Samuel C. Zipper

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University of Kansas
Kansas Geological Survey
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Education

2015 **Ph.D.**, Freshwater & Marine Science, University of Wisconsin-Madison, Madison WI

2009 **B.A.,** *cum laude*, Geology, Pomona College, Claremont CA

Professional Appointments

2019–current **Assistant Scientist - Groundwater Hydrology**
Kansas Geological Survey, University of Kansas, Lawrence KS

2016–2019 **Postdoctoral Fellow** (PIs: Tom Gleeson, Jeff McKenzie)
Dep't of Civil Engineering, University of Victoria, Victoria BC
Dep't of Earth & Planetary Sciences, McGill University, Montreal QC

2011–2016 **Graduate Research Assistant & Postdoctoral Research Associate** (PI: Steve Loheide)
Dep't of Civil & Environmental Engineering, University of Wisconsin-Madison, WI

2009–2010 **Summer Student Fellow & Research Assistant I** (PIs: Liviu Giosan, Jeff Donnelly)
Dep't of Geology & Geophysics, Woods Hole Oceanographic Institution, Woods Hole MA

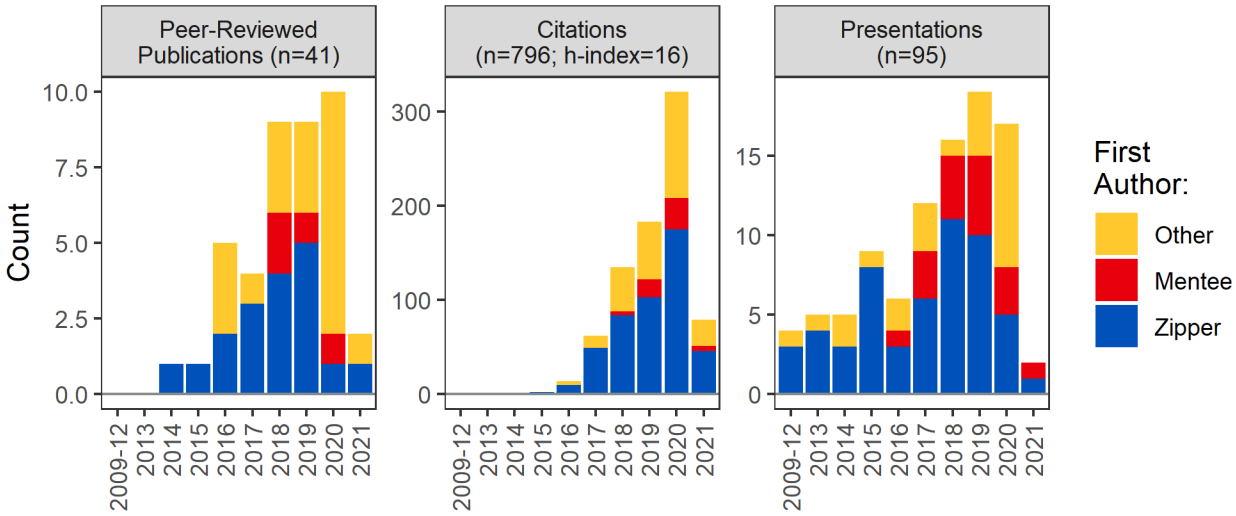
Visiting Positions

03-04/2019 **Visiting Researcher** (Host: Line Gordon, Lan Wang-Erlandsson)
Stockholm Resilience Centre, Stockholm, Sweden

09-10/2016 **Green Talents Fellow** (Host: Stefan Kollet)
Centre for High-Performance Scientific Computing in Terrestrial Systems
Universität Bonn, Bonn, Germany

01-03/2015 **Visiting Scientist** (Host: Esteban Jobbágy)
Universidad Nacional de San Luis, San Luis, Argentina

Scientific Output



Citation data from Google Scholar, updated 2/26/2021. Preprints and in review papers not included.

