Virginia
WATER RESOURCES
Research Center

At Virginia Tech since 1965
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Call for Student Grant Research Proposals 2024

DEADLINE: **Friday April 5, 2024 5:00 PM**

The Virginia Water Resources Research Center (VWRRC) is providing competitive funding for student research in water resources. Proposals are invited in all areas of water resources-related research including science, policy, management, and engineering. The maximum funding amount is $10,000 for one year; up to four proposals may be awarded depending on availability of funds. No-cost time extensions will not be available for this program. Applicants must be enrolled as a full-time undergraduate or graduate student at a Virginia institution of higher education and be the primary participant in the research. Faculty and staff are encouraged to contribute as Co-Principal Investigators, but *the proposal and application materials should be written and completed by the student*. At least one faculty member acting as the main research supervisor must be included as a Co-PI. The anticipated start and end dates for projects are September 1, 2024 and August 31, 2025, respectively. Start dates, awards, and award amounts are contingent upon receipt of federal funds from the U.S. Geological Survey under Section 104(b) of the Water Resources Research Act of 1984, as Amended.

The VWRRC highly encourages proposals from students who are from underrepresented or underserved groups in STEM disciplines, and from institutions that serve minority populations. Additionally, proposals are encouraged that increase diversity, equity, inclusion, and justice, and that intersect with water resources research. Proposals that address issues in historically marginalized or underserved communities are highly encouraged.

Example research areas include but are not limited to:
- Impacts on marginalized or underserved communities
- Improvements in water supply reliability
- Watershed planning, management, and policy
- Impacts of land use and climate change on water resources; extreme events, floods, droughts, in-stream flows
- Source water protection; groundwater withdrawal, demand, allocation in coastal aquifers
- Stormwater management and water infrastructure
- Private & small-scale water infrastructure (wells, sewerage) in rural areas
- Watershed community engagement
- Intersection of water, energy, and/or food
- Ecological impacts or ecosystem services
- Harmful algal blooms and aquatic invasive species
- Occurrence, fate, and transport of pollutants including sediment, nutrients, salts, organics, metals, plastics, and contaminants of emerging concern.

Additional research focus areas are provided in the Water Resources Research Act Program vision report for 2020–30, available at https://pubs.usgs.gov/circ/1488/cir1488.pdf.

Evaluation Criteria and Selection Process
Proposals will be evaluated with emphasis on intellectual merit, innovation, likelihood of success, *broader impacts on Virginians*, and alignment with state or regional water resources challenges. The following criteria will be considered and should be addressed by the proposal:

- How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields?
- To what extent does the proposed activity suggest and explore creative and original concepts and innovative, promising approaches to solving water-related problems?
