

Watershed Innovations (WINS) Graduate Research Assistantships 2021 Request for Proposals

The Water Resources Center (WRC), in cooperation with the College of Food, Agricultural, and Natural Resource Sciences, the Water Resources Research Institutes program at the U.S. Geological Survey, and the Midwest Big Data Innovation Hub, invites proposals for Watershed Innovations (WINS) graduate research assistantships.

The purpose of WINS is to catalyze lasting collaborations that are enhanced by WRC capabilities. The program seeks to support projects in which researchers: innovate to address important water resource concerns in Minnesota; collaborate to advance interdisciplinary inquiry; educate students and early-career researchers on team science skills; and sustain research efforts through new funding sources.

This solicitation seeks proposals to support graduate research assistants enrolled in the Water Resources Science (WRS) program. Each award will support salary and tuition-inclusive fringe benefits for a 0.5 FTE WRS graduate research assistant for a duration of 24 months, plus up to \$5,000 per year for student professional development and research-related costs. The principal investigator (PI) is expected to be the student's academic advisor (or co-advisor) to supervise them on a research project to be described in the proposal.

Eligibility and requirements

The PI must be a WRS faculty member by the time a project is awarded and commit to supervising the student as their primary advisor or as co-advisor. Other planned committee members or co-advisors should be included as co-PIs. There is no limit to the number of University of Minnesota investigators per proposal or to the number of proposals each investigator may submit.

Preference will be given to proposals supporting a new (to-be-recruited) WRS student, but support for existing students will be considered. PIs will be notified of award decisions in time to recruit applicants for Fall 2022 entry in the WRS program.

Each funded student will be expected to:

- Maintain enrollment in the WRS program.

- Submit an abstract (with other co-authors as appropriate) for presentation at the Minnesota Water Resources Conference at least once during the project. The WRC will cover the cost of the student attending the conference.
- Write a short (~600 word) article about their work to be featured in the WRC's *Minnegram* newsletter and, if appropriate, disseminate their work through Midwest Big Data Innovation Hub outlets.
- Participate in professional development workshops to be organized by the WRC. Topics for these workshops include but are not limited to:
 - Project management
 - Data management
 - Grantwriting
 - Science communication
 - Website development
 - Diversity and equity
 - Meeting facilitation
 - Bibliometrics and reference management

2021 Program Priorities

Proposed projects must advance knowledge in one or more of the five focus areas in the "Our Work" section of the [WRC Strategic Plan](#). Additionally, all proposals must address one (or both) of the following priorities:

- **Water equity.** Equity-focused projects will examine the causes and impacts of water-related disparities, develop or evaluate tools or strategies to improve water equity, or provide scientific information to benefit underserved communities.
- **Water data.** Data-focused projects will build relationships with organizations to share data, create tools or protocols to interoperate disparate data types, or create new data products following [FAIR](#) and [CARE](#) principles.

Students and PIs with equity-focused projects will be invited to join a Great Lakes Water Equity Research working group coordinated by the Water Resources Research Institutes in the Great Lakes region. The working group will organize member-driven activities that may include, but are not limited to: grant development workshops, conference special sessions, mini-conferences, special issue journal proposals, and coordinated communications to amplify research impacts. Funding for these activities will be provided directly by the Water Resources Center and are not part of the project budget.

Students and PIs with data-focused projects will become part of the [Midwest Big Data Innovation Hub \(MBDH\)](#) community. The MBDH is an NSF-funded program that catalyzes a cross-sector network to increase awareness and use of data in academia, industry, government, and nonprofits. PIs will be invited to participate in the MBDH Collaboration Cafe and other community development activities to find collaborators for projects and respond

to large and/or interinstitutional funding opportunities. The MBDH Data Science Student Community seeks to build a network of peers and future collaborators. Student members will receive mentoring; participate in events and activities to increase knowledge of new data-related trends and topics; and have opportunities to grow data skills in a hands-on training workshop or at a datathon event.

Application instructions

Proposals are due by **5pm CDT on November 15, 2021**. All proposal components should be submitted via the [WINS submission portal](#).

Note: Proposals should *not* be submitted through Sponsored Projects Administration (SPA). Grants will be awarded using internal account transfers. We recommend, however, that proposers notify their unit head(s) and finance professionals about their proposal prior to submission.

A complete proposal includes the following elements:

1. **Project description.** A narrative addressing the following aspects of the project (up to three pages including text, figures, and tables, plus additional page(s) of references).
 - **Problem statement and relevance.** Describe the problem, the need for research, and the purpose of the project. Clearly identify which priority (or priorities) the project will address and explain how it will address equity or data (or both). Describe how the project connects to one or more WRC focus areas.
 - **Research overview.** Identify the research objectives and summarize the methods to be employed in terms that are understandable to scholars from multiple disciplines. Explain how the work will advance water resources research.
 - **Engagement.** Describe how the student will engage with partners outside of the University and the role of the engagement in the student's research. Explain how the student (and PI/co-PIs if relevant) will benefit from a connection to the WRC.
 - **Impact.** Describe the expected impacts of the project. Domains of impact may include, but are not limited to: (a) future scholarly activities (e.g. developing a new collaboration, enhancing competitiveness for future funding); (b) data infrastructure (e.g., developing reusable data products or tools); and (c) stakeholder communities (e.g., creating new partnerships, providing science-based information to address community needs).
 - **References.** A consistently formatted list of references cited in the project description (not included in the three-page limit).

2. **Qualifications of investigators.** Include a biosketch or abbreviated curriculum vitae for the PI, and any co-PIs, and the student, if funding would go to an existing student (up to two pages each).
3. **Letter(s) of collaboration.** Letters from external partners committing to collaborate or provide resources for the project (optional; no page limit).

Review and selection process

Proposals will be reviewed by a panel of interdisciplinary scholars. Panelists will evaluate proposals based on the criteria below and will make funding recommendations to be approved by the WRC director.

Proposals will be evaluated for the following:

- **Relevance.** Does the proposed project contribute to the equity or data priorities? Does it have a clear connection to one of the WRC focus areas? Will the results provide benefits to relevant audiences?
- **Scientific merit.** What is the quality of the research plan? Is the approach scientifically valid? Will the research activities result in a significant advance in knowledge?
- **Engagement.** Does the proposal include a substantive plan to engage with outside entities? Will the engagement meaningfully benefit the parties involved? Will the student (and/or co-PIs) benefit from a connection to the WRC?
- **Impact.** Will the project positively impact the scholarly community, data infrastructure, stakeholder communities, or others?

For projects selected for funding, PIs will develop a work plan (approximately 6 pages) and data management plan (1 page) for their student project following USGS format. Final work plans and data management plans will be due to the WRC by January 31, 2022.

Timeline

- RFP released September 27, 2021
- Proposals due by 5:00pm CST on November 15, 2021
- Review decision announced by December 15, 2021
- (For funded projects) Complete work plans submitted to the WRC by January 31, 2022
- Funded projects may begin between May 23, 2022 and August 29, 2022

Contacts

Jeff Peterson, WRC Director, jmpeter@umn.edu, (612) 624-9282

Tracy Fallon, WRS Graduate Program Coordinator, tfallon@umn.edu, (612)624-7456