Peer-Reviewed Publications

Underlined + italicized = student or postdoc under my direct supervision
Underlined = students I worked closely with as a postdoc

Published/In Press

42 **Zipper SC**, T Gleeson, *Q Li*, B Kerr (2021). Comparing streamflow depletion estimation approaches in a heavily-stressed, conjunctively-managed aquifer. *Water Resources Research.* DOI: 10.1029/2020WR027591

41 Hammond JC, M Zimmer. M Shanafield, K Kaiser, SE Godsey, MC Mims, **SC Zipper**, RM Burrows, SK Kampf, W Dodds, CN Jones, CA Krabbenhoft, KS Boersma, T Datry, JD Olden, GH Allen, AN Price, K Costigan, R Hale, AS Ward, DC Allen (2021). Spatial patterns and drivers of non-perennial flow regimes in the contiguous US. *Geophysical Research Letters.* DOI: 10.1029/2020GL090794

40 Lucas MC, N Kublik, DBB Rodrigues, AA Meira Neto, A Almagro, DdCD Melo, **SC Zipper**, PTS Oliveira (2021). Significant Baseflow Reduction in the Sao Francisco River Basin. *Water*. DOI: 10.3390/w13010002

39 *Li Q*, **SC Zipper**, T Gleeson (2020). Streamflow depletion from groundwater pumping in contrasting hydrogeological landscapes: Evaluation and sensitivity of a new management tool. *Journal of Hydrology.* DOI: 10.1016/j.jhydrol.2020.125568

38 Orduña Alegría ME, N Schütze, **SC Zipper** (2020). A Serious Board Game to Analyze Socio-Ecological Dynamics towards Collaboration in Agriculture. *Sustainability*. DOI: 10.3390/su12135301

37 Brelsford C, M Dumas, E Schlager, BJ Dermody, M Aiuvalasit, MR Allen-Dumas, J Beecher, U Bhatia, P D'Odorico, M Garcia, P Gober, D Groenfeldt, S Lansing, K Madani, L Méndez-Barrientos, E Mondino, MF Müller, FC O'Donnell, PM Owuor, J Rising, MR Sanderson, FAA Souza, **SC Zipper** (2020). Developing a sustainability science approach for water systems. *Ecology and Society*. DOI: 10.5751/ES-11515-250223

36 Zimmer M, K Kaiser, J Blaszczak, **SC Zipper**, J Hammond, KM Fritz, KH Costigan, J Hosen, SE Godsey, GH Allen, S Kampf, RM Burrows, CA Krabbenhoft, W Dodds, R Hale, JD Olden, M Shanafield, AG DelVecchia, AS Ward, MC Mims, T Datry, MT Bogan, KS Boersma, MH Busch, CN Jones, A Burgin, DC Allen (2020). Zero or not? Causes and consequences of zero-flow stream gage readings. *WIREs Water*. DOI: 10.1002/wat2.1436

35 Gleeson T, L Wang-Erlandsson, **SC Zipper**, M Porkka, F Jaramillo, D Gerten, I Fetzer, SE Cornell, L Piemontese, L Gordon, J Rockström, T Oki, M Sivapalan, Y Wada, KA Brauman, M Flörke, MFP Bierkens, B Lehner, P Keys, M Kummu, T Wagener, S Dadson, TJ Troy, W Steffen, M Falkenmark, JS Famiglietti (2020). The Water Planetary Boundary: Interrogation and Revision. *One Earth*. DOI: 10.1016/j.oneear.2020.02.009

34 Deines JM, ME Schipanski, B Golden, **SC Zipper**, S Nozari, C Rottler, B Guerrero, V Sharda (2020). Transitions from irrigated to dryland agriculture in the Ogallala Aquifer:

Land use suitability and regional economic impacts. *Agricultural Water Management.* DOI: 10.1016/j.agwat.2020.106061

33 Gleeson T, L Wang-Erlandsson, M Porkka, **SC Zipper**, F Jaramillo, D Gerten, I Fetzer, SE Cornell, L Piemontese, L Gordon, J Rockström, T Oki, M Sivapalan, Y Wada, KA Brauman, M Flörke, MFP Bierkens, B Lehner, P Keys, M Kummu, T Wagener, S Dadson, TJ Troy, W Steffen, M Falkenmark, JS Famiglietti (2020). Illuminating water cycle modifications and Earth System resilience in the Anthropocene. *Water Resources Research*. DOI: 10.1029/2019WR024957

