, S., Burian, S.J., Judi, D., McPherson, T., Parvania, M., and Goharian, E. (2018). "Comprehensive review and needs assessment for resilience measures of water infrastructure systems." *Water*, 10, 262, doi:10.3390/w10030262.
78. Khatri, K., Strong, C., Kochanski, A.K., Burian, S., Miller, C., and Hasenyager, C. (2018). "Water resources criticality due to future climate change and population growth: Case of river basins in Utah, USA." *Journal of Water Resources Planning and Management*, 144(8), DOI: 10.1061/(ASCE)WR.1943-5452.0000959.
77. Feng, Y., Burian, S.J., and Pardyjak, E.R. (2018). "Green roof evapotranspiration observation and estimation in Salt Lake City, Utah." *Water* 10(3), 262; doi:10.3390/w10030262.
76. Goharian, E., Burian, S.J., and Karamouz, M. (2018). "Using joint probability distributions of reliability and vulnerability to develop a water system performance index (WSPI)" *Journal of Water Resources Planning and Management*, 144(2), [doi.org/10.1061/\(ASCE\)WR.1943-5452.0000869](https://doi.org/10.1061/(ASCE)WR.1943-5452.0000869).
75. Goharian, E. and Burian, S.J. (2018). "Developing an integrated framework to build a decision support tool for urban water management." *Journal of Hydroinformatics*, available online 8 February 2018, jh2018088; DOI: 10.2166/hydro.2018.088.
74. Sowby, R.B. and Burian, S.J. (2017). "A survey of energy requirements for public water supply in the United States." *Journal of the American Water Works Association*, 109(7), E320-E330, DOI: 10.5942/jawwa.2017.109.0080.

73. Hansen, C.H., Goharian, E., and Burian, S.J. (2017). "Comparison of traditional and combined change factor methodologies for local precipitation scaling and hydrologic modeling applications." *Journal of Hydrologic Engineering*, 22(9), doi.org/10.1061/(ASCE)HE.1943-5584.0001555.
72. Oikonomou, K., Parvania, M., and Burian, S. (2017) "Integrating water distribution energy flexibility in power systems operation." in *Proc. IEEE Power & Energy Society General Meeting*, Chicago, IL, July 16-20, 2017.
71. Hossain, F., Beighley, E., Burian, S., Chen, J., Mitra, A., Niyogi, D., Pielke, R. Sr., and Wegner, D.I. (2017). "A review of approaches and recommendations for improving resilience of water management infrastructure: The case for large dams." *Journal of Infrastructure Systems*, doi:10.1061/(ASCE)IS.1943-555X.0000370.
70. Vaseghi, G., Celik, I., Burian, S., and Apul, D. (2017). "Chapter 4 - Economic, environmental, and social criteria evaluation of rainwater harvesting system options for an office and lab building on the University of Utah campus." In: *Frontiers in Civil Engineering, Volume 2: Water Savings in Buildings*, Edited by Ghisi, E., Bentham Books, Sharjah, UAE, 114-147.
69. Hansen, C.H., Burian, S.J., Dennison, P., Williams, G. (2017). "Spatiotemporal variability of lake water quality in the context of remote sensing models." *Remote Sensing*, 9 (5), 409, doi:10.3390/rs9050409.
68. Devkota, J., Burian, S.J., Tavakol-Davani, Ha., Apul, D., (2017). "Introducing demand to supply ratio as a new metric for understanding life cycle greenhouse gas (GHG) emissions from rainwater harvesting systems." *Journal of Cleaner Production*, 163, 274-284 (DOI: 10.1016/j.jclepro.2015.10.073).
67. Goharian, E., Burian, S.J., Lillywhite, J., and Hile, R. (2017). "Vulnerability assessment to support integrated water resources management of metropolitan water supply systems." *Journal of Water Resources Planning and Management*, 143(3), [http://dx.doi.org/10.1061/\(ASCE\)WR.1943-5452.0000738#sthash.L0UJxzHe.dpuf](http://dx.doi.org/10.1061/(ASCE)WR.1943-5452.0000738#sthash.L0UJxzHe.dpuf).
66. Stout, D.T., Walsh, T.W., Burian, S.J. (2017). "Ecosystem services from rainwater harvesting in India." *Urban Water Journal*, 14 (6), 561-573, DOI: 10.1080/1573062X.2015.1049280.
65. Feng, Y. and Burian, S.J. (2016). "Improving evapotranspiration mechanisms in the U.S. Environmental Protection Agency's Storm Water Management Model." *Journal of Hydrologic Engineering*, 21(10), [http://dx.doi.org/10.1061/\(ASCE\)HE.1943-5584.0001419#sthash.WuuMyrHq.dpuf](http://dx.doi.org/10.1061/(ASCE)HE.1943-5584.0001419#sthash.WuuMyrHq.dpuf).

64. Swain, N.R., Christensen, S.D., Snow, A.D., Dolder, H., Espinoza-Dávalos, G., Goharian, E., Jones, N.L., Nelson, E.J., Ames, D.P., and Burian, S.J. (2016). "A new open source platform for lowering the barrier for environmental web app development." *Environmental Modelling and Software*, 85, 11-26.
63. Tavakol-Davani, He., Goharin, E., Hansen, C., Tavakol-Davani, Ha., Apul, D., and Burian, S.J. (2016). "How does climate change affect combine sewer overflow in a system benefiting from rainwater harvesting systems?" *Sustainable Cities and Society*, 27, 430-438, <http://dx.doi.org/10.1016/j.scs.2016.07.003>.
62. Feng, Y., Burian, S.J., and Pomeroy, C.A. (2016). "Potential of green infrastructure to restore predevelopment water budget of a semi-arid urban catchment." *Journal of Hydrology*, Vol 542, 744-755, <http://dx.doi.org/10.1016/j.jhydrol.2016.09.044>.
61. Goharian, E., Burian, S.J., Bardsley, T., and Strong, C. (2016). "Incorporating potential severity into vulnerability assessment of water supply systems under climate change conditions." *Journal of Water Resources Planning and Management*, 142(2), (DOI: 10.1061/(ASCE)WR.1943-5452.0000579,04015051).
60. York, C., Goharian, E., and Burian, S.J. (2015). "Impacts of large-scale stormwater green infrastructure implementation and climate change variability on receiving water response in the Salt Lake City area." *American Journal of Environmental Science*, 11(4), 278-292 (DOI: 10.3844/ajessp.2015.278.292).
59. Hossain, F., Arnold, J., Mitra, A., Beighley, E., Niyogi, D., Pielke, R. Sr, Brown, C., Burian, S., Chen, J., Tidwell, V., Madadgar, S., and Wegner, D. (2015). "Local-to-regional landscape drivers of extreme weather and climate: Implications for water infrastructure resilience." *Journal of Hydrologic Engineering*, 20(7), (DOI: 10.1061/(ASCE)HE.1943-5584.0001210).
58. Tavakol-Davani, Ha., Burian, S., Devkota, J., Apul, D., Shugart-Schmidt. W., Chaney, M. (2015). "Performance and cost based comparison of green and gray infrastructures to control combined sewer overflows." *Journal of Sustainable Water in the Built Environment* 2(2), (DOI: 10.1061/JSWBAY.0000805, 04015009).
57. Hossain, F., Arnold, J., Beighley, E., Brown, C., Burian, S., Chen, J., et al. (2015). "What do experienced water managers think of water resources of our nation and its management infrastructure?" *PLoS ONE*, 10(11), e0142073. doi:10.1371/journal.pone.0142073.
56. Kaylanapu, A.J., Judi, D.R., McPherson, T.N., and Burian, S.J. (2015). "Annualized risk analysis approach to recommend appropriate level of flood control: Application to Swannanoa River Watershed." *Journal of Flood Risk Management*, 8, 368-385, doi: 10.1111/jfr3.1210.

55. Zahmatkesh, Z., Burian, S.J., Karamouz, M., Tavakol-Davani, H., and Goharian, E. (2014). "Low impact development practices to mitigate climate change effects on urban stormwater runoff: Case Study of New York City." *Journal of Irrigation and Drainage Engineering*, DOI: 10.1061/(ASCE)IR.1943-4774.0000770.
54. Zahmatkesh, Z., Karamouz, M., Goharian, E., and Burian, S.J. (2014). "Analysis of the effects of climate change on urban storm water runoff using statistically downscaled precipitation data and a change factor approach." *Journal of Hydrologic Engineering*. DOI: 10.1061/(ASCE)HE.1943-5584.0001064.
53. Walsh, T., Pomeroy, C.A., and Burian, S.J. (2014) "Hydrologic analysis of a watershed-scale rainwater harvesting program." *Journal of Hydrology*, 508C, 240-253 (<http://authors.elsevier.com/sd/article/S0022169413007671>).
52. Bardsley, T., Wood, A., Hobbins, M., Kirkham, T., Briefer, L., Niermeyer, J., and Burian, S. (2013). "Planning for an uncertain future: Climate change sensitivity assessment towards adaptation planning for public water supply." *Earth Interactions*, 23 (Paper 23).
51. Steffen, J., Jensen, M., Pomeroy, C.A., and Burian, S.J. (2013). "Water supply and stormwater management benefits of residential rainwater harvesting in U.S. cities." *Journal of the American Water Resources Association*, 49(4), 810-824, DOI: 10.1111/jawr.12038.
50. Muleta, M.K., McMillan, J., Amenu, G.G., and Burian, S.J. (2013). "Bayesian approach for uncertainty analysis of an urban stormwater management model and its application to a heavily urbanized watershed." *Journal of Hydrologic Engineering*, 18(10), 1360-1371.
49. Judi, D.R., Burian, S.J., and McPherson, T.N. (2013). "Impacts of elevation data spatial resolution on two-dimensional dam break flood simulation and consequence assessment." *Journal of Water Resources Planning and Management* (10.1061/(ASCE)WR.1943-5452.0000274).
48. Burian, S.J., Walsh, T., Kalyanapu, A.J., and Larsen, S.G. (2013). "Climate vulnerabilities and adaptation of urban water infrastructure systems." *Climate Vulnerability: Understanding and Addressing Threats to Essential Resources*. Elsevier Inc., Academic Press, 87–107 pp.
47. Hossain, F, Degu, A.M., Yigzaw, W., Burian, S., Niyogi, D., Shepherd, J.M., and Pielke, R. Sr. (2012). "Climate feedback-based provisions for dam design, operations and water management in the 21st century." *Journal of Hydrologic Engineering*, 17(8), 837-850.
46. Kalyanapu, A. Judi, D, McPherson, T., and Burian. S.J. (2012). "Monte Carlo based flood modeling framework for estimating probability weighted flood risk." *Journal of Flood Risk*

Management, 5, 37-48.

