

July 2023

# Newsletter

## Hydrology Section

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### From the Section President - John Selker

Dear Colleagues,

In my final greetings from Kyoto University I would like to share thoughts on harmony. In music it brings a sense of wonder and beauty that reaches beyond touch. My understanding of Japanese culture is as thin as a rice paper door, but the commitment to social harmony is as richly surrounding us in the air as if the wind itself were playing harmonious songs. A welcome contrast to global strong-man politics; personal attacks; sharp emails; and universally critical evaluations of institutions. It is apparent that the value of moderating personal impulses for the good of others is a message many of us need to hear.

Harmony at schools reflects both a cultural investment of the members, and through investment from the administration. Achieving a harmonious multifaceted social environment requires everyone be "all in." We must take responsibility for ourselves and our context. Thought experiment: how could you behave at the Fall Meeting to bring greater harmony?



Tom and his family

Thomas Meixner's murder shattered our harmony. The section took the opportunity to search for opportunities to learn from this tragedy. Our section Task Force for Academic Safety has produced their [report](#), and seeks your input and support. Please read the report and consider adding your name to this proposal. At its root we are calling here to administrators to respond to the fact that there will be conflicts in universities which require measures be taken to maintain harmony and safety. I hope that we all take Tom's memory as a daily reminder to consider your role in caring for your community.



## Update from Sister Organizations: Ecological Society of America (ESA)

ESA is the world's largest community of ecologists. While our membership ebbs and flows from one year to the next, we are connected to a community of 70,000+ ecologists and environmental scientists working in all sectors between university research, government, the private sector, education, public policy and more. ESA has 32 sections and 6 regional chapters. The Aquatic Ecology Section is one of our largest, encompassing nearly 8% of all members; our other large sections include Biogeosciences, Applied Ecology and Ecological Restoration.

This year, our Annual Meeting will be in Portland, Oregon, August 6-11, with around 4,500 expected to attend. Our program historically has centered on presentations of basic ecological research, but in recent years has been augmented with new content options, including scientific workshops and short courses, special career development content, and local field trips. In Portland, these enhanced sessions will number well over 150, with a special new track designated for scientists working in the private and public sectors. This year's theme—*ESA for All Ecologists*—demonstrates our commitment to building a professional scientific society for all participants in our science. We expanded our virtual options this year with 41 hybrid sessions to make the meeting more accessible to those at a distance. Of particular note to hydrologists are sessions on water quality, wetlands and riparian restoration, forecasting and modeling methods, and conservation.

Our journals also offer a great deal to hydrologists. *Frontiers in Ecology and the Environment*, one of the most-cited journals in the space, focuses on broad appeal; *Ecological Applications* publishes papers on the use of ecological science to solve environmental problems; *Ecology* and *Ecological Monographs* focus on recent research advances;

and *Ecosphere*, which is fully open-access, publishes a wide range of specialty areas from coastal and marine ecology, freshwater, macroecosystems, and climate science.

We welcome all—scientists, students, educators, and ecological enthusiasts—to join us and get involved. As we look to the years ahead, we envision an ESA that prioritizes communities and nature-based solutions, and serves as a connecting point between ecological theory and its practical applications.

Sharon K. Collinge, PhD  
ESA President, 2022-2023

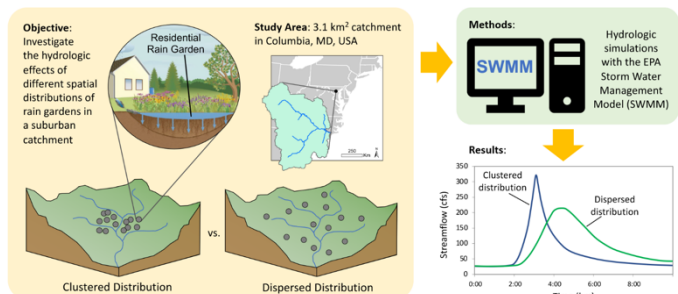


President's Note: Each month we highlight one of our Global Sister Organizations in a one-page contribution to help build bridges across many parallel activities.