- AGU *Eos* research spotlight

32 **Zipper SC**, F Jaramillo, L Wang-Erlandsson, SE Cornell, T Gleeson, M Porkka, T Häyhä, A-S Crépin, I Fetzer, D Gerten, H Hoff, N Matthews, C Ricaurte-Villota, M Kummu, Y Wada, L Gordon (2020). Integrating the water planetary boundary with water management from local to global scales. *Earth's Future*. DOI: 10.1029/2019EF001377

- AGU *Eos* research spotlight

31 Tague CL, SA Papuga, C Gerlein-Safdi, S Dymond, RR Morrison, EWBoyer, D Riveros-Iregui, E Agee, B Arora, YG Dialynas, A Hansen, S Krause, S Kuppel, SP Loheide, SJ Schymanski, **SC Zipper** (2020). Adding our leaves: a community-wide perspective on research directions in ecohydrology. *Hydrological Processes.* DOI: 10.1002/hyp.13693

30 Zhang C, G He, Q Zhang, S Liang, **SC Zipper**, R Guo, X Zhao, L Zhong, J Wang (2020). The evolution of virtual water flows in China's electricity transmission network and its driving forces. *Journal of Cleaner Production.* DOI: 10.1016/j.jclepro.2019.118336

29 **Zipper SC,** JK Carah, C Dillis, T Gleeson, B Kerr, MM Rohde, JK Howard, JKH Zimmerman (2019). Cannabis and residential groundwater pumping impacts on streamflow and ecosystems in Northern California. *Environmental Research Communications.* DOI: 10.1088/2515-7620/ab534d

28 Nocco M, **SC Zipper**, EG Booth, C Cummings, SP Loheide, CJ Kucharik (2019). Combining evapotranspiration and soil apparent electrical conductivity mapping to identify potential precision irrigation benefits. *Remote Sensing.* DOI: 10.3390/rs11212460

27 Motew MM, Chen X, SR Carpenter, EG Booth, J Seifert, J Qiu, SP Loheide, MG Turner, **SC Zipper**, CJ Kucharik (2019). Comparing the effects of climate and land use on surface water quality using future watershed scenarios. *Science of the Total Environment.* DOI: 10.1016/j.scitotenv.2019.07.290

26 Chen X, MM Motew, EG Booth, **SC Zipper**, SP Loheide II, CJ Kucharik (2019). Management of minimum lake levels and impacts on flood mitigation: A case study of the Yahara Watershed, Wisconsin, USA. *Journal of Hydrology.* DOI: 10.1016/j.jhydrol.2019.123920

25 **Zipper SC**, T Gleeson, B Kerr, JK Howard, MM Rohde, J Carah, J Zimmerman (2019). Rapid and accurate estimates of streamflow depletion caused by groundwater pumping using analytical depletion functions. *Water Resources Research.* DOI: 10.1029/2018WR024403

24 **Zipper SC**, K Stack Whitney, JM Deines, KM Befus, U Bhatia, SJ Albers, J Beecher, C Brelsford, M Garcia, T Gleeson, F O'Donnell, D Resnik, E Schlager (2019). Balancing open science and data privacy in the water sciences. *Water Resources Research.* DOI: 10.1029/2019WR025080

- Top 10% most downloaded papers in WRR, 2018-2019

23 *Qiu J, ***SC Zipper**, MM Motew, EG Booth, CJ Kucharik, SP Loheide II (2019). Nonlinear groundwater influence on biophysical indicators of ecosystem services. *Nature Sustainability.* DOI: 10.1038/s41893-019-0278-2

Equal contributions; **SCZ and JQ share first authorship.*

- Highlighted in *Nature Sustainability* News & Views, 'Including the subsurface in ecosystem services' (link)

22 **Zipper SC**, J Keune, S Kollet (2019). Land use change impacts on European heat and drought: Remote land-atmosphere feedbacks mitigated locally by shallow groundwater. *Environmental Research Letters.* DOI: 10.1088/1748-9326/ab0db3

21 Wallen K, K Filbee-Dexter, J Pittman, S Posner, C Romulo, [+11 equally-contributing authors including **SC Zipper**] (2019). Integrating team science into interdisciplinary graduate education: an exploration of the SESYNC Graduate Pursuit. *Journal of Environmental Studies and Sciences.* DOI: 10.1007/s13412-019-00543-2

