

Asia L. Dowtin
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Education

- 2018 Ph.D. in Geography (expected)
University of Delaware, Newark, Delaware
Dissertation: *An investigation into the effects of forest fragment size, shape, and structure on rainfall redistribution and solute flux within a city and along an urban-to-rural gradient*
Advisor: Professor Delphis Levia
- 2012 M.S. in Geography
University of Delaware, Newark, Delaware
M.S. thesis: *Developing a Drought Climatology for Delaware: 1948 - 2005*
Advisor: Professor David Legates
- 2009 B.S. in Meteorology (minor in Mathematics)
State University of New York College at Oneonta, Oneonta, New York

Teaching and Undergraduate Advising Experience (* students advised)

- 2016 Graduate Supervisor of Undergraduate Independent Research (University *Discovery Learning Experience* Requirement)
Environmental Studies and Environmental Science Program
University of Delaware, Newark, Delaware, USA
*Matthew Walter, “Comparison of stemflow between *Quercus rubra*, *Quercus alba*, and *Acer saccharum* and evaluation of storm water management”
*Alyssa Lutgen, “Stemflow volume as related to two tree species, *Quercus rubra* and *Acer saccharum*”
- 2015 Adjunct Instructor
Wesley College, Dover, Delaware, USA
Graduate Lecture: Applied Environmental Statistics
- 2013- Supervisor of Undergraduate Field Research
- 2014 Water Resources Agency, Institute for Public Administration
University of Delaware, Newark, Delaware, USA
*Advised eighteen undergraduate students in *in-situ* collection of environmental data, and subsequent processing and analysis of data collected.

Research and Related Professional Experience

- 2013-2014 Graduate Research Assistant (summer months), Water Resources Agency
University of Delaware, Newark, Delaware, USA
Conducted environmental assessments and drafted watershed implementation plan for urbanized watershed in Wilmington, Delaware.

- 2011-2013 Graduate Assistant, Delaware Geographic Alliance
University of Delaware, Newark, Delaware, USA
Aided in development of online map gallery and educational video series used to increase access to geographic information for K-12 educators. Produced interactive geography-based materials for use in large-scale educational outreach events designed for students in grades K-8.
- 2012 Intern for Urban Conservation Research, The Nature Conservancy (TNC) –
Delaware Office
Wilmington, Delaware, USA
Investigated and identified contemporary urban conservation practices and funding models that indicated potential for successful adoption and implementation in metropolitan Wilmington, Delaware. Compiled thorough report detailing findings and suggesting potential plans of action for TNC.
- 2008 Undergraduate Student Researcher, Geoscience Research at Storm Peak
(GRASP) Program
Storm Peak Laboratory (SPL), Steamboat Springs, Colorado, USA
Utilized Hybrid Single Particle Lagrangian Integrated Trajectory Model (HYSPLIT) and Moderate-Resolution Imaging Spectroradiometer (MODIS) satellite data to identify source and cause of anomalous peaks in gaseous elemental mercury as detected by a Tekran 2537A mercury analyzer at SPL.

Publications

Refereed Publications

Schooling, J.T., Levia, D.F., Carlyle-Moses, D.E., **Dowtin, A.L.**, Brewer, S.E.; Donkor, K.K., Borden, S.A., Grzybowski, A.A. 2017. Tree size and flux-based stemflow enrichment ratios: a preliminary investigation of eleven urban park trees in British Columbia, Canada. *Urban Forestry and Urban Greening*, 29: 129-133. [DOI: 10.1016/j.ufug.2016.11.013]

Siegert, C.M., Levia, D.F., Hudson, S.A., **Dowtin, A.L.**, Zhang, F. and Mitchell, M.J. 2016. Small-scale topographic variability influences tree species distribution and canopy throughfall partitioning in a temperate deciduous forest. *Forest Ecology and Management* 359: 109-117. [DOI: 10.1016/j.foreco. 2015.09.028]

Non-refereed Publications

Cruz-Ortiz, C., **Dowtin, A.**, Miller, K., Rubino, E., Brown, J., 2014. Plan for Rocky Run's environmental protection: A watershed implementation plan for the Rocky Run sub-basin. (White paper used by The Nature Conservancy Delaware and the University of Delaware Water Resources Agency).

Conference and Workshop Presentations (* invited presentation)

- 2017 **Dowtin, A.L.** *Quantifying Hydrologic Fluxes in Urban Forest Fragments to Improve Our Understanding of their Role in Metropolitan Flood Risk Mitigation.* 42nd Annual Natural Hazards Workshop. Broomfield, Colorado, USA (Oral Presentation).
- 2017 **Dowtin, A.L.** and D.F. Levia. *Hydrological fluxes from mixed deciduous urban forest fragments in Wilmington, Delaware.* 2017 Annual Meeting of the Association of American Geographers. Boston, Massachusetts, USA. (Poster Presentation).