45. Carter, M., Shepherd, J.M., Burian, S.J., and Jeyachandran, I. (2012). "Integration of lidar data into a coupled mesoscale-land surface model: A theoretical assessment of sensitivity of urban-coastal mesoscale circulations to a high resolution urban canopy." *Journal of Atmospheric and Oceanic Technology*, 29, 328-346.
44. Kalyanapu, A., Shankar, S., Pardyjak, E.R., Judi, D.R., and Burian, S.J. (2011). "Assessment of GPU computational enhancement to a 2D flood model." *Environmental Modelling and Software*, 26, 1009-1016.
43. Chung, E.-S., Kim, K.-T., Lee, K.S., and Burian, S.J. (2011). "Incorporating uncertainty and objective load reduction allocation into the TMDL process in Korea." *KSCE Journal of Civil Engineering*, 15(7), 1289-1297, DOI 10.1007/s12205-011-1166-0.
42. Judi, D.R., Burian, S.J., and McPherson, T.N. (2011). "Improvements in fast-response flood modeling: desktop parallel computing and domain tracking." *Journal of Computing in Civil Engineering*, 25(3), 184-191.
41. Larsen, S.G. and Burian, S.J. (2011). "Energy requirements for water supply in Utah." In: *The water-energy nexus in the American West*, Edited by Doug Kenney, Edward Elgar.
40. Chung, E.-S., Hong, W.-P., Lee, K.S., and Burian, S.J. (2011). "Integrated use of a continuous simulation model and multi-attribute decision-making for ranking urban watershed management alternatives." *Water Resources Management*, 25(2), 641-659.
39. Han, W.S., Burian, S.J., and Shepherd, J.M. (2010). "Assessment of satellite-based rainfall estimates in urban areas in different geographic and climatic regions." *Natural Hazards*, DOI 10.1007/s11069-010-9585-7.
38. Skousen, B.D., Judi, D., McPherson, T., and Burian, S. (2010). "Effects of breach formation parameter uncertainty on inundation risk area and consequence analysis." Proceedings, *Dam Safety 2010 National Conference*, 19-23 September, Seattle, WA.
37. Shankar, S., Kalyanapu, A.J., C.D. Hansen, and S.J. Burian. (2010). "A GPU-based flood simulation framework." *Symposium on Application Accelerators in High Performance Computing 2010 (SAAHPC '10)*, July 13-15, 2010, Knoxville, TN.
36. Burian, S.J. and Pomeroy, C.A. (2010). "Chapter 14. Urban impacts on the water cycle and potential green infrastructure implications." In: *Urban Ecosystems Ecology*, Aitkenhead-Peterson, J. and Volder, A., American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America.

35. Jeyachandran, I., Stetson, S., and Burian, S.J. (2010). "Estimating urban canopy parameters using synthetic aperture radar data." *Journal of Applied Meteorology and Climatology*, 49(4), 732-747.
34. Shepherd, J.M., Carter, W.M., Manyin, M., Messen, D., and Burian, S. (2010). "The impact of urbanization on current and future coastal convection: A case study for Houston." *Environment and Planning B: Planning and Design*, 37 (2), 284-304.
33. Burian, S.J. and Ching, J. (2009). *Development of gridded fields of urban canopy parameters for advanced urban meteorological and air quality models*. EPA/600/R-10/007. U.S. Environmental Protection Agency, Washington, DC.
32. Kalyanapu, A., Burian, S.J., and McPherson, T.N. (2009). "Effect of land use-based surface roughness on hydrologic model output." *Journal of Spatial Hydrology*, 9(2), 51-71.
31. Ching, J., Hanna, A., Chen, F. Burian, S., and Hultgren, T. (2009). "Chapter 1: Facilitating advanced urban meteorology and air quality modelling capabilities with high resolution urban database and access portal tools." In: *Meteorological and Air Quality Models for Urban Areas*, Baklanov, A. (eds.), Springer-Verlag, Berlin.
30. Ching, J., Brown, M. Burian, S., Chen, F., Cionco, R., Hanna, A., Hultgren, T., Sailor, D., Taha, H., and Williams, D. (2009) "National Urban Database and Access Portal Tool (NUDAPT): Facilitating a new generation of advanced urban meteorology and climate modeling with community-based urban database system." *Bulletin of the American Meteorological Society*, 90(8), 1157-1168.
29. Judi, D.R., Kalyanapu, A.J., McPherson, T., and Burian, S.J. (2009) "Chapter 13. Integration of SWMM into a dam break, hurricane, and extreme flood modeling and damage assessment framework." In: *Conceptual Modeling of Urban Water Systems*, Edited by W. James, Computational Hydraulics International, Guelph, Ontario, Canada.
28. Han, W.S. and Burian, S.J. (2009). "Determining effective impervious area for urban hydrologic modeling." *Journal of Hydrologic Engineering*, 14(2), 111-120.
27. Reynolds, S., Burian, S., Shepherd, J.M., and Manyin, M. (2008) "Chapter 7: Urban induced rainfall modifications on urban hydrologic response." In: *Reliable modeling of urban water systems*, Edited by W. James, Computational Hydraulics International, Guelph, Ontario, Canada, pp. 99-122.
26. Judi, D., Kalyanapu, A., Burian, S., Daniel, B., McPherson, T. (2007). "Wide-area flood inundation and infrastructure risk assessment simulation framework." *Proceedings of the Second IASTED International Conference, Water Resources Management*, 20-22 August 2007, Honolulu, Hawaii, USA.

25. Burian, S.J. (2006). "Urbanization effect on rainfall: Implications for drainage infrastructure performance and design." In *Smart Growth and Climate Change: Regional Development, Infrastructure and Adaptation*, M. Ruth (ed.), Northampton, MA: Edward Elgar, pp. 207-242.
24. McPherson, T.N., Burian, S.J., Stenstrom, M.K., Turin, H.J., Brown, M.J., and Suffet, I.H. (2005), "Comparison of dry and wet weather flow nutrient loads from a Los Angeles watershed." *Journal of the American Water Resources Association*, 41(4), 959-969.
23. Morgan, R.A., Edwards, F.G., Brye, K.R., and Burian, S.J. (2005). "An evaluation of the urban stormwater pollutant removal efficiency of catch basin inserts." *Water Environment Research*, 77(5), 500-510.
22. McPherson, T.N., Burian, S.J., Stenstrom, M.K., Turin, H.J., Brown, M.J., and Suffet, I.H. (2005). "Trace metal pollutant loads in urban runoff from a southern California watershed." *Journal of Environmental Engineering*, 131(7), 1073-1080.
21. Burian, S.J. and Shepherd, J.M. (2005). "Effect of urbanization on the diurnal rainfall pattern in Houston." *Hydrological Processes*, 19(5), 1089-1103.
20. Edwards, F.G., Morgan, R.A., Brye, K.R., and Burian, S.J. (2004). "Evaluation of stormwater catch basin inserts for transportation facilities." *Transportation Research Record*, 1890, 123-128.
19. Durrans, S.R., Burian, S.J., and Pitt, R.E. (2004). "Enhancement of precipitation data for small storm hydrologic prediction." *Journal of Hydrology*, 299, 180-185.
18. Burian, S.J., Shepherd, J.M., and Hooshalsadat, P. (2004). "Urbanization impacts on Houston rainstorms." *Innovative Modeling of Urban Water Systems*, Monograph 12, Edited by W. James, pp. 1-22.
17. Burian, S.J., McPherson, T.N., Brown, M.J., Streit, G.E., and Turin, H.J. (2003). "Urban environmental modeling and assessment using detailed urban databases." *Earth science in the city: A reader*. Edited by: Heiken, G., Fakundiny, R., and Sutter, J., American Geophysical Union, Washington, DC, pp. 303-333.
16. McPherson, T.N., Burian, S.J., Brown, M.J., Streit, G.E., and Turin, H.J., (2003). "Integrated environmental modeling of the urban ecosystem." *Earth science in the city: A reader*. Edited by: Heiken, G., Fakundiny, R., and Sutter, J., American Geophysical Union, Washington, DC, pp. 279-301.
15. Shepherd, J.M. and Burian, S.J. (2003). "Detection of urban-induced rainfall anomalies in a

major coastal city." *Earth Interactions*, 7: paper #6, 1-14.

14. Ratti, C., Di Sabatino, S., Britter, R., Brown, M., Caton, F., and Burian, S. (2002). "Analysis of 3-D urban databases with respect to pollution dispersion for a number of European and American cities." *Water, Air and Soil Pollution: Focus*, 2: 459-469.
13. Burian, S.J., McPherson, T.N., Brown, M.J., Streit, G.E., and Turin, H.J. (2002). "Modeling the effects of air quality policy changes on water quality in urban areas." *Environmental Modeling and Assessment*, 7: 179-190.
12. Burian, S.J. and Durrans, S.R. (2002). "Closure to 'training artificial neural networks to perform rainfall disaggregation' by Steven J. Burian, S. Rocky Durrans, Stephan J. Nix, and Robert E. Pitt." *Journal of Hydrologic Engineering*, 7(4): 342-343.
11. Burian, S.J., Brown, M.J., and McPherson, T.N. (2002). "Evaluation of land use/land cover datasets for urban watershed modeling." *Water Science and Technology*, 45(9): 269-276.
10. McPherson, T.N., Burian, S.J., Turin, H.J., Stenstrom, M.K., and Suffet, I.H. (2002). "Comparison of the pollutant loads in dry and wet weather runoff in a Southern California urban watershed." *Water Science and Technology*, 45(9): 255-261.
9. Burian, S.J. and Durrans, S.R. (2002). "Evaluation of an artificial neural network rainfall disaggregation model." *Water Science and Technology*, 45(2): 99-104.
8. Burian, S.J. and Durrans, S.R. (2002). "Short time-interval rainfall disaggregation for continuous hydrologic simulation." In: *Urban Water Systems Modeling*, Volume 10, Computational Hydraulics International, Guelph, Ontario.
7. Burian, S.J., Streit, G.E., McPherson, T.N., Brown, M.J., and Turin, H.J. (2001). "Modeling the atmospheric deposition and stormwater washoff of nitrogen compounds." *Environmental Modelling and Software*, 16, 467-479.
6. Burian, S.J., Durrans, S.R., Nix, S.J., and Pitt, R.E. (2001). "Training artificial neural networks to perform rainfall disaggregation." *Journal of Hydrologic Engineering*, 6(1): 43-51.
5. Burian, S.J., Nix, S.J., Pitt, R.E., and Durrans, S.R. (2000). "Urban wastewater management in the United States: Past, present, and future." *Journal of Urban Technology*, 7(3): 33-62.
4. Burian, S.J., Durrans, S.R., Tomic, S., Pimmel, R.L., and Wai, C.-N. (2000). "Rainfall disaggregation using artificial neural networks." *Journal of Hydrologic Engineering*, 5(3): 299-307.
3. Durrans, S.R., Burian, S.J., Nix, S.J., Hajji, A., Pitt, R.E., Fan, C.-Y., and Field, R. (1999).

"Polynomial-based disaggregation of hourly rainfall for continuous hydrologic simulation." *Journal of the American Water Resources Association*, 35(5): 1213-1221.

2. Burian, S.J., Nix, S.J., Durrans, S.R., Pitt, R., Fan, C.Y., and Field, R. (1999). "The historical development of wet weather flow management." *Journal of Water Resources Planning and Management*, 125(1): 3-13.
1. Tomic, S. and Burian, S.J. (1998). "Normalized unit hydrograph aggregation." *Journal of the American Water Resources Association*, 34(5): 1221-1228.

Review Papers

7. Clark, S., Burian, S., Pitt, R., and Field, R. (2007). "Urban wet-weather flows." *Water Environment Research*, 79, 62 pages (annual literature review).
6. Clark, S., Burian, S., Pitt, R., and Field, R. (2006). "Urban wet-weather flows." *Water Environment Research*, 78(10), 60 pages (annual literature review).
5. Clark, S., Burian, S., Pitt, R., and Field, R. (2005). "Urban wet-weather flows." *Water Environment Research*, 77(6), 156 pages (annual literature review).
4. Johnson, W.P., Burian, S.J., Steenburgh, J., Bowling, D., Forster, C., Solomon, D.K., Thomas, J.M., Tyler, S.W., Emmi, P.C., Harris, R.N., Caplan, A., Tarboton, D.G., and Lall, U. (2004). *Watersheds and urbanization: Compelling and emerging challenges for the 21st Century*. Vision Paper prepared for the Consortium for the Advancement of Hydrologic Science, Inc. (CUAHSI). Available through CUAHSI web site, www.cuahsi.org.
3. Clark, S., Burian, S., Pitt, R., and Field, R. (2004). "Urban wet-weather flows." *Water Environment Research*, 76(6), 131 pages (annual literature review).
2. Clark, S., Burian, S., Pitt, R., and Field, R. (2003). "Urban wet-weather flows." *Water Environment Research*, 75(6), 190 pages (annual literature review).
1. Clark, S., Pitt, R., Burian, S., and Field, R. (2002). "Urban wet-weather flows." *Water Environment Research*, 74(6), (annual literature review).