20 **Zipper SC,** P Lamontagne-Halle, JM McKenzie, AV Rocha (2018). Groundwater controls on post-fire permafrost thaw: Water and energy balance effects. *Journal of Geophysical Research: Earth Surface.* DOI: 10.1029/2018JF004611

19 **Zipper SC**, MM Motew, EG Booth, X Chen, J Qiu, CJ Kucharik, SR Carpenter, SP Loheide II (2018). Continuous separation of land use and climate effects on the past and future water balance. *Journal of Hydrology.* DOI: 10.1016/j.jhydrol.2018.08.022

18 Lamontagne-Halle PLH, BL Kurylyk, **SC Zipper**, JM McKenzie (2018). Changing groundwater discharge dynamics in permafrost regions. *Environmental Research Letters.* DOI: 10.1088/1748-9326/aad404

17 **Zipper SC,** T Dallemagne, T Gleeson, T Boerman, A Hartmann (2018). Groundwater pumping impacts on real stream networks: testing the performance of simple management tools. *Water Resources Research.* DOI: 10.1029/2018WR022707

16 Breyer B, **SC Zipper**, J Qiu (2018). Sociohydrological impacts of water conservation under anthropogenic drought in Austin, Texas. *Water Resources Research.* DOI: 10.1002/2017WR021155

15 Qiu J, SR Carpenter, EG Booth, M Motew, **SC Zipper**, CJ Kucharik, SP Loheide, MG Turner (2018). Understanding relationships among ecosystem services across spatial scales and over time. *Environmental Research Letters.* DOI: 10.1088/1748-9326/aabb87

14 Somers, LD, JM McKenzie, **SC Zipper**, B Mark, P Lagos, and M Baraer (2018). Does hillslope trenching enhance groundwater recharge and baseflow in the Peruvian Andes? *Hydrological Processes*. DOI: 10.1002/hyp.11423

13 **Zipper SC** (2018). Agricultural research using social media data. *Agronomy Journal*,. DOI: 10.2134/agronj2017.08.0495

12 Qiu J, SC Carpenter, EG Booth, MM Motew, **SC Zipper**, CJ Kucharik, X Chen, SP Loheide II, J Seifert, MG Turner (2018). Scenarios reveal pathways to sustain future ecosystem services in an agricultural landscape. *Ecological Applications*. DOI: 10.1002/eap.1633

11 **Zipper SC,** KH Smith, B Breyer, J Qiu, A Kung, DL Herrmann (2017). Socio-environmental drought response in a mixed urban-agricultural watershed: Synthesizing biophysical and governance responses. *Ecology and Society*. DOI: 10.5751/ES-09549-220439

10 **Zipper SC,** ME Soylu, CJ Kucharik, SP Loheide II (2017). Indirect groundwater-mediated effects of urbanization on agroecosystem productivity: Introducing MODFLOW-AgroIBIS (MAGI), a complete critical zone model. *Ecological Modelling*. DOI: 10.1016/j.ecolmodel.2017.06.002

9 Motew MM, X Chen, EG Booth, SR Carpenter, P Pinkas, **SC Zipper**, SP Loheide II, S.D. Donner, K Tsuruta, P Vadas, CJ Kucharik (2017). The influence of legacy P on lake water quality in a Midwestern agricultural watershed. *Ecosystems*. DOI: 10.1007/s10021-017-0125-0

8 **Zipper SC,** J Schatz, CJ Kucharik, SP Loheide II (2017). Urban heat island-induced increases in evapotranspirative demand. *Geophysical Research Letters*. DOI: 10.1002/2016GL072190

- GRL Editor Highlight

7 **Zipper SC***, J Qiu*, CJ Kucharik (2016). Drought effects on US maize and soybean production: Spatiotemporal patterns and historical changes. *Environmental Research Letters*. DOI: 10.1088/1748-9326/11/9/094021

Equal contributions; **SCZ and JQ share first authorship.*

6 Booth EG, **SC Zipper**, CJ Kucharik, SP Loheide II (2016). Is groundwater recharge always serving us well? Water supply provisioning, crop production, and flood attenuation in conflict in the Yahara River Watershed, Wisconsin, USA. *Ecosystem Services*. DOI: 10.1016/j.ecoser.2016.08.007