# Technical Committee Focus: Catchment Hydrology

Catchment scientists are inherently interdisciplinary, and so is the Catchment Hydrology Technical Committee (TC). “The catchment” serves as a common spatial unit, while our members’ backgrounds span Earth & climate sciences; ecosystem science; engineering; and beyond! Members have historically studied pristine and quasi-pristine (forested) watersheds, but we see expanding interest in “modified” hydrological processes in agricultural, urban, and mixed-use watersheds. We combine in-situ measurements, laboratory experiments, remote sensing, and models to understand hydrological processes taking place from the groundwater zone to the top of the vegetation canopy. With interests spanning blue water, green water, and gray water – as well as the sediment, solutes, and organisms that these waters may carry – collaboration extends to nearly all of the Hydrology TCs.

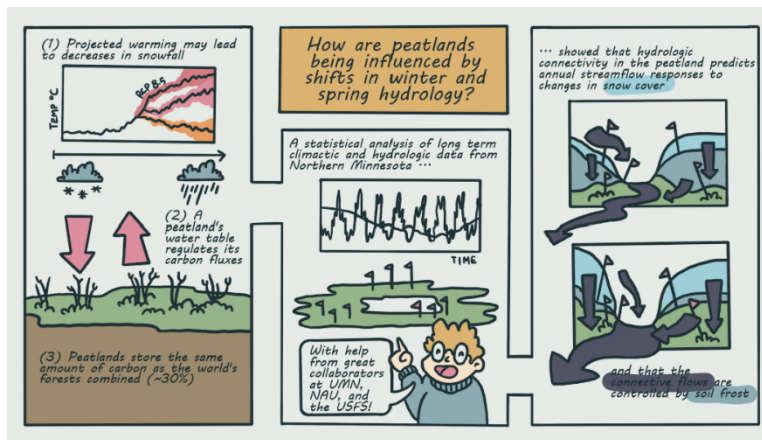
## Spatial distribution of rain gardens impacts stormwater management performance



If catchment hydrology resonates with you, please join/contribute to the Catchment Hydrology TC. Though mostly from North America, our 31 members represent seven countries with diversity of gender, career stage and research interest. In spring 2023, we were pleased to welcome six new members, and we would be happy to welcome more colleagues with shared interests – especially new student members. Our membership “rules” are very flexible, and we host many TC meetings online to allow participation even in years when attending the AGU Fall Meeting is not possible. Similar to the other TCs, our members propose and convene AGU meeting sessions that we believe may draw high interest, and we occasionally help with suggested session mergers ahead of the Fall Meeting. We also apply for funds through the Hydrology Section’s “TC3 - Spark, Support, and Sustain” program to organize contests promoting early-career catchment hydrologists.

In 2023, the TC3 funding program allowed us to organize a graphical abstract competition. AGU student members – graduate and undergraduate – were invited to create an original (i.e., unpublished) graphical abstract that summarized all (or part) of a catchment hydrology research project they are working on. This competition was just completed in June 2023 with five winners (the two top-ranked submissions featured here). Ben Daniels, from the University of Maryland - Baltimore County, submitted a graphical abstract focused on how the spatial distribution of rain gardens impacts stormwater management performance. Mariel Jones, from the University of Minnesota - Twin Cities, submitted a graphical abstract of the responses of peatlands to climate-change driven decreases in snowfall. The three other awards were given to Akshay Sunil (IIT Bombay, India), Elnaz Hatami Bahman Beygloo (Cukurova University, Turkey), and Kshitij Dahal (Arizona State University, USA). We thank all students for their submissions and congratulate the winners!

In conclusion, we invite you to help grow our group of catchment hydrology enthusiasts! Please reach out to us with questions or a request to join the TC.



**Genevieve Ali**, McGill University, Catchment Hydrology TC chair  
**Matthias Sprenger**, Lawrence Berkeley National Laboratory, Catchment Hydrology TC deputy chair  
**Amanda Donaldson**, University of California Santa Cruz, Student Member and H3S liaison

President’s Note: Each month we highlight one of our 12 technical committees in a one-page contribution.



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# Hydro-Fellows Speak: Martha Anderson

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My path to AGU Fellow in Hydrology was not a typical one. I did my PhD in Astrophysics at the University of Minnesota, using the Very Large Array of radio telescopes in New Mexico to study galactic supernova remnant expansion – hydrodynamics on a very different spatial and energetic scale. Astronomy inspired my interest in remote observation – in how much we can learn about objects that are so far away simply through the light that they emit, reflect, or transmit.