Conference Papers and Other Publications

74. Lee, S., Shin, S., Judi, D., McPherson, T., and Burian, S. (2018). "Detectability-Based Resilience of Water Distribution System Using Failure Finger Print." WDSA / CCWI Joint Conference 2018 Conference Proceedings, Vol 1 (2018): WDSA/CCWI Joint Conference 2018, Kingston, Canada. <https://ojs.library.queensu.ca/index.php/wdsa-ccw/>.
73. Salemnia, A., Tavakol-Davani, H., Judi, D., McPherson, T., Feng, Y., and Burian, S.J. (2017). "Operational impact curve for transportation system relating precipitation intensity and flood depth to vehicle speed." *Proceedings, World Environmental and Water Resources*

Congress, 447-452.

72. Bukhary, S., Weidhaas, J., Ansari, K., Mahar, R.B., Pomeroy, C., VanDerslice, J., Burian, S.J., and Ahmad, S. (2017). "Using distributed solar for treatment of drinking water in developing countries." *Proceedings, World Environmental and Water Resources Congress*, 264-276.
71. Tamaddun, K.A., Kalra, A., Ahmed, W., Dars, G.H., Burian, S.J., and Ahmad, S. (2017). "Precipitation and Indian Ocean climate variability—A case study on Pakistan." *Proceedings, World Environmental and Water Resources Congress*, 526-535.
70. Burian, S.J., Ward, M., Banuri, T., Chaudhry, M.A., Ahmad, S., Lashari, B., Ansari, K. (2016). "Higher education capacity building to support achieving the sustainable development goal for water in Pakistan." *Water and Environment in the New Millennium: Education and Capacity Building*. 3-5 December 2016, University of Tehran, Tehran, Iran.
69. Hansen, C.H., Dennison, P., Burian, S.J., Barber, M., and Williams, G. (2016). "Hindcasting water quality in an optically complex system." *WIT Transaction on Ecology and The Environment*, Vol. 209, *Proceedings of the 13th International Conference on Modelling, Monitoring and Management of Water Pollution (WP 2016)*. Available online at www.witconference.com.
68. Shepherd, J.M., Burian, S.J., Liu, C., and Bernades, S. (2016). "Satellite precipitation metrics to study the energy-water-food nexus within the backdrop of an urbanized globe." *Earthzine*, http://earthzine.org/?p=1404610&shareadraft=baba1404610_57461ddb3c936.
67. Panthail, J.K., Brewer, S.C., and Burian, S.J. (2015). "Statistical modeling of the PM2.5-Albedo-Streamflow relationship in Parley's Creek, Utah using MODIS albedo data." In: *Proceedings, World Environmental & Water Resources Congress*, 17-21 May 2015, Austin, Texas, USA. ASCE, Reston, VA.
66. Goharian, E. and Burian, S.J. (2014). "Integrated urban water resources modeling in a semi-arid mountainous region using a cyber-infrastructure framework." *Proceedings, 11th International Conference on Hydroinformatics, HIC 2014*, New York City, NY, USA.
65. Zahmatkesh Z., Karamouz M., Burian S., Tavakol-Davani Ha. & Goharian E. (2014). "LID implementation to mitigate climate change impacts on urban runoff." *World Environmental and Water Resources Congress 2014: Water Without Borders - Proceedings of the 2014 World Environmental and Water Resources Congress*. 1-5 June 2014, Portland, OR, USA, ASCE, Reston, VA, 952-965.
64. Zahmatkesh Z., Karamouz M., Goharian E., Burian S. & Tavakol-Davani Ha. (2014). "Climate change impacts on urban runoff in a New York City Watershed." *World Environmental and*

Water Resources Congress 2014: Water Without Borders - Proceedings of the 2014 World Environmental and Water Resources Congress. 1-5 June 2014, Portland, OR, USA, ASCE, Reston, VA, 938-951.

63. Feng, Y., Burian, S.J., and Pomeroy, C.A. (2013). "ET influence on urban stormwater runoff estimation." In: *Proceedings, World Environmental & Water Resources Congress*, 19-23 May, 2013, Cincinnati, OH, USA. ASCE, Reston, VA.
62. Tavakol-Davani, H., Burian, S.J., Apul, D., and Devkota, J. (2013). "Developing urban water infrastructure modeling approach to control the flood damages and reduce life cycle impacts." In: *Proceedings, World Environmental & Water Resources Conference*, 19-23 May 2013, Cincinnati, OH, USA. ASCE, Reston, VA.
61. Jones, N.L., Nelson, E.J., Williams, G.P., Ogden, F., Tarboton, D., and Burian, S.J. (2013). "CI-WATER: Cyberinfrastructure to Advance High Performance Water Resource Modeling." In: *Proceedings, World Environmental & Water Resources Conference*, 19-23 May 2013, Cincinnati, OH, USA. ASCE, Reston, VA.
60. Feng, Y., Burian, S.J., and Pomeroy, C.A. (2012). "A review of impact of evapotranspiration (ET) on urban runoff." In: *World Environmental & Water Resources Congress*, May 20-24, 2012, American Society of Civil Engineers, Reston, VA.
59. Flower, W., Burian, S.J., Pomeroy, C.A., and Pardyjak, E.R. (2010). "Surface temperature and heat exchange differences between pervious concrete and traditional concrete and asphalt pavements." *Proceedings, Low Impact Development 2010, Redefining Water in the City*, 11-14 April 2010, San Francisco, CA.
58. Jensen, M.A., Steffen, J., Burian, S.J., Pomeroy, C.A. (2010). "Do rainwater harvesting objectives of water supply and stormwater management conflict?" *Proceedings, Low Impact Development 2010, Redefining Water in the City*, 11-14 April 2010, San Francisco, CA.
57. Burian, S.J. and Jones, D. (2010). "National assessment of rainwater harvesting as a stormwater best management practice: Challenges, needs, and recommendations." *Proceedings, Low Impact Development 2010, Redefining Water in the City*, 11-14 April 2010, San Francisco, CA.
56. Jeyachandran, I., Burian, S.J., Pardyjak, E., Pomeroy, C.A., and Skousen, B. (2010). "Impact of green infrastructure on urban energy fluxes and microclimate." *Proceedings, ASCE Environmental & Water Resources Institute (EWRI) 3rd International Perspective on Current & Future State of Water Resources and the Environment*, 5-7 January, 2010, Chennai, India.
55. Burian, S.J., Dietz, M., Pomeroy, C.A., Gorges, B., and Flower, W. (2008). "Low impact

- development in Utah: Progress, constraints, and future outlook." In: *Low Impact Development for Urban Ecosystem and Habitat Protection*, Proceedings of the 2008 International Low Impact Development Conference, Edited by She, N. and Clar, M., ASCE, 16-19, November 2008, Seattle, WA.
54. Burian, S., Brown, M., Sailor, D., Cionco, R., Ellefsen, R., Estes, M., and Hultgren, T. (2007). "Database features of the National Urban Database and Access Portal Tools (NUDAPT)." *AMS 7th Symposium on the Urban Environment*, 10-13 September 2007, San Diego, CA.
 53. Burian, S., Pardyjak, E., Forster, C., Bush, S., Jeyachandran, I., Ramamurthy, P., and Augustus, N. (2007). "Interdisciplinary study of coupled water-biophysical-climate systems in a semi-arid urban environment." *AMS 7th Symposium on the Urban Environment*, 10-13 September 2007, San Diego, CA.
 52. Jeyachandran, I., Burian, S., Dennison, P., Nash, G., and Dudley-Murphy, B. (2007). "Techniques to estimate urban canopy parameters using satellite data." *AMS 7th Symposium on the Urban Environment*, 10-13 September 2007, San Diego, CA.
 51. Burian, S., Augustus, N., Jeyachandran, I. and Brown, M. (2007). "Development and assessment of the second generation National Building Statistics Database." *AMS 7th Symposium on the Urban Environment*, 10-13 September 2007, San Diego, CA.
 50. Ching, J., Chen, F., Kiley, C., and Burian, S. (2007). "Advancing urban dispersion and air quality models using a community-based high resolution building and urban data base system." *11th International Conference on Harmonization within Atmospheric Dispersion for Regulatory Purposes*, 2-5 July 2007, Cambridge, UK.
 49. Judi, D., Kalyanapu, A., Burian, S., Linger, S., Berscheid, A., and McPherson, T. (2007). "GIS-Based prediction of hurricane flood inundation." *World Environmental and Water Resources Congress 2007: Restoring Our Natural Habitat*, May 15-19, Tampa, FL, ASCE.
 48. Kalyanapu, A., Burian, S., McPherson, T. (2007). "GIS-Based 1-d diffusive wave overland flow model." *World Environmental and Water Resources Congress 2007: Restoring Our Natural Habitat*, May 15-19, Tampa, FL, ASCE.
 47. Kalyanapu, A., Judi, D., Burian, S., Hodge, B., Berscheid, A., and McPherson, T. (2007). "Channel morphology tool (CMT): A GIS-based automated extraction model for channel geometry." *World Environmental and Water Resources Congress 2007: Restoring Our Natural Habitat*, May 15-19, Tampa, FL, ASCE.
 46. Ching, J. Hanna, A., Chen, F., Burian, S., and Holtgren, T. (2007). "Facilitating advanced urban meteorology and air quality modeling capabilities with high resolution urban database and access portal tools." *Proceedings, 6th International Conference on Urban Air*

Quality, 27-29 March, 2007. Plenary Session Paper.

45. Burian, S.J., Brown, M.J., McPherson, T.N., Hartman, J., Han, W., Jeyachandran, I., and Rush, J.F. (2006). "Emerging urban databases for meteorological and dispersion modeling." *Preprints, AMS Annual Meeting, 6th Symposium on the Urban Environment*, 29 January – 2 February 2006, Atlanta, Georgia.
44. Ching, J., Hanna, A., Williams, D., and Burian, S. (2006). "National urban database and access portal tool (NUDAPT): Facilitating advancements in urban meteorology and climate modeling with community-based urban databases." 5th Annual Community Modeling & Analysis System (CMAS) Conference, 16-18 October, Chapel Hill, North Carolina.
43. McPherson, T.N. and Burian, S.J. (2005). "The Water Infrastructure Simulation Environment." *Proceedings ASCE-EWRI World Water and Environmental Resources Congress*, 15-19 May 2005, Anchorage, Alaska.
42. Reynolds, S., Burian, S.J., Shepherd, J.M, and Manyin, M. (2005). "The effect of urbanization-induced rainfall variability on hydrologic response: linking mesoscale meteorological model output to an urban watershed model." *Proceedings ASCE-EWRI World Water and Environmental Resources Congress*, 15-19 May 2005, Anchorage, Alaska.
41. Han, W. and Burian, S.J. (2005). "Classifying total and effective impervious surfaces for urban hydrologic modeling." *Proceedings ASCE-EWRI World Water and Environmental Resources Congress*, 15-19 May 2005, Anchorage, Alaska.
40. Remley, R., Morgan, R.A., Edwards, F.G., Brye, K.R., and Burian, S.J. (2005). "Pollutant removal capacity of stormwater catchbasin inserts." *Proceedings ASCE-EWRI World Water and Environmental Resources Congress*, 15-19 May 2005, Anchorage, Alaska.
39. Shepherd, J.M., Manyin, M., Burian, S.J., and Garza, C. (2004). "Status of NASA satellite, field observations, and numerical modeling addressing the impact of urbanization on short and long term precipitation variability." Preprint proceedings, 2004 AMS Annual Meeting, Symposium on Nowcasting and Forecasting in the Urban Zone, 11-15 January, Seattle WA.
38. Dupont, S., Ching, J., and Burian, S.J. (2004). "Introduction of urban canopy parameterization into MM5 to simulate urban meteorology at neighborhood scale." Preprint proceedings, 2004 AMS Annual Meeting, 11-15 January, Seattle, WA.
37. Ching, J., Dupont, S., Gilliam, R., Burian, S.J., and Tang, R. (2004). "Neighborhood scale air quality modeling in Houston using urban canopy parameters in MM5 and CMAQ with improved characterization of mesoscale lake-land breeze circulation." Preprint proceedings, Fifth Symposium on the Urban Environment, AMS, 23-26 August, Vancouver, BC, Canada, 9 pages.