5 Vonk JE, AF Dickens, L Giosan, ZA Hussain, B Kim, **SC Zipper**, RM Holmes, DB Montlucon, V Galy, TI Eglinton (2016). Arctic deltaic lake sediments as recorders of fluvial organic matter deposition. *Frontiers in Earth Science*. DOI: 10.3389/feart.2016.00077

4 Kang Y, M Ozdogan, **SC Zipper**, M Roman, J Walker, SY Hong, M Marshall, V Magliulo, J Moreno, L Alonso, A Miyata, B Kimball, SP Loheide II (2016). How universal is the

relationship between remotely sensed vegetation indices and crop leaf area index? A global assessment. *Remote Sensing.* DOI: 10.3390/rs8070597

3 **Zipper SC**, J Schatz, A Singh, P Townsend, CJ Kucharik, SP Loheide II (2016). Urban heat island impacts on plant phenology: Intra-urban variability and response to land cover. *Environmental Research Letters*. DOI: 10.1088/1748-9326/11/5/054023

2 **Zipper SC**, ME Soylu, EG Booth, SP Loheide II (2015). Untangling the effects of shallow groundwater and soil texture as drivers of subfield-scale yield variability. *Water Resources Research*. DOI: 10.1002/2015WR017522

- WRR Editor Highlight

1 **Zipper SC**, SP Loheide II (2014). Using evapotranspiration to assess drought sensitivity on a subfield scale with HRMET, a high resolution energy balance model. *Agricultural & Forest Meteorology*. DOI: 10.1016/j.agrformet.2014.06.009.

Grants & Fellowships

Foreign currencies converted to USD based on exchange rate at time of submission

2020-2024 **RII Track II-FEC: Aquatic Intermittency effects on Microbiomes in Streams (AIMS).**
Total Award: $5,998,875
Program: NSF EPSCoR Research Infrastructure Improvement Program: Track-2 Focused EPSCoR Collaborations
PIs: A Burgin (lead), DC Allen, CL Atkinson, SE Godsey, KA Kuehn, K Aho, JP Benstead, RL Hale, CR Jackson, JT Johnson, CN Jones, J Brooks-Kieffer, EC Seybold, Y You, LH Zeglin, SC Zipper
Zipper Role: Co-I; lead of hydrology team.

2020-2022 **Spatial variability and subsurface controls of groundwater recharge and nutrient mobilization in dry streams.**
Total Award: $40,000
Program: Kansas Water Resources Institute
PIs: EC Seybold (lead), SC Zipper, C Zhang
Zipper Role: Co-PI; lead of hydrogeological analysis

2019-2021 **Evaluating playas in Western Kansas: Recharge to the High Plains Aquifer and economics of cropping.**
Total Award: $277,615
Program: EPA Wetland Program Development Grant (through Kansas Water Office).
PIs: R Stotler (lead), AE Brookfield, J Kastens, SC Zipper
Zipper Role: Co-PI; lead of ecohydrological modeling.

2019-2021 **Visualizing the Invisible: Causes, Consequences, Changes, and Management of Streamflow Depletion across the U.S.**
Total Award: $163,530
Program: USGS Powell Center Working Group.
PIs: AE Brookfield (lead), LM Hays, MC Hill, SC Zipper.
Zipper Role: Co-PI; lead of depletion metrics subgroup.

2019-2020 **Harnessing the power of the crowd to monitor urban street flooding.**
Total Award: $25,000
Program: Colorado Water Center Research Team Grant.
PIs: A Bhaskar, S Kampf, G Newman
Zipper Role: Co-Investigator.

2018-2019 **Ripples of Resilience: Navigating cross-scale SDG interactions of water, land, and climate within planetary boundaries.**
Total Award: 1,999,537 SEK (~$220,00 USD)
Program: FORMAS- Swedish Research Council for Sustainable Development
PIs: L Gordon (lead), L Wang-Erlandsson, F Jaramillo
Zipper Role: Co-wrote as postdoc under PI Tom Gleeson.