Midway through graduate school I found was more drawn to environmental issues and Earth remote sensing seemed like a perfect solution, allowing me to apply observational skills learned in Astronomy to questions of natural resource monitoring and conservation. Through Dr. Marv Bauer in Forestry at the U of M, I met Dr. John Norman in the Soil Science Department at the University of Wisconsin – who mercifully took an itinerant Astronomer in off the streets and offered her a post doc in forecasting cranberry frost and potato blight.

At UW I shifted from radio to thermal infrared wavelengths, which enable retrieval of land-surface temperature. Surface temperature is a particularly valuable diagnostic of ecosystem health, revealing signatures of stress and moisture deficiencies that are not readily visible in other wavebands. At Landsat thermal imaging resolutions (~100 m), we can map crop water use at the scale of individual farm fields. This kind of information is becoming critical now as the western states, and other water-scarce regions, struggle to find solutions for sharing ever more limited water resources. Two of my most rewarding experiences have been as a Landsat Science Team member and as a collaborator in the OpenET project (see [etdata.org](http://etdata.org)), aimed at providing open access to Landsat-based evapotranspiration data for improved water management.

I find this research very fulfilling, but I do not regret the meandering path I took to get here. It has led me to many doors, and realizations and wonderful people I would not have otherwise encountered. Non-traditional backgrounds are not a detriment - diversity of experience leads to a good team with unique contributions. So, I encourage young scientists to keep searching for where their passions lie, and do not give up. It will all become clear with time. Surround yourself with positive, supportive people who enjoy what they are doing. And from Dr. Norman, this simple truth – that it is better to be kind than right.

I want to sincerely thank my colleagues who supported my nomination and promise to pay this kindness forward.



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**President's Note:** Each month we print "Hydro-Fellows Speak" contributions. These provide a chance for those who have recently been selected for the remarkable honor of becoming an AGU Fellow to share something from their perspective on life, research, and lessons learned.

# Hydrology Section Twitter Board



Inform our community about your hydrology-related twitter account here\*!

**Hydrology Section:** [@Hydrology\\_AGU](#)

**Hydro Sect. Student Subcommittee (H3S) :**

[@AGU\\_H3S](#)

Website: <https://agu-h3s.org/>

LinkedIn: <https://www.linkedin.com/company/american-geophysical-union-hydrology-section-student-subcommittee-h3s/>

Twitter:

[https://twitter.com/AGU\\_H3S](https://twitter.com/AGU_H3S)

**Ecohydrology Technical Committee:** [@AGUecohydro](#)

**Precipitation Technical Committee:** [@AGUPrecip](#)

Facebook: **AGU Precipitation**

Twitter: [@AGUPrecip](#)

Instagram: [@AGU\\_precipitation](#)

LinkedIn: **AGU Precipitation**

Website:

<https://connect.agu.org/hydrology/about/committees/pretech>

**Water and Society** [@AGU\\_WS](#)

**Water Quality Technical Committee:** [@AGU\\_WQ](#)

**Groundwater Technical Committee:**

[@AGU\\_GWHydro](#)

**Remote Sensing Technical Committee:** [@AGU\\_RSTC](#)

**Hydrologic Uncertainty Technical Committee:**

[@AGU\\_HU](#)

**Catchment Hydrology Technical Committee:**

[@AGUCatchHydro](#)

**Unsaturated Zone Technical Committee:**

[@UnsatHyd](#)

## Helping hand request from JEDI:

The JEDI committee of the Hydrology section is working to promote and address issues around justice, equity, diversity, and inclusion within the hydrology community through creating and highlighting resources for the fall meeting, assessing the status of JEDI issues within the Hydrology section, and communicating opportunities around these topics to the section. We're currently looking for assistance creating content for the Hydro-JEDI committee website. If you're interested in getting involved or learning more about the committee, please reach out to Briana Wyatt at [Briana.Wyatt@ag.tamu.edu](mailto:Briana.Wyatt@ag.tamu.edu).

\* Tweet-request us through [@Hydrology\\_AGU](#) to have your account added!