36. Burian, S.J., Brown, M.J., Ching, J., Cheuk, M.L., Yuan, M., Han, W., and McKinnon, A. (2004). "Urban morphological analysis for mesoscale meteorological and dispersion modeling applications: current issues." Preprint proceedings, Fifth Symposium on the Urban Environment, AMS, 23-26 August, Vancouver, BC, Canada, 10 pages.
35. Burian, S.J., Stetson, S.W., Han, W., Ching, J., and Byun, D. (2004). "High-resolution dataset of urban canopy parameters for Houston, Texas." Preprint proceedings, Fifth Symposium on the Urban Environment, AMS, 23-26 August, Vancouver, BC, Canada, 9 pages.
34. McPherson, T.N., Brown, M.J., and Burian, S.J. (2004). "Evaluation of the accuracy of the national landuse datasets for the development of urban canopy parameterizations." Preprint proceedings, Fifth Symposium on the Urban Environment, AMS, 23-26 August, Vancouver, BC, Canada, 11 pages.
33. Velugubantla, S.P., Burian, S.J., Brown, M.J., Han, W., McKinnon, A., and McPherson, T.N. (2004). "Assessment of methods for creating a national building statistics database for atmospheric dispersion modeling." Preprint proceedings, Fifth Symposium on the Urban Environment, AMS, 23-26 August, Vancouver, BC, Canada, 7 pages.
32. Burian, S.J., Hooshalsadat, P., Reynolds, S., and Shepherd, J.M. (2004). "Effect of cities on rainfall and the implications for drainage design." *Critical Transitions in Water and Environmental Resources Management*, Proc. of the World Water and Environmental Resources Congress, June 27-July 1, 2004, Salt Lake City, UT, ASCE EWRI, 10 pages.
31. Qin, H., Burian, S.J., and Edwards, F.G. (2004). "Development of a GIS-based stormwater quality management planning tool." *Critical Transitions in Water and Environmental Resources Management*, Proc. of the World Water and Environmental Resources Congress, June 27-July 1, 2004, Salt Lake City, UT, ASCE EWRI, 10 pages.
30. Morgan, R.A., Edwards, F.G., Brye, K.R., and Burian, S.J. (2004). "Evaluation of stormwater catchbasin inserts for transportation facilities." *Proceedings of the 83rd Annual Meeting of the Transportation Research Board*, 11-15 January 2004, Washington, DC, 10 pages.
29. Qin, H., Burian, S.J., and Edwards, F.G. (2004). "A GIS tool for erosion and sediment control planning." *Proceedings, Geographic Information Systems and Water Resources III*, AWRA Spring Specialty Conference, Nashville, TN, 17-19 May 2004.
28. Dupont, S., Burian, S.J., and Ching, J. (2003). "Application of the urbanized version of MM5 for Houston." CMAS Workshop, October 27-29, 2003, Research Triangle Park, North Carolina, USA.
27. Dupont, S., Otte, T., Ching, J., and Burian, S. (2003). "Simulation at neighborhood scale with

- CMAQ for Houston." *26th NATO/CCMS International Technical Meeting on Air Pollution Modelling and its Application*, 26-30 May, 2003, Istanbul, Turkey.
26. Shepherd, J.M. and Burian, S.J. (2003). "A downscaling analysis of the urban influence on rainfall: TRMM satellite component." *Proceedings AMS Annual Meeting, 12th Conference on Satellite Meteorology and Oceanography*, 9-13, February 2003.
 25. Burian, S.J., Nix, S.J., Durrans, S.R., and Pitt, R.E. (2002) "Analysis of the long-term performance of storage/release systems using linked watershed-water body modeling." *Global Solutions for Urban Drainage; CD-ROM Proceedings of the 9th International Conference on Urban Drainage*, 8-13, September 2002, Portland, OR.
 24. Burian, S.J. and Edwards, F.G. (2002) "Historical perspectives of urban drainage." *Global Solutions for Urban Drainage; CD-ROM Proceedings of the 9th International Conference on Urban Drainage*, 8-13, September 2002, Portland, OR.
 23. Boyer, M. and Burian, S.J. (2002). "The effects of construction activities and the preservation of indigenous vegetation on stormwater runoff rates in urbanizing landscapes." *Proceedings, Indigenous Vegetation within Urban Development*, 14-16 August, 2002, Uppsala, Sweden.
 22. Ching, J., Otte, T.L., Dupont, S., Burian, S., and Lacer, A. (2002) "Urban morphology for Houston to drive Models-3/CMAQ at neighborhood scales." *Preprint Proceedings of the American Meteorological Society's Fourth Symposium on the Urban Environment*, 20-24 May 2002, Norfolk, VA.
 21. Burian, S.J., Brown, M.J., and Velugubantla, S.P. (2002). "Roughness length and displacement height derived from building databases." *Preprint Proceedings of the American Meteorological Society's Fourth Symposium on the Urban Environment*, 20-24 May 2002, Norfolk, VA.
 20. Burian, S.J., Brown, M.J., and Velugubantla, S.P. (2002). "Building height characteristics in three U.S. cities." *Preprint Proceedings of the American Meteorological Society's Fourth Symposium on the Urban Environment*, 20-24 May 2002, Norfolk, VA.
 19. Brown, M.J., Burian, S.J., Linger, S.L., Velugubantla, S.P., and Ratti, C. (2002). "An overview of building morphological characteristics derived from 3D building databases." *Preprint Proceedings of the American Meteorological Society's Fourth Symposium on the Urban Environment*, 20-24 May 2002, Norfolk, VA.
 18. Burian, S.J., Brown, M.J., and McPherson, T.N. (2001). "Evaluation of land use/land cover datasets for urban watershed modeling." *Conference Proceedings, IWA 5th International Conference on Diffuse/Nonpoint Pollution and Watershed Management*, Milwaukee, WI,

10-15 June, 2001, Edited by C.S. Melching and E. Alp.

17. Burian, S.J. (2001). "Developments in water supply and wastewater management in the United States during the nineteenth century." *Water Resources Impact*, 3(5): 14-18.
16. McPherson, T.N., Burian, S.J., Stenstrom, M.K., and Suffet, I.H. (2001). "Comparison of the pollutant loads in dry and wet weather runoff in a Southern California urban watershed." *Conference Proceedings, IWA 5th International Conference on Diffuse/Nonpoint Pollution and Watershed Management*, Milwaukee, WI, 10-15 June, 2001, Edited by C.S. Melching and E. Alp.
15. McPherson, T.N., Burian, S.J., Stenstrom, M.K., and Suffet, I.H. (2001). "Trace metal pollutant loading in wet weather and dry weather urban runoff from a Southern California watershed." *Conference Proceedings, 221st ACS National Meeting*, San Diego, CA, 1-5 April, 2001.
14. Ratti, C., Di Sabatino, S., Britter, R., Brown, M., Caton, F., and Burian, S. (2001). "Analysis of 3-D urban databases with respect to pollution dispersion for a number of European and American cities." *Proceedings, The Third International Conference on Urban Air Quality: Measurement, Modelling, and Management*, Loutraki, Greece, 19-23 March, 2001.
13. Burian, S.J. and Durrans, S.R. (2000). "Evaluation of an artificial neural network rainfall disaggregation model." In: *Proceedings, 5th International Workshop on Precipitation in Urban Areas, From Precipitation Measurements to Design and Forecasting Modeling*, Pontresina, Switzerland, 10-12 December, 2000, Burlando and Einfalt (eds.), pp. 92-97.
12. Burian, S.J. and McPherson, T.N. (2000). "Water quality modeling of Ballona Creek and the Ballona Creek Estuary." In: *Water Quantity and Quality Issues in Coastal Urban Areas*, Proceedings of the American Water Resources Association Annual Water Resources Conference, Nov. 6-9, 2000, Miami, FL, pp.305-308.
11. Brown, M.J., Burian, S.J., and Müller, C. (2000). "Analysis of urban databases with respect to mesoscale modeling requirements." *Preprints: 3rd AMS Urban Environment Symposium*, Davis, California, August 2000.
10. Burian, S.J., Streit, G.E., McPherson, T.N., Brown, M.J., and Turin, H.J. (2000). "Modeling the atmospheric contribution of nitrogen compounds in stormwater runoff." *Preprints of the AMS 11th Joint Conference on the Applications of Air Pollution Modeling with the Air and Waste Management Association*, Long, Beach, CA, 9-14 January, 2000.
9. Brown, M.J., Burian, S.J., McPherson, T.N., Streit, G.E., Costigan, K., and Turin, H.J. (2000). "Air and water quality modeling system: application to the Los Angeles Metropolitan Area." *Preprints of the AMS 11th Joint Conference on the Applications of Air Pollution Modeling with the Air and Waste Management Association*, Long, Beach, CA, 9-14 January, 2000.

8. Müller, C., Burian, S.J., and Brown, M.J. (2000). "Urban database issues." Los Alamos National Laboratory, LA-UR#99-5874, paper presented to DOE CBNP Sponsors, January 2000.
7. Burian, S.J., Durrans, S.R., Tomic, S., and Hajji, A. (1998). "Comparison of methods for short-interval rainfall disaggregation." *Proceedings of the American Water Resources Association 34th Annual Conference*, Mobile, AL, 15-19 November, 1998.
6. Brown, M., Burian, S., McPherson, T. Streit, G., Costigan, K. and Greene, B. (1998). "Pollutant transfer through air and water pathways in an urban environment." *Proceedings of the 13th Annual AMS meeting*, October 1998.
5. Pitt, R.E., Field, R., Burian, S.J., Nix, S.J., and Durrans, S.R. (1998). "Drainage design for the future, results of on-going EPA funded research." *Proceedings of the Fourth International Conference on Developments in Urban Drainage Modelling*, London, 21-24 September, 1998.
4. Nix, S.J., Durrans, S.R., Burian, S.J. and Pitt, R.E. (1997). "Wet weather flows in newly urbanizing areas: initial thoughts on designs for the future." *Proceedings of the 1997 Georgia Water Resources Conference*, 20-22 March, 1997, The University of Georgia, Athens, Georgia.
3. Tomic, S. and Burian, S.J. (1997). "Regulated flood frequency problem - data availability analysis." *Proceedings of the 17th Annual Hydrology Days Conference*, 14-18 April, 1997, Fort Collins, Colorado.
2. Tomic, S. and Burian, S.J. (1997). "Composite unit hydrograph with normalization." *Proceedings of the 17th Annual Hydrology Days Conference*, 14-18 April, 1997, Fort Collins, Colorado.
1. Burian, S.J., Nix, S.J. and Durrans, S.R. (1996). "Time distribution of design events and the design and performance of stormwater detention basins." *Proceedings of the 16th Annual Hydrology Days Conference*, 15-18 April, 1996, Fort Collins, Colorado.