2019 **Using unmanned aerial vehicles (UAVs) for variable rate soil and water management in the Wisconsin Central Sands**
Total Award: $15,000
Program: Wisconsin Potato and Vegetable Growers Association.
PIs: M Nocco (lead), J Prater, SC Zipper.

2018-2019 **Analytical models and lag times for groundwater pumping impacts on Environmental Flow Needs: Identifying the best approaches across BC**
Total Award: $42,000 CAN (~$32,000 USD)
Program: BC Ministry of Environment Groundwater Science Program
PI: T Gleeson (Zipper was Lead Author and Project Lead as postdoc under T Gleeson)

2015-2016 **Green Talents – International Forum for High Potentials in Sustainable Development**
Total Award: €5250 (~$6000 USD) + travel funds
Program: German Federal Ministry of Education and Research (BMBF)
Zipper Role: Fellow

2015-2016 **Learning for and adapting to surprises: Resilience to water-related hazards in Germany and the USA**
Total Award: $2000 + travel funds
Program: NSF National Socio-Environmental Synthesis Center graduate pursuits
Zipper Role: Student Fellow

Teaching & Mentoring

Direct Supervision

Co-Director (with Erin Seybold), **KGS Geohydrology Internship Program**, 2020-2021.
KGS Interns supervised:
- Compare, Kyle. Florida State University. 05/2020 – 08/2020.

Postdoctoral Scholars supervised:
- Glose, Thomas (Tom). Kansas Geological Survey, University of Kansas. 08/2019 - present
- Li, Qiang (John). Civil Engineering, University of Victoria. 10/2018 – 09/2019.

Graduate students supervised:

- Bosompemaa, Patience. Geology. University of Kansas. 08/2020 – present. (Academic supervisor: Mary Hill).
- Gutierrez-Cala, Lina. M.Sc., Stockholm Resilience Centre. 04/2019 – present. (Co-supervisor: Fernando Jaramillo).

Graduate students committees:
- Nerhus, Kaela. M.S., Geology, University of Kansas. 02/2021 – current.
- Podzikowski, Laura. Ph.D., Ecology & Evolutionary Biology, University of Kansas. 01/2020 – current.
- Porter, Elizabeth (Misty). Ph.D., Geology, University of Kansas. 02/2020 – current.

Graduate students mentored as a post-doc:
- Boerman, Thomas. Ph.D., Civil Engineering, University of Victoria. 05/2017 – 08/2019.
- Lamontagne-Halle, Pierrick. Ph.D., Earth and Planetary Sciences, McGill. 11/2016 – 11/2017.
- Nocco, Mallika. Ph.D., Environment and Resources, UW-Madison. 06/2014 - 09/2017.
- Hatzel, Jeffrey, GIS Certificate, UW-Madison. 06/2014 - 05/2015.
- Somers, Lauren. Ph.D., Earth and Planetary Sciences, McGill. 11/2016 - 12/2017.

Undergraduate theses supervised:
- McCarthy, Abby. Geology. Pomona College. 06/2020 - present
- Meyers, Max. Geology, Pomona College. 01/2019 – 12/2019.
  Thesis Title: Effects of Crop Rotation on Water Consumption in the High Plains Aquifer.

Undergraduate research assistants (majors) supervised:
- Bergquist, Galen. Botany, UW-Madison. 05/2014 - 09/2014.
- Cozadd, Austin. Geology, University of Kansas. 03/2020 – 07/2020.
- Deel, Krystal. Haskell-KU Bridge Program. 10/2020 – current.
- Friedrich, Hannah. Geography, UW-Madison. 05/2014 - 05/2015.
- Gross, Erin. Geological Engineering, UW-Madison. 08/2011-12/2012.
- LoBue, Allison. Biological & Biosystems Engineering, UW-Madison. 11/2013 - 12/2014.
- Pomije, Taylor. Biological Aspects of Conservation, UW-Madison. 05/2012 - 08/2013.

Classroom Instruction

2018 **Sessional Instructor**. Sustainable Water Resources (CIVE340), University of Victoria. Instructor for core undergraduate water resource engineering course. Leading all lectures, in-class activities, homework assignments, and exams.

2016 **Teaching Assistant**. Ecohydrology (CEE 619), University of Wisconsin-Madison. Developed new module on rainfall-runoff partitioning including student modeling exercise in MATLAB simulating formation and migration of banded vegetation. Lectured on various topics in class and assisted with curriculum design.