- 2016 **Dowtin, A.L.**, White, H.W., Levia, D.F. *Synergistic approaches to environmental research, planning, and implementation: how urban trees united the community, university, and city government in Wilmington, Delaware*. 2016 Annual Conference of the Association of Environmental Studies and Science. Washington, District of Columbia, USA. (Poster Presentation)
- 2015 Siegert, C.M., Levia, D.F., **Dowtin, A.L.**, Hudson, S.A., Linhoss, A. *Using Sensitivity Analysis and Fine-Scale Field Measurements to Understand How Canopy Interception Models Function*. 2015 Annual Meeting of the American Geophysical Union. San Francisco, California, USA. (Poster Presentation)
- 2015 **Dowtin, A.L.** and D.F. Levia. *Employing the use of a dense monitoring network to quantify and characterize spatial variability of hydrologic and solute flux in urban forest fragments*. UrbanRain15: 10th International Workshop on Precipitation in Urban Areas. Pontresina, Switzerland. (Poster Presentation)
- 2015 ***Dowtin, A.L.** and D.F. Levia. *Investigating spatial variability in the hydrology and biogeochemistry of Wilmington, DE's urban forest: preliminary results*. Consortium for Climate Risk in the Urban Northeast Seminar. Drexel University, Philadelphia, Pennsylvania, USA. (Oral Presentation)
- 2015 **Dowtin, A.L.** and D.F. Levia. *Assessing the Hydrological Ecosystem Services of Metropolitan Wilmington, Delaware's Urban Forest: Initial Findings from in-situ Observations*. 2015 Annual Meeting of the Association of American Geographers. Chicago, Illinois, USA. (Illustrated Paper Presentation)
- 2014 **Dowtin, A.L.** and D.F. Levia. *Assessing the hydrological ecosystem services of Wilmington, DE's urban forest: Initial findings from in-situ observations*. 2014 American Water Resources Association Annual Water Resources Conference. Tyson's Corner, Virginia, USA. (Poster Presentation)
- 2013 **Dowtin, A.L.**, Cruz-Ortiz, C.S., Miller, K. *Using Problem-Based Learning to Enhance Environmental Education for Secondary School Students*. 3rd Annual Symposium of the Delaware Section of the American Water Resources Association. Dover, Delaware, USA. (Poster Presentation).
- 2013 **Dowtin, A.L.**, Legates, M., Legates, D.R. *Teaching Physical Geography through Digital Media: An Enhancement for 6th Grade Geography Education in Delaware*. 7th Annual Delaware Space Grant Consortium Research Symposium. Newark, Delaware, USA. (Poster Presentation)
- 2013 **Dowtin, A.L.** and D.R. Legates. *On Developing a Drought Climatology for Delaware: Related Synoptic Patterns*. 93rd Annual Meeting of the American Meteorological Society. Austin, Texas, USA. (Poster Presentation).
- 2012 **Dowtin, A.L.** *Securing Clean Drinking Waters for Cities, Using Urban Greening and Headwaters Conservation: A Wilmington, Delaware Case Study*. 2012 Annual

- Meeting of the Association of American Geographers Middle States Division. Shippensburg, Pennsylvania, USA. (Oral Presentation)
- 2012 **Dowtin, A.L.** and D.R. Legates. *On Developing a Drought Climatology for Delaware: Related Changes in Atmospheric Circulation Patterns*. University of Delaware 2nd Annual Graduate Forum. Newark, Delaware, USA. (Oral Presentation)
- 2012 **Dowtin, A.L.** *Increasing the Accessibility of Geographic Information for Delaware's K-12 Educators*. 6th Annual Delaware Space Grant Consortium Research Symposium. Newark, Delaware, USA. (Oral Presentation)
- 2011 **Dowtin, A.L.** and D.R. Legates. *An Investigation into Factors Responsible for Drought Occurrence in Delaware*. 2011 Symposium on Data Driven Approaches to Drought. West Lafayette, Indiana, USA. (Poster Presentation)

Educational Outreach Presentations

- 2017 Dowtin, A.L. *Exploring the Benefits Trees in Our Cities*. City of Wilmington, Delaware Green Jobs Program. Newark, Delaware, USA.
- 2017 Dowtin, A.L. *Why Keeping Trees in Our Cities is a Great Idea for the Future*. 2nd Annual Arbor Day Celebration at Bancroft Elementary School. Wilmington, Delaware, USA.
- 2016 Dowtin, A.L. *Seeing the forest through the trees: Understanding more about how Wilmington's forests work one tree at a time*. Part of the "Science Education Night at Woodlawn Library" initiative. Wilmington, Delaware, USA.