Project Reports

24. Burian, S.J., Shin, S., Lee, S., Fereshtehpour, M. (2017). *Consequence-Based Resilience Strategies and Tools for Analyzing Urban Water Infrastructure*, final report submitted to Pacific Northwest National Laboratory, 202 pages.
23. Burian, S.J., Shepherd, J.M., Jin, M., Jeyachandran, I., Carter, M., Kalyanapu, A., and Han, W. (2010). *Urban Enhancements to Meteorological Modeling and Observations*, final report submitted to Defense Threat Reduction Agency.

22. Burian, S.J., Kalyanapu, A., Eric Jones, E., and Han W. (2010). *Water Solutions for Future Unconventional Oil Development*, final report submitted to Institute for Clean and Secure Energy.
21. Burian, S.J., Augustus, N., Jeyachandran, I., and M. Brown. (2008). *National Building Statistics Database, Version 2*. Final Report. LA-UR-08-1921, Los Alamos National Laboratory.
20. Burian, S.J., Reynolds, S.K., and Hooshialsadat, P. (2007). *Understanding the impacts of urbanization on short and long term precipitation variability and land surface hydrologic processes*. Final Project Report submitted to NASA to complete NASA Precipitation Measurement Missions Program grant #NNG04GC94G, 123 pp.
19. Burian, S.J., Jung, J.-S. Jensen, M., Kalyanapu, A., Hooshialsadat, P., and Han, W. (2007). *Development of new precipitation depth, duration, frequency maps for the state of Arkansas*. Final Report submitted to the University of Arkansas, 126 pp.
18. Burian, S.J., McKinnon, A., Hartman, J., and Han, W. (2005). *Gridded building statistics for New York City*. Final report submitted to Los Alamos National Laboratory, DHS NYC Urban Dispersion Project.
17. Burian, S.J., Maddula, S.R.K., Velugubantla, S.P., and Brown, M.J. (2005). *Morphological analyses using 3D urban databases: Seattle, WA*, LA-UR-05-1822, Los Alamos National Laboratory, Los Alamos, NM.
16. Burian, S.J., Maddula, S.R.K., Velugubantla, S.P., and Brown, M.J. (2005). *Morphological analyses using 3D urban databases: Oklahoma City, OK*, LA-UR-05-1821, Los Alamos National Laboratory, Los Alamos, NM.
15. Qin, H., Burian, S.J., and Edwards, F.G. (2004). *GIS-based BMP planning tool for stormwater quality management*. Final Report submitted to Mack-Blackwell Rural Transportation Center and Arkansas Highway and Transportation Department.
14. Edwards, F.G. and Burian, S.J. (2004). *Training and course materials of stormwater pollution prevention*. MBTC 9210. U.S. Department of Transportation. (available from NTIS).
13. Burian, S.J., Maddula, S.R.K., Velugubantla, S.P., and Brown, M.J. (2003). *Morphological analyses using 3D urban databases: Houston, TX*, LA-UR-03-8633, Los Alamos National Laboratory, Los Alamos, NM.
10. Burian, S.J., Han, W., Velugubantla, S.P., and Maddula, S.R.K. (2003). *Development of gridded fields of urban canopy parameters for Models-3/CMAQ/MM5*. Final Project Report

submitted to the U.S. Environmental Protection Agency (EPA), Research Triangle Park, NC.

9. Burian, S.J., Maddula, S.R.K., Velugubantla, S.P., and Brown, M.J. (2002). *Morphological analyses using 3D urban databases: Albuquerque, NM*, LA-UR-03-6198, Los Alamos National Laboratory, Los Alamos, NM.
8. Burian, S.J., Brown, M.J., and Linger, S.P. (2002). *Morphological analyses using 3D urban databases: Los Angeles, California*, LA-UR-02-0781, Los Alamos National Laboratory, Los Alamos, NM.
7. Burian, S.J., Velugubantla, S.P., and Brown, M.J. (2002). *Morphological analyses using 3D urban databases: Phoenix, Arizona*, LA-UR-02-6726, Los Alamos National Laboratory, Los Alamos, NM.
6. Burian, S.J., Velugubantla, S.P., Chittineni, K., Maddula, S.R.K., and Brown, M.J. (2002). *Morphological analyses using 3D urban databases: Portland, Oregon*, LA-UR-02-6725, Los Alamos National Laboratory, Los Alamos, NM.
5. Burian, S.J., Velugubantla, S.P., and Brown, M.J. (2002). *Morphological analyses using 3D urban databases: Salt Lake City, Utah*, LA-UR-03-6197, Los Alamos National Laboratory, Los Alamos, NM.
4. Burian, S.J. and Brown, M.J. (2001). *Summary of Los Angeles, California urban building and land use/cover data*. Los Alamos Unclassified Report, LA-UR-01-4055, Los Alamos National Laboratory, Los Alamos, NM, July 2001.
3. Burian, S.J., McPherson, T.N., Brown, M.J., and Turin, H.J. (2000). "Development of a stormwater model for the Ballona Creek watershed." *Los Alamos Unclassified Report (LA-UR-00-1849)*, Los Alamos National Laboratory, Presented at 1st Ballona Wetlands Symposium, May 17-18, 2000, Los Angeles, California.
2. Burian, S.J. (1999). "Long-term performance of wet-weather flow storage/release systems considering receiving-water impacts." *Ph.D. Dissertation*, Department of Civil and Environmental Engineering, The University of Alabama, Tuscaloosa, Alabama.
1. Pitt, R., Lilburn, M., Durrans, S.R., Burian, S., Nix, S., Voorhees, J., and Martinson, J. (1999). *Guidance manual for integrated wet weather flow (WWF) collection and treatment systems for newly urbanized areas (New WWF Systems)*. Final project report submitted to U.S. Environmental Protection Agency, Urban Watershed Management Branch, Edison, NJ.

Presentations and Invited Talks (Presenter in bold; students underlined)

132. Lee, S., Shin, S., Burian, S., Judi, D., and McPherson, T., "Detectability-based Resilience of Water Distribution System using Failure Finger Print", *1st International WDSA/CCWI Joint Conference*, Kingston, Ontario, Canada, July 23-25, 2018 (oral).

131. Li, H., Hansen, C., Von Stackelberg, N., Goel, R., Burian, S., and **Barber, M.** (2018). "Assessing and modeling climate change impacts on cyanobacteria in Utah Lake." *2018 UCOWR/NIWR Annual Water Resources Conference*, June 26-28, Pittsburgh, PA.
130. **Burian, S.J.**, Ward, M., Stevenson, D., Ahmad, S., Gates, T., Mahar, R.B., Lashari, B., Banuri, T., Chaudhry, A., Ullman, J.L., (2018). "Assessment of a peer mentoring program to build capacity for course development and delivery." *American Society for Engineering Education (ASEE) Annual Conference Proceedings*, 24-27 June, 2018, Salt Lake City, UT, USA.
129. **Burian, S.J.** (2018). "Building research capacity in Pakistan to achieve the United Nations sustainable development goal for water." *Utah Section of the American Water Resources Association Annual Conference*, Salt Lake City, Utah, USA, May 16, 2018. (Invited Talk)
128. **Burian, S.J.**, Strong, C., Arens, S. (2018). "Green infrastructure optimization to achieve near natural hydrology conditions." *Utah City Engineers Association Annual Conference*, St. George, Utah, USA, January 25-26, 2018. (Invited Talk)
127. **Bano, R.**, Rafique, A., Hassan, D., and Burian, S.J. (2017). "Performance of Diامر Basha Dam under Changing Hydrology and Demand Management" *International Science Policy Conference on Climate Change*. Dec 18-20, 2017. Islamabad, Pakistan.
126. **Tavakol-Davani, He.**, Tavakol-Davani, Ha., Feng, Y., Burian, S.J. (2017). "Green infrastructure optimization to achieve near natural hydrology conditions." *ASCE-EWRI World Environmental & Water Resources Congress 2017*, Sacramento, California, USA, May 21-25, 2017.
125. **Hansen, C.H.**, Goharian, E., Ahmed, W., and Burian, S.J. (2017). "Sensitivity of water system vulnerability to changing snowpack from dust deposition and climate change." *ASCE-EWRI World Environmental & Water Resources Congress 2017*, Sacramento, California, USA, May 21-25, 2017.
124. Tamaddun, K., Kalra, A., Ahmed, W., Dars, G.H., Burian, S., and Ahmad, S. (2017). "Association of Indian Ocean climate variability with precipitation in Pakistan." *ASCE-EWRI World Environmental & Water Resources Congress 2017*, Sacramento, California, USA, May 21-25, 2017.
123. Salemnia, A., Fereshtehpour, M., **Tavakol-Davani, He.**, Feng, Y., Judi, D., McPherson, T., and Burian, S.J. (2017). "Study of operational impact curves for transportation systems linking flood depth to vehicle speed." *ASCE-EWRI World Environmental & Water Resources Congress 2017*, Sacramento, California, USA, May 21-25, 2017. (poster)

122. **Lee, S.**, Shin, S., and Burian, S.J. (2017). "Sustainability metrics for water distribution system using triple top line." *ASCE-EWRI World Environmental & Water Resources Congress 2017*, Sacramento, California, USA, May 21-25, 2017.
121. Ahmed, W., **Hansen, C.H.**, Goharian, E., Shepherd, M., Ahmad, S., and **Burian, S.J.** (2017). "Data management and modeling for addressing the water-energy-food nexus in Pakistan." *ASCE-EWRI World Environmental & Water Resources Congress 2017*, Sacramento, California, USA, May 21-25, 2017.
120. **Nishu, N.**, Burian, S.J., and Pomeroy, C. (2017). "Comparison of centralized and distributed water supply infrastructure for small communities." *ASCE-EWRI World Environmental & Water Resources Congress 2017*, Sacramento, California, USA, May 21-25, 2017. (poster)
119. Ahmed, W., **Chaudhry, I.**, Ali, M., and **Burian, S.J.** (2017). "Coupling of SWMM and ArcGIS for drainage infrastructure management." *ASCE-EWRI World Environmental & Water Resources Congress 2017*, Sacramento, California, USA, May 21-25, 2017. (poster)
118. **Sowby, R.B.**, and Burian, S.J. (2017). "Energy requirements for public water services in the United States." *ASCE-EWRI World Environmental & Water Resources Congress 2017*, Sacramento, California, USA, May 21-25, 2017.
117. **Burian, S.J.** (2017). "Changing paradigms of urban water infrastructure." *Wallace Stegner Center 22nd Annual Symposium – Water in the West: Exploring Untapped Solutions*, University of Utah, March 24, 2017 (Invited panel presentation).
116. **Burian, S.J.** (2017). "Water resilience research at the University of Utah." Presentation at *Water Resilience Research Forum* at the Utah Asia Campus, March 14, 2017.
115. **Petit-Boix, A.**, **Feng, Y.**, Burian, S.J., Apul, D., Josa, A., Rieradevall, J., and Gabarrell, X. (2016). "Environmental map of water and food self-sufficiency: integrating rainwater harvesting and urban agriculture in different climates." *LCA Food 2016*, Dublin, Ireland, 19-21 October, 2016.
114. **Grant, J.**, Weeg, M., Carlson, A., Wallace, H., **Feng, Y.**, Burian, S.J. (2016). "Use of green infrastructure to increase invertebrate biodiversity in the built environment." *Conservation Asia 2016*, Singapore, 29 June – 2 July, 2016.
113. **Burian, S.J.**, Ward, M., Banuri, T., Chaudhry, M.A., Ahmad, S., Lashari, B., Ansari, K. (2016). "Higher education capacity building to support achieving the sustainable development goal for water in Pakistan." *Water and Environment in the New Millennium: Education and Capacity Building*. 3-5 December 2016, University of Tehran, Tehran, Iran. (Invited keynote presentation)