2015 **Teaching Assistant**. Ecohidrologia (Ecohydrology), Uni. Nacional de San Luis (Argentina).
Led student development of ecohydrological 'bucket model' in programming language R and implementation of site-specific modifications for research applications.

2011 **Staff Science Tutor**. Harlem Village Academies High School (New York NY)
Resident tutor for high school-level chemistry, biology, and earth sciences curriculum. Public charter school serving primarily students from underrepresented communities.

2007–2008 **Teaching Assistant**. Pomona College Geology Department.
Worked one-on-one and in small groups with students on during labs, field trips, and peer writing evaluations. Led in-class discussions. Graded homework, labs, and exams.
Courses: Introductory Geology; Oceanography; Earth History; and Space: To Boldly Go? (Scientific critical writing seminar for freshman).

Professional Service

Leadership

2018–current **AGU Ecohydrology Technical Committee Member**
Chair of Social Media Subcommittee
American Geophysical Union, Hydrology Section
Contributions include integrating multiple social media platforms, creating Career Resources page, and publicizing events and resources related to ecohydrology.

2013–2015 **Graduate Student Site Representative**
North Temperate Lakes, Long Term Ecological Research Network (NTL-LTER)
Contributions include organizing network-wide student research day at 2015 All Scientist Meeting and serving as bridge between NTL site and nationwide LTER network.

2012–2015 **Graduate Student Representative**
University of Wisconsin Ecology
Contributions include planning and staffing symposia, organizing ecology job fair.

Open Science Initiatives

Author of streamDepletr R package for analytical streamflow depletion models (https://cran.r-project.org/package=streamDepletr)

Curator of CRAN Hydrology Task View (https://cran.r-project.org/web/views/Hydrology.html)

Organized, staffed ‘Coding Help Desk’ at American Geophysical Union Fall Meeting (with Sheila Saia), 2018 and 2019. (link)

High-Resolution Mapping of EvapoTranspiration (HRMET) model on GitHub (link).

All dissertation data available online at North Temperate Lakes LTER repository (link).

Code and data for all current projects public on GitHub (link).

Certified Carpentries Instructor (August 2020).

Journal Reviews

Outstanding Reviewer Award, 2017, *Environmental Research Letters*

58 *ad hoc* peer reviews for journals:

- Agricultural and Forest Meteorology
- Agricultural Water Management
- Archives of Agronomy and Soil Science
- Environmental Research Letters
- Geophysical Research Letters
- Groundwater
- Groundwater Management & Remediation
- Hydrology and Earth System Sciences
- Hydrogeology Journal
- Hydrological Processes
- Hydrological Sciences Journal
- Hydrology and Earth System Sciences
- Journal of Environmental Management
- Journal of Hydrology
- Journal of Hydrology: Regional Studies
- Journal of Water Resources Planning and Management
- Proceedings of the National Academy of Sciences
- Remote Sensing
- Remote Sensing of Environment
- Stochastic Environmental Research and Risk Assessment
- Urban Forestry & Urban Greening
- Utilities Policy
- Vadose Zone Journal
- Water
- Water Resources Research

Scientific reviewer for:

- Delaware Geological Survey
- Environmental Protection Agency
- Foundry Spatial Ltd.
- USGS Technical Reports
- The Nature Conservancy

Public Engagement, Outreach, & Education

Writing for a Public Audience

2015-present Professionally engaged on scientific social media (Twitter: @ZipperSam), >1900 followers

2020 When Field or Lab Work is not an Option - Leveraging Open Data Resources for Remote Research. *rOpenSci Blog.* (link)

2019 Doing Hydrogeology in R. *Water Underground.* (link)

Getting your toes wet in R: Hydrology, meteorology, and more. *rOpenSci.* (link)

Dowsing for interesting water science: What's exciting at EGU 2019? *Water Underground* (link)

2018 Using social media to advance your knowledge, skills, and career. *GeoGradGuide.* (link)

Socio-hydrology meets Broadway: Can we survive drought if we stop using the toilet? *Water Underground* (link).