Research Grants and Scholarships

2016	\$7,580	Gates Millennium Scholars Program Educational Support Award
2016	\$750	Dr. John R. Mather Graduate Research Fellowship
2015	\$6,033	Gates Millennium Scholars Program Educational Support Award
2015	\$750	Dr. John R. Mather Graduate Research Fellowship
2015	\$475	University of Delaware Professional Development Award
2015	\$15,513	National Science Foundation. Geospatial and Social Sciences. (Ref. No.BCS 1459116). Doctoral Dissertation Research: Effects of Forest Fragment Size, Shape, and Structure on Rainfall Redistribution and Solute Flux in Urban Settings.
2014	\$500	American Water Resources Association, Richard A. Herbert Graduate Scholarship
2014	\$750	Dr. John R. Mather Graduate Research Fellowship

2013 \$750 Dr. John R. Mather Graduate Research Fellowship

Graduate Fellowships and Awards

2015-2016 University of Delaware Dissertation Fellowship

2013-2015 University of Delaware Graduate Scholars Award

2011-2013 Delaware Space Grant Award (funded assistantship with Delaware Geographic Alliance)

2009-2011 University of Delaware Competitive University Fellow Award

Honors and Awards

2016 Delaware Section of the American Water Resources Association 2015 Special Recognition Award

2015 2015 American Water Resources Association, National Winner, Outstanding Student Chapter Award (awarded during time in which I served as President of the University of Delaware Student Chapter)

2009 Philo C. Wilson Outstanding Student Senior Award (awarded by State University of New York College at Oneonta, Department of Earth Sciences)

2005-Present Scholar, Gates Millennium Scholars Program

Service to the University, Department, and Community

University of Delaware

2015-Present Member, Delaware Water Resources Center Advisory Panel

2015 Graduate Representative, Interview Committee for Vice President and General Counsel

2015 Graduate Student Focus Group for University Presidential Search

2013-2014 Judge, University of Delaware McNair Scholars Program Research Poster Competition

Department of Geography

2015-2017 Graduate Student Representative, Department of Geography Seminar Series Organizational Committee

2013-2014 Department Representative, College of Earth, Ocean, and Environment Graduate Student Council

2013-2014 Graduate Student Representative to Geography Department Faculty

2010-2012 Geography Department Representative for Campus Water Resources-related Educational Outreach Events

Discipline and Community

- 2017 Judge, National Geographic Bee, Delaware State Competition
- 2016-Present Program Development Liaison to Student Council, The William Averette “Bill” Anderson Fund (BAF) Student Council
- 2016-Present Member, Advisory Board, American Water Resources Association *IMPACT* Magazine
- 2016 Judge, National Geographic Bee, Delaware State Competition
- 2013-Present Mentor, City of Wilmington, Delaware Green Jobs Program
- 2013-2014 Mentor, The Nature Conservancy Delaware Leaders for Environmental Action in the Future Program
- 2011 Water Resources Instructor, *What in the World?* K-5 Educational Outreach Program for Newark, Delaware Public Schools

Campus Leadership

- 2012-2015 Member, Executive Board, University of Delaware Black Graduate Student Association. Offices held: President (2014-2015), Vice President (2013-2014), Programming Chair (2012-2013)
- 2010-2015 Member, Executive Board, University of Delaware Student Chapter of the American Water Resources Association. Offices held: President (2012-2015), Vice President (2011-2012), Secretary (2010-2011)
- 2006-2007, 2008-2009 Mentor, State University of New York College at Oneonta’s African American, Latino/a, Asian, Native American (AALANA) Mentoring Program
- 2006-2008 Member, Executive Board, Meteorology Club, State University of New York College at Oneonta. Office held: Vice President

Media

- 2017 Ruddock, R. and K. Wiley. “Urban Ecohydrology and Fun Facts on Bottled Water versus Tap Water.” Interview with Asia Dowtin. *Rise and Science* Radio Broadcast (41). 14 March 2017.
- 2016 “Our Students: Urban Raindrop.” *University of Delaware Messenger*, 24(1): 8
- 2015 Roberts, K. B. “Studying Stemflow.” *UDaily*, 22 October 2015 (n.p.)
- 2012 “Faces of Conservation: Asia Dowtin.” Interview with Asia Dowtin. The Nature Conservancy (n.p.)

Professional Affiliations

American Association of Geographers

American Geophysical Union
American Water Resources Association
Delaware Section of the American Water Resources Association
International Association of Hydrological Sciences
The William Averette “Bill” Anderson Fund (BAF) Student Council

Related Skills

Environmental monitoring and assessment (proficient)
Quantitative analysis: JMP, Statistica (moderate); R, Fortran (basic)
Geospatial data analysis: ArcGIS (moderate)
General data and word processing: Microsoft Office Suite (proficient)

Additional Languages

Conversational Spanish (basic)