112. **Rafique, A.**, Burian, S.J., Goharian, E., Riaz, K., and Chaudhry, I. (2016). "Flood Frequency Analysis and Water Management Modeling of Upper Indus River Basin." *ASCE-EWRI World Environmental & Water Resources Congress 2016*, West Palm Beach, Florida, May 23, 2016. (poster)
111. **Nishu, N.**, Goharian, E., and Burian, S.J. (2016). "Analysis of supply solution options to mitigate the water supply crisis in developing countries." *ASCE-EWRI World Environmental & Water Resources Congress 2016*, West Palm Beach, Florida, May 23, 2016. (poster)
110. **Tavakol-Davani, He.**, Goharian, E., Hansen, C., Tavakol-Davani, Ha., Apul, D. and Burian, S.J. (2016). "Rainwater harvesting ability to control climate change impacts on combined sewer overflows." *ASCE-EWRI World Environmental & Water Resources Congress 2016*, West Palm Beach, Florida, May 23, 2016. (presented in the 13th Urban Watershed Management Symposium).
109. **Burian, S.J.** (2016). "Urban water-energy-food nexus." *ASCE-EWRI World Environmental & Water Resources Congress 2016*, West Palm Beach, Florida, May 23, 2016 (Invited panel presentation).
108. **Hansen, C.**, Burian, S.J., and Dennison, P. (2016). "A Tale of Two Bays: Enhancing understanding of historical conditions and Evaluating Patterns of Water Quality in the Great Salt Lake." *ASCE-EWRI World Environmental & Water Resources Congress 2016*, West Palm Beach, Florida, May 23, 2016.
107. **Tavakol-Davani, Ha.** and Burian, S.J. (2016). "A watershed-scale life cycle assessment framework for rainwater harvesting systems." *ASCE-EWRI World Environmental & Water Resources Congress 2016*, 13th Urban Watershed Management Symposium, West Palm Beach, Florida, May 24, 2016.
106. **Feng, Y.**, Burian, S.J., Mitchell, S., and White, D. (2016). "Water demand estimation for urban agriculture in a semi-arid climate." *ASCE-EWRI World Environmental & Water Resources Congress 2016*. West Palm Beach, FL, May 22-26.
105. **Feng, Y.**, Burian, S.J., Petit-Boix, A., Josa, A., Rieradevall, J., Gabarrell, X., and Apul, D. (2016). "Life cycle assessment of the cost and the social and ecosystem services of rainwater harvesting in dry climates." in *ASCE-EWRI World Environmental & Water Resources Congress 2016*. West Palm Beach, FL, May 22-26 (poster).
104. **Goel, R.**, Barber, M, Burian, S., Hinners, S.J., and Adams, C. (2015). "Uncertainty in future water quality and quantity in the Jordan River." *Salt Lake County Watershed Symposium*, Salt Lake City, Utah, November 19, 2015.

103. **Burian, S.,** Jha, M., Richard, G., Shepherd, M. (2015). "Water sustainability in cities: An interdisciplinary geoscience and engineering teaching module." *American Water Resources Association (AWRA) Annual Conference*, Denver, Colorado, November 18, 2015.
102. **Burian, S.J.** (2015). "Mixing water and cities: Don't worry, it's a sustainable and resilient mocktail!" *Global Change and Sustainability Center Seminar Series*, Salt Lake City, Utah, November 3, 2015. (invited talk)
101. **Hansen, C., Goharian, E.,** and Burian, S.J. (2015). "Development of a Combined Change Factor Methodology (CCFM) for finer scale climate change impact assessment." *AWWA Intermountain Section Annual Conference*, Logan, Utah, September 17, 2015. (poster)
100. **Hansen, C.,** Burian, S.J., Porter, R.J., and Williams, G. (2015). "Statistical and artificial neural network models of remotely sensed water quality: Farmington Bay, Great Salt Lake, Utah." *AWWA Water Quality Technology Conference*, Salt Lake City, Utah, November 2015. (poster)
99. **Goharian, E.,** Dawadi, S., Ahmad, S., and Burian, S.J., (2015), "A tale of two cities: Comparison of water resource management system response under varying climate and population growth in Salt Lake City, UT, and Las Vegas, NV." *2015 UCOWR/NIWR/CUAHSI Conference*, 16-18 June, Las Vegas, Nevada.
98. **Burian, S.J.** and Apul, D. (2015). "Cross-institution collaborative learning (CICL) to connect water resources design with sustainability analysis." *American Society for Engineering Education (ASEE) Annual Conference and Exposition*, Seattle, Washington, June 16, 2015.
97. **Goharian, E.,** Burian, S.J., Bardsley, T., Strong, S., Niermeyer, J., Briefer, L., and Kirkham, T. (2015). "Evaluating sustainability tradeoffs of integrated urban water resources management alternatives." *2015 UCOWR/NIWR/CUAHSI Conference*, 16-18 June, Las Vegas, Nevada.
96. **Burian, S.J.** (2015). "Cyber-infrastructure to enhance access to data- and computationally-intensive modeling for water resources management." *Utah Digital Government Summit*, Salt Lake City, Utah, May 21, 2015. (invited talk)
95. **Feng, Y.,** Burian, S.J., Pardyjak, E.R., and Pomeroy, C.A. (2015). "Impacts of green infrastructure on the water budget and other ecosystem services in semi-arid urban areas." In: *Proceedings, World Environmental & Water Resources Congress*, 17-21 May 2015, Austin, Texas, USA. ASCE, Reston, VA.
94. **Goharian, E.,** Burian, S.J., Niermeyer, J., Briefer, L., Kirkham, L., and Bardsley, T. (2015). "Sustainability evaluation of decentralized urban water infrastructure using systems

- modeling.” In: *Proceedings, World Environmental & Water Resources Congress*, 17-21 May 2015, Austin, Texas, USA. ASCE, Reston, VA. (poster)
93. **Panthail, J.K.**, Brewer, S.C., and Burian, S.J. (2015). “Statistical modeling of the PM2.5-Albedo-Streamflow relationship in Parley’s Creek, Utah using MODIS albedo data.” In: *Proceedings, World Environmental & Water Resources Congress*, 17-21 May 2015, Austin, Texas, USA. ASCE, Reston, VA. (poster)
 92. **Tavakol-Davani, Ha.**, Burian, S.J., Devkota, J., and Apul, D. (2015). “Comparing life cycle costs and environmental impacts of green and gray infrastructures for stormwater control.” In: *Proceedings, World Environmental & Water Resources Congress*, 17-21 May 2015, Austin, Texas, USA. ASCE, Reston, VA. (poster)
 91. **Tavakol-Davani, Ha.**, Burian, S.J., Devkota, J., and Apul, D. (2015). “Comparing green and gray techniques for combined sewer overflow control.” In: *Proceedings, World Environmental & Water Resources Congress*, 17-21 May 2015, Austin, Texas, USA. ASCE, Reston, VA.
 90. **Goharian, E.**, **Burian, S.J.**, Bardsley, T., Strong, C., Niermeyer, J., Briefer, L., and Kirkham, T. (2015). “Climate change and scenario planning utilizing integrated water resource management modeling: Case study of Salt Lake City.” *Water for Urban Areas: Managing Risks and Building Resiliency*, AWRA Spring Specialty Conference, American Water Resources Association, 29 March – 1 April 2015, Los Angeles, CA, USA.
 89. **Goharian, E.** and Burian, S.J. (2015). “Reliability assessment of Salt Lake City Water Supply System by using a dynamic-probabilistic systems approach.” *Water for Urban Areas: Managing Risks and Building Resiliency*, AWRA Spring Specialty Conference, American Water Resources Association, 29 March – 1 April 2015, Los Angeles, CA, USA.
 88. **Goharian, E.** and Burian, S.J. (2015). “A new metric integrating flooding and water shortage to evaluate vulnerability of water systems subject to climate change.” *Water for Urban Areas: Managing Risks and Building Resiliency*, AWRA Spring Specialty Conference, American Water Resources Association, 29 March – 1 April 2015, Los Angeles, CA, USA.
 87. **Tavakol-Davani, H.**, Goharian, E., Hansen, C., and Burian, S.J. (2015). “Climate change impacts on green infrastructure performance in Toledo.” *Water for Urban Areas: Managing Risks and Building Resiliency*, AWRA Spring Specialty Conference, American Water Resources Association, 29 March – 1 April 2015, Los Angeles, CA, USA.
 86. **Feng, Y.**, Burian, S., Pardyjak, E., and Pomeroy, C. (2014). “Impacts of green infrastructure on the water budget and other ecosystem services in subhumid urban areas.” *AGU Fall Meeting*, 15-19 December, San Francisco, CA, USA.

85. **Burian, S.J. (2014).** "Water infrastructure sustainability and resilience to urban disasters." *Korea Research Institute for Human Settlements*, Seoul, South Korea, August 7, 2014 (Invited Talk)
84. **Burian, S.J., Goharian, E., York, C., Tavakol-Davani, H., Feng, Y., Zahmatkesh, Z., and Panthail, J.K. (2014).** "Climate and urban water management influences on water levels in Farmington Bay near Salt Lake City, Utah." In: *Proceedings, World Environmental & Water Resources Congress*, 1-5 June 2014, Portland, OR, USA. ASCE, Reston, VA.
83. **Feng, Y.,** Burian, S.J., Pardyjak, E., Pomeroy, C., Elliott, G., and Brotherton, T. (2014). "Green roof water budget measurements using weighing lysimeters in Salt Lake City, Utah." In: *Proceedings, World Environmental & Water Resources Congress*, 1-5 June 2014, Portland, OR, USA. ASCE, Reston, VA.
82. **Goharian, E.** and Burian, S.J. (2014). "Using dynamic simulation to support integrated water resources management." In: *Proceedings, World Environmental & Water Resources Congress*, 1-5 June 2014, Portland, OR, USA. ASCE, Reston, VA.
81. **Goharian, E.,** Burian, S.J., Swain, N., Christensen, S., Das, D., Jones, N. (2014). "Web-based dynamics simulation reservoir system management tool for water supply utilities in Salt Lake City, Utah." In: *Proceedings, World Environmental & Water Resources Congress*, 1-5 June 2014, Portland, OR, USA. ASCE, Reston, VA.
80. **Houdeshel, C.D.** and Burian, S.J. (2014). "Identifying critical source areas along an engineering stormwater flow path in order to optimize stormwater green infrastructure placement." In: *Proceedings, World Environmental & Water Resources Congress*, 1-5 June 2014, Portland, OR, USA. ASCE, Reston, VA.
79. **Panthail, J.K.,** Burian, S.J., Goharian, E., and Houdeshel, D. (2014). "Simulation of the impact of urban air pollution on snowmelt runoff quantity and quality in the Parley's Creek Watershed in Salt Lake City, Utah." In: *Proceedings, World Environmental & Water Resources Congress*, 1-5 June 2014, Portland, OR, USA. ASCE, Reston, VA.
78. **Tavakol-Davani, H.** and Burian, S.J. (2014). "Accelerating stormwater modeling with distributed computing using HT Condor." In: *Proceedings, World Environmental & Water Resources Congress*, 1-5 June 2014, Portland, OR, USA. ASCE, Reston, VA.
77. **Tavakol-Davani, H.** Devkota, J., Apul, D., and Burian, S.J. (2014). "Comparing green and gray infrastructure solutions for the Toledo combined sewer system in terms of stormwater runoff control and life cycle environmental impacts." In: *Proceedings, World Environmental & Water Resources Congress*, 1-5 June 2014, Portland, OR, USA. ASCE, Reston, VA.