2017 Good groundwater management makes for good neighbors. *Water Underground* (link).

Groundwater and agriculture: Tapping the hidden benefits. *Water Underground* (link).

2016 The great American groundwater road trip: Interstate 80 over the Ogallala Aquifer. *Water Underground* (link).

Baseflow, groundwater pumping, and river regulation in the Wisconsin Central Sands. *Water Underground* (link).

2015 Lake Mendota's spring thaw and why it matters. *Yahara in situ* (link).

1 city, 25,000 geoscientists. *Yahara in situ* (link).

2014 Going global with lessons from the Yahara. *Yahara in situ* (link).

Pollination and groundwater. *Yahara in situ* (link).

Crunch time for corn growers and field scientists. *Yahara in situ* (link).

Events

- Skype a Scientist. West University Elementary, Houston TX (2018).
- What's Your Water Footprint? Childpeace Montessori School, Portland OR (2017)
- Earth Day Every Day, Toki Middle School, Madison WI (2014).
- Wisconsin State Fair Limnology Exploration Station, Milwaukee WI (2013).
- Winter Limnology Open House, Madison WI (2013).
- Day of Science, Badger Ridge Middle School, Verona WI (2012).

Interviews and Media Coverage

2020 ¿Cuántas Modificaciones Puede Aguantar el Ciclo de Agua de la Tierra? *AGU Eos.* (link)

How much modification can Earth's water cycle handle? *AGU Eos.* (link)

Shaping Water Management with Planetary Boundaries. *AGU Eos.* (link)

修正水的地球行星边界 (Envisioning a revised planetary boundary for water). [In Chinese] (link)

Is the river really dry? Scientific interpretations of zero flow readings. *Advanced Scientific News.* (link)

2019 Reefer sadness: How is cannabis growth impacting climate? *Sustainability Times.* (link)

Increase in cannabis cultivation or residential development could impact water resources. *AAAS EurekAlert.* (link), *Phys.org* (link)

Did formation of the European Union lessen severity of 2003 heatwave? *PhysicsWorld* (link).

Tweets yield crop progress. *FarmLife Magazine,* Spring 2019 issue. (link)

Looking below the surface for landscape resilience. *UW-Madison Engineering News.* (link)

2018 Spring comes quickly in Louisville. Can we blame the heat island? *WPFL (NPR local).* (link).

2017 Letting lawns go brown can preserve water for others during drought. *National Drought Mitigation Center* (link)

Groundwater and tundra fires may work together to thaw permafrost. *Geological Society of America* (link), *ScienceDaily* (link), *Phys.org* (link)

Legacy phosphorus and Wisconsin water. *Wisconsin Public Radio* (link).

Wisconsin study looks at ways to reduce legacy phosphorus. *Wisconsin Public Radio* (link).

Study quantifies effect of legacy phosphorus in reduced water quality. *Science Newsline* (link).

The costs of soil's phosphorus stockpile. *WisContext* (link).

Greener cities could help urban plants endure summer heat. *AGU GeoSpace* (link).

Here's more reason to green our cities. *Yahara In Situ* (link).

2016 How will drought affect US maize and soybean production? *EnvironmentalResearchWeb* (link).

Parks can reduce urban heat island. *Environmental Monitor* (link).

Parks provide islands of cool in urban areas. *Conservation Magazine* (link).

Spring comes earlier to urban environments. *Voice of America* (link), *Big News Network* (link).

Spring comes sooner to urban heat islands, with potential consequences for wildlife. *Environmental News Network* (link)**,** *ScienceDaily* (link)**,** *Phys.org* (link), *EnvironmentalResearchWeb* (link).

Soil texture determine how groundwater and rain impacts crops. *AGU Eos* (link).

2015 UW Ph.D. student wins German sustainability award. *The Badger Herald* (link).

Ph.D. student wins Germany's Green Talents Award. *UW-Madison News* (link).

UW-Madison study looks at crop benefits of higher water tables. *WI Ag Connection* (link).

Soggy not always a bad thing. *Agri-View* (link).

High water tables impact crop yields. *Wisconsin State Farmer* (link).

High water tables can be a boon to crop yields. *Yahara In Situ* (link).

2014 Thermal imagery to precision ag: understanding crop water needs. *Yahara In Situ* (link).