76. **Tavakol-Davani, H.** Tavakol-Davani, H., Burian, S.J., and Muleta, M. (2014). "Uncertainty analysis of a coupled life cycle analysis and urban drainage model." In: *Proceedings, World Environmental & Water Resources Congress*, 1-5 June 2014, Portland, OR, USA. ASCE, Reston, VA.
75. **Zahmatkesh, Z.**, Goharian, E., Burian, S.J., Tavakol-Davani, H., and Karamouz, M. (2014). "A study of climate change impacts on urban runoff in a New York City watershed." In: *Proceedings, World Environmental & Water Resources Congress*, 1-5 June 2014, Portland, OR, USA. ASCE, Reston, VA.
74. **Zahmatkesh, Z.**, Tavakol-Davani, H., Burian, S.J., Goharian, E., and Karamouz, M. (2014). "Low-impact development (LID) implementation to mitigate climate change impacts on urban runoff." In: *Proceedings, World Environmental & Water Resources Congress*, 1-5 June 2014, Portland, OR, USA. ASCE, Reston, VA.
73. **Neupauer, R.M.**, Chan Hilton, A.B., Burian, S., Lauer, J.W., Mathisen, P., Mays, D.C., Nicklow, J.W., Olsen, M.S., Pomeroy, C., Ruddell, B., and Sciortino, A. (2013). "H2Oh!: Collection of classroom demonstrations and activities for improving student learning of water concepts." *Geological Society of America's 125th Anniversary Annual Meeting & Exposition*, 27-30 October, Denver, Colorado.
72. **Burian, S.J.**, Pomeroy, C., Houdeshel, D., Walsh, T., Reynolds, S., Orr, A., Tavakol-Davani, H., Feng, Y., Sandoval, K. (2013). "Experimental and computer modeling studies of green infrastructure performance in a semi-arid climate." *2013 Low Impact Development Symposium*, 18-21 August, Saint Paul, Minnesota.
71. **Apul, D.**, Devkota, J., Burian, S., and Tavakol-Davani, H. (2013). "Optimizing the use of harvested rainwater in buildings based on economic and environmental criteria." *Environmental Engineers and Scientists of 2050: Education, Research, and Practice*, 2013 AEESP 50th Anniversary Conference, 14-16 July, 2013, Golden, Colorado, USA.
70. **Burian, S.J.**, Barbanell, E., McCool, D., Ward, M., Ehleringer, J., and Bowen, B. (2013). "Interdisciplinary teaching and research at the University of Utah to address water sustainability in the Mountain West." *Annual Conference, Association for Environmental Studies and Sciences*, 19-23 June, Pittsburgh, PA.
69. **Burian, S.J.**, Strong, C., Pomeroy, C., Kochanski, A., Goharian, E. (2013). "Climate data access and urban water system modeling." *CI-WATER Symposium and 2nd Annual Conference*, Salt Lake City, Utah, 29-30 May 2013.
68. **Devkota, J.**, Apul, D.S., Burian, S.J., and Tavakol-Davani, H. (2013). "Sustainability of decentralized rainwater harvesting system - An approach to reduce potable water demand and storm water runoff." *Ohio Stormwater Conference*, Cincinnati, OH, May 2013.

67. **Devkota, J.**, Apul, D.S., Burian, S.J., and Tavakol-Davani, H. (2013). "Effect of building design on cost, energy, and emission payback periods of rainwater harvesting systems." *World Environmental and Water Resources Congress (EWRI 2013)*, Cincinnati, OH, May 2013.
66. **Goharian, E.**, Burian, S., Bardsley, T., Kirkham, T. (2013). "Evaluating the reliability of a water supply system based on system dynamics modeling: A Case Study of Salt Lake City, Utah." *2013 World Environmental and Water Resources Congress*, 19-23 May, Cincinnati, Ohio.
65. **Tavakol-Davani, H.**, Burian, S.J, Apul, D.S., and Devkota, J. (2013). "Integrating life-cycle assessment and long-term performance in urban water infrastructure analysis." *World Environmental and Water Resources Congress (EWRI 2013)*, Cincinnati, OH, May 2013.
64. **Bardsley, T.**, Burian, S., Strong, C., Goharian, E., Livneh, B., Wood, A., Kirkham, T., Briefer, L., Miller, P. (2013). "Assessing climate change risks to a municipal water supply: A pilot project incorporating downscaled climate projections, operational hydrologic modeling, and a systems planning model." *2013 CPASW Climate Prediction Applications Sciences Workshop*, 23-25 April, Logan, Utah.
63. **Bardsley, T.**, Burian, S., Strong, C., Goharian, E., Kirkham, T., Briefer, L., Livneh, B., Wood, A., Miller, P. (2013). "Assessing climate change risks to a municipal water supply: A pilot project incorporating downscaled climate projections, operational hydrologic modeling, and a systems planning model." *2013 Spring Runoff Conference*, 9-10 April, Utah State University, Logan, Utah.
62. **Chan Hilton, A.B.**, Neupauer, R.M., Burian, S., Lauer, J.W., Mathisen, P., Mays, D.C., Olsen, M.S., Pomeroy, C., Ruddell, B., and Sciortino, A. (2012). "H2Oh!: Classroom demonstrations and activities for improving student learning of water concepts." *AGU Fall Meeting*, 3-7 December 2012, San Francisco, CA.
61. **Devkota, J.**, Apul, D.S., Burian, S.J., and Tavakol-Davani, H. (2012) Analysis of Decentralized Harvested Rainwater Systems using the Urban Water Infrastructure Sustainability Evaluation (uWISE) Framework, *Sustainable U: Perspectives on Sustainability in Higher Education and Beyond in Northwest Ohio*, Toledo, OH, November 2012.
60. **Burian S.J.**, Strong C., Pomeroy C. (2012). "Cyberinfrastructure to Advance Linked Climate and Urban Water Management Research." Oral presentation at *CI-WATER Symposium 2012*, Salt Lake City, Utah, 6 September 2012.
59. **Burian, S.J.** (2012). "Towards sustainable urban water systems." University of Notre Dame, *Environmental Fluid Dynamics Seminar Series*, April 24, 2012 (Invited Talk).

58. **Feng, Y.**, Burian, S.J., and Pomeroy, C.A. (2012). "A review of impact of evapotranspiration (ET) on urban runoff." *World Environmental & Water Resources Congress*, May 20-24, 2012, American Society of Civil Engineers, Reston, VA. (Poster)
57. **Neupauer, R.**, Burian, S. Lauer, W., Mathisen, P., Mays, D., Pomeroy, C., Ruddell, B., Sciortino, A., and Chan Hilton, A. (2012). "Classroom demonstration activities for improving student learning of hydraulics and fluid mechanics concepts." *2012 EWRI Congress*, Albuquerque, NM, 20-24 May 2012. (Poster)
56. **Glotfelty, T.**, Ching, J., Tewari, M., Chen, F., and Burian, S. (2011). "Implementing NUDAPT Urban Canopy Parameters for 44 cities in WRF." *CMAS Conference*, Chapel Hill, NC, USA October 24-26, 2011.
55. **Burian, S.J.** (2010). "Managing water in cities: Past, present, and future." *Global Change and Ecosystems Center Seminar Series*, University of Utah, November 30, 2010 (Invited Talk).
54. **Houdeshel, C.D.**, Mansell, B.L., Tahir, S., Walsh, T., Hogsett, M., Kalyanapu, A., Nadauld, T., Cheng, C.J., Burian, S.). (2010). "Implementation of novel water conservation practices: University of Utah Student Chapter" *AWRA Annual Conference*, Philadelphia, PA. November, 2010.
53. **Burian, S.J., Bowers, J.**, Flower, W., Pomeroy, C.A., and Rutherford, W. (2010). "Permeable pavement: Concepts, applications, and benefits for tree health." *2010 Southern Utah Green Industry Conference*, St. George, Utah, 4 Nov 2010 (Invited Talk).
52. **Skousen, B.D.**, Judi, D., McPherson, T., and Burian, S. (2010). "Effects of breach formation parameter uncertainty on inundation risk area and consequence analysis." *Dam Safety 2010 National Conference*, Seattle, WA, 19-23 September 2010.
51. **Kalyanapu, A.J.**, Shankar, S., Judi, D.R., Stephens, A., McPherson, T.N., Burian, S.J. (2010). "Performance comparison of GIS-based CPU, multi-threading and GPU enhanced 2D flood models." *2010 AWRA Spring Specialty Conference: Geographic Information Systems (GIS) and Water Resources VI*, Orlando, FL, March 29-31, 2010.
50. **Flower, W., Burian, S.J.**, Pomeroy, C.A., and Pardyjak, E.R. (2010). "Surface temperature and heat exchange differences between pervious concrete and traditional concrete and asphalt pavements." *International Low Impact Development Conference*, San Francisco, CA, 11-14 April, 2010.
49. **Jensen, M.A., Steffen, J., Burian, S.J.**, Pomeroy, C.A. (2010). "Do rainwater harvesting objectives of water supply and stormwater management conflict?" *International Low*

Impact Development Conference, San Francisco, CA, 11-14 April, 2010.

48. **Burian, S.J.** and Jones, D. (2010). "National assessment of rainwater harvesting as a stormwater best management practice: Challenges, needs, and recommendations." International Low Impact Development Conference, San Francisco, CA, 11-14 April, 2010.
47. **Jeyachandran, I.**, Burian, S.J., Pardyjak, E., Pomeroy, C.A., and **Skousen, B.** (2010). "Impact of green infrastructure on urban energy fluxes and microclimate." *Proceedings, ASCE Environmental & Water Resources Institute (EWRI) 3rd International Perspective on Current & Future State of Water Resources and the Environment*, 5-7 January, 2010, Chennai, India.
46. **Han, W.S.**, Shepherd, J.M., and **Burian, S.J.** (2009). "Assessment of satellite rainfall for global flood modeling in urban areas." *AWRA Annual Conference*, 9-12 November 2009, Seattle, WA.
45. **Burian, S.J.**, **Jones, E.**, Hong, A., Goel, R., Li, Liang, Cha, Z., Dudley-Murphy, E., and Nash, G. (2009). "Oil shale development in Western U.S.: Water resources challenges and solutions." *AWRA Spring Specialty Conference*, 4-6 May 2009, Anchorage, AK.
44. **Jeyachandran, I.**, **Burian, S.J.**, and Pardyjak, E. (2009). "Cascading effects of landscape modification on microclimate, energy and water usage." *AWRA Spring Specialty Conference*, 4-6 May 2009, Anchorage, AK. (Poster)
43. **Judi, D.**, **Burian, S.J.**, and McPherson, T. (2009). "Digital elevation data for hydrologic applications: Computational efficiency in two-dimensional modeling." *AWRA Spring Specialty Conference*, 4-6 May 2009, Anchorage, AK. (Poster)
42. **Burian, S.J.**, **Jones, E.**, Hong, A., and Goel, R. (2009). "Water management for oil sands and oil shale development in Utah: Challenges and solutions." *Western U.S. Oil Sands Conference*, 27, February 2009, Salt Lake City, UT.
41. **Burian, S.J.**, **Jeyachandran, I.**, Shepherd, J.M., **Carter, M.**, and Jin, M. (2009). "Satellite-based approaches to determine urban characteristics: Implications for NUDAPT and modeling." *89th AMS Annual Meeting, Eighth Symposium on the Urban Environment*, 11-15 January 2009, Phoenix, AZ.
40. **Burian, S.J.**, Pardyjak, E., **Jeyachandran, I.**, **Augustus, N.**, **Ramamurthy, P.**, Forster, C., and **Skousen, B.** (2009). "Climate and urban form effects on the water and energy budgets in a residential area of Salt Lake City, Utah." *89th AMS Annual Meeting, Eighth Symposium on the Urban Environment*, 11-15 January 2009, Phoenix, AZ.
39. **Carter, M.**, Shepherd, J.M., Burian, S.J., **Jeyachandran, I.**, and Jin, M. (2009). "The impact of high-resolution, satellite-derived urban parameters on urban-coastal meso-circulations."

89th AMS Annual Meeting, Eighth Conference on Coastal Atmospheric and Oceanic Prediction and Processes, 11-15 January 2009, Phoenix, AZ. (Poster)

38. **Jeyachandran, I.**, Burian, S.J., and Pardyjak, E.R. (2008). "Effects of urbanization on interconnected water cycle, microclimate and energy use in semi-arid regions." *American Geophysical Union Fall Meeting*, San Francisco, CA, 14-18 December, 2008.
37. **Burian, S.J.**, **Judi, D.R.**, Visarraga, D., McPherson, T.N. (2008). "Regional-scale emergency flood management: Desktop parallel computing and 1D-2D integration." *International Conference on Water Scarcity, Global Changes, and Groundwater Management Responses*, UNESCO, University of California, Irvine, December 1-5, 2008.
36. **Burian, S.J.**, Dietz, M., Pomeroy, C., and **Houdeshel, D.** (2008). "Low impact development in Utah: Progress, constraints, and future outlook." *2008 International Low Impact Development Conference*, Seattle, November 16-19, 2008.
35. **Jeyachandran, I.**, Burian, S.J., **Augustus, N.**, Pardyjak, E., Ramamurthy, P., and Forster, C. (2008). "Urban landscape and climate influences on urban water cycle." *American Water Resources Association Annual Conference*, New Orleans, LA, November 16-19, 2008.
34. **Jeyachandran, I.**, Yan, M., and Burian, S.J. (2008). "Remote sensing based urban water stress analysis and drought management." *American Water Resources Association Annual Conference*, New Orleans, LA, November 16-19, 2008.
33. **Burian, S.J.**, Shepherd, J.M., Jin, M., **Jeyachandran, I.**, Carter, M., and Li, Z. (2008). "Urban land surface characterization and aerosol adjustments in meteorological modeling." *12th Annual George Mason University Conference on Atmospheric Transport and Dispersion Modeling*, 8-10 July 2008, Fairfax, VA.
32. **Burian, S.J.**, Johnson, W., Montague, F., Holt, A., Nielson, J., and David, R. (2008). "Multidiscipline team teaching approach to enhance project-based learning of sustainable design." *American Society for Engineering Education (ASEE) Annual Conference Proceedings*, 22-25 June, 2008, Pittsburgh, PA.
31. **Jensen, M.A.**, Burian, S.J., and **Pomeroy, C.** (2008). "Feasibility of rainwater harvesting in Salt Lake City, Utah." *Sustainability 2008*, Water Environment Federation, 22-26 June, 2008, National Harbor, MD.
30. **Judi, D.R.**, **Kalyanapu, A.**, McPherson, T., and Burian, S.J. (2008). "Use of GIS visualization and Google Earth mapping service to aid flood hazard impact decision making." *AWRA Spring Specialty Conference – GIS and Water Resources V*, 17-19 March, 2008, San Mateo, CA.

29. **Kalyanapu, A.**, McPherson, T., and Burian, S.J. (2008). "Effect of Manning's n estimation approaches on hydrologic model." *AWRA Spring Specialty Conference – GIS and Water Resources V*, 17-19 March, 2008, San Mateo, CA.
28. **Judi, D.R.**, **Kalyanapu, A.**, McPherson, T., and Burian, S.J. (2008). "Integration of SWMM into a dam break, hurricane, and extreme flood modeling and damage assessment framework." *Urban Water Systems Modeling Annual Conference*, 21-22 Feb. 2008, Toronto, CA.
27. **Jones, E.**, Murphy, B., Nash, G., Han, W.S., and Burian, S.J. (2008). "Estimating water requirements for oil shale development in the Uintah/Piceance Basins." *Western U.S. Oil Sands Technology Transfer Meeting*, 22 Feb. 2008, Salt Lake City, UT.
26. **Han, W.S.**, Burian, S.J., and Shepherd, J.M. (2008). "Use of TRMM precipitation data to investigate urbanization effects on the water cycle." *TRMM Science Conference*, 4-7 February 2008, Las Vegas, NV.
25. **Shepherd, J.M.**, Shem, W., Burian, S.J., and Jin, M. (2008). "TRMM Signatures of Urban-Induced Rainfall Anomalies: Revisiting the '5 Cities Study'." *TRMM Science Conference*, 4-7 February 2008, Las Vegas, NV.
24. **Jin, M.**, Burian, S.J., Remer, L.A., and Shepherd, J.M. (2007). "Urban aerosol effects on surface insolation and surface temperature." Poster presented at *AGU Fall Meeting*, 10-14 December 2007, San Francisco, CA, USA.
23. **Goel, R.**, Burian, S., Hong, A., Murphy, B., Nash, G., **Han, W.**, and McPherson, B. (2007). "New approaches to treat produced water and perform water availability impact assessments for oil shale development." *American Institute of Chemical Engineers Annual Meeting*, Salt Lake City, UT, 4-9 November 2007.
22. **Jin, M.**, Remer, L., Shepherd, J.M., and Burian, S.J. (2007). "Extreme effects of urban aerosols on surface skin temperature from remote sensing data and MM5." *A-Train Symposium, Lille France*, 21-25 October 2007
21. **Shepherd, J.M.**, Burian, S., Jin, M., Shem, W.O., Hand, L., and Mitra, C. (2007). "Progress in understanding how human activity in cities affects precipitation." *AMS 7th Symposium on the Urban Environment*, 10-13 September 2007, San Diego, CA.
20. **Burian, S.J.**, Romero, P., Barlett, S.F. (2007). "Improving communication and leadership skills using department-consistent laboratory team experience." *American Society for Engineering Education (ASEE) Annual Conference Proceedings*, 24-27 June, 2007, Honolulu, HI.

19. **Ching, J.**, Burian, S., Fry, R., Kolbe, R. (2006). "Advanced meteorological modeling with urban canopy parameters for air quality and dispersion applications in urban areas." *6th International Conference on Urban Climate*, 12-16 June 2006, Göteborg, Sweden.
18. **Reynolds, S.** and Burian, S. (2006). "GIS-based link of numerical weather prediction and urban stormwater models." *AWRA 2006 Spring Specialty Conference, GIS and Water Resources IV*, 8-10 May 2006, Houston, TX.
17. **Judi, D.**, **Kalyanapu, A.**, Burian, S., **Mansell, S.**, Hodge, B., Linger, S., Berschied, A., and McPherson, T. (2006). "GIS-based simulation environment for extreme flood prediction and inundation mapping." *AWRA 2006 Spring Specialty Conference, GIS and Water Resources IV*, 8-10 May 2006, Houston, TX.
16. **Ching, J.**, Fry, R., Kolbe, R., and Burian, S. (2006). "Bridging mesoscale transport and building scale dispersion models with high resolution urban morphological datasets." *86th AMS Annual Meeting, 6th Symposium on the Urban Environment*, 29 January – 2 February 2006, Atlanta, Georgia.
15. **Ching, J.**, Williams, D.J., Burian, S., and Fry, R. (2006). "Prospectus on national database of high resolution buildings and other urban data for advanced model applications." *86th AMS Annual Meeting, 6th Symposium on the Urban Environment*, 29 January – 2 February 2006, Atlanta, Georgia.
14. **McPherson, T.N.**, Burian, S.J., **Judi, D.**, **Kalyanapu, A.**, Linger, S., Berscheid, A., Roach, F., and Hodge, B. (2005). "Hurricane Flood Prediction Using GIS." *ESRI International User Conference*, San Diego, CA, 25-29 July 2005.
13. **Ching, J.**, Williams, D., Fry, R., Kolbe, R., and Burian, S. (2005). "A prospectus for bridging mesoscale to building scale meteorological and dispersion modeling." *Proceedings, Ninth Annual George Mason University Conference on Atmospheric Transport and Dispersion Modeling*, Fairfax, VA, 18-20 July 2005.
12. **Willden, G.** and Burian, S.J. (2005) "Monitoring fecal-contamination indicators in Emigration Creek." *Utah Nonpoint Source Water Quality Conference*, Salt Lake City, UT, 27-29 September 2005.
11. **Ching, J.**, Dupont, S., and Burian, S. (2005). "Advanced urbanized meteorological modeling and air quality simulations with CMAQ at neighborhood scales." *Fifth International Conference on Urban Air Quality*, Valencia, Spain, 29-31 March 2005.
10. **Shepherd, J.M.**, Burian, S.J., Jin, M., Manyin, M., Negri, A., and Garza, C. (2004). "Ongoing NASA efforts addressing precipitation variability linked to the urban environment." *Preprint Proceedings, Fifth Symposium on the Urban Environment*, AMS, Vancouver, BC, Canada, 23-

26 August 2004.

9. **Burian, S.J.** and Shepherd, J.M. (2003). "Effect of urbanization on the diurnal rainfall pattern in Houston, Texas." *Geological Society of America Abstracts with Programs*, Volume 35. Proceedings of the 37th Annual Meeting, Geological Society of America, North Central Section, Kansas City, MO, 24-25 March 2003.
8. **Burian, S.J.** and Brown, M.J. (2001). "Characteristics of urban land use data and the implications for watershed modeling." *Proceedings, AWRA's Annual Water Resources Conference*, Albuquerque, NM, 12-15 November 2001.
7. **Brown, M.J.**, Leach, M.J., Chin, H.-N.S., and Burian, S.J. (2000). "Issues regarding urban canopy parameterizations for mesoscale meteorological models." *4th GMU Transport and Dispersion Workshop*, George Mason University, Fairfax, VA, 11-12 July 2000.
6. **Burian, S.J.**, Streit, G.E., McPherson, T.N., Brown, M.J., and Turin, H.J. (2000). "Simulation of the atmospheric deposition load to stormwater washoff." *Eos, Transactions, American Geophysical Union 2000 Spring Meeting*, Vol. 81, No. 19, May 9, 2000 Supplement, page S12, AGU Spring Meeting, Washington, DC, 30 May – 3 June 2000.
5. **Burian, S.J.**, McPherson, T.N., Turin, H.J., and Brown, M.J. (2000). "Comparison of the pollutant load in dry and wet weather runoff in a Southern California urban watershed." *Eos, Transactions, American Geophysical Union 2000 Spring Meeting*, Vol. 81, No. 19, May 9, 2000 Supplement, page S14, AGU Spring Meeting, Washington, DC, 30 May – 3 June 2000.
4. **McPherson, T.N.**, Burian, S.J., Streit, G.E., Turin, H.J., and Brown, M.J. (2000). "A linked air-water modeling system for urban environmental analysis and management." *Eos, Transactions, American Geophysical Union 2000 Spring Meeting*, Vol. 81, No. 19, May 9, 2000 Supplement, page S9, AGU Spring Meeting, Washington, DC, 30 May – 3 June 2000.
3. **Durrans, S.R.**, Tomic, S., Burian, S.J., and Cole, A. (1998). "Alabama rainfall characteristics and their representation via a Java GUI," *Proceedings of AGU Spring Meeting*, Boston, MA, 26-29 May 1998.
2. **Durrans, S.R.**, Brown, P.A., Tomic, S., Cole, A. and Burian, S.J. (1998). "Updating of extreme rainfall analysis to create an Alabama rainfall atlas," *Proceedings of 12th Annual Alabama Water Resources Conference*, 19-21 April 1998, Gulf Shores, AL.
1. **Tomic, S.**, Durrans, S.R., Burian, S.J., and Cole, A. (1998). "Spatial interpolation of rainfall characteristics," *Proceedings of AGU Spring Meeting*, Boston MA, 26-29 May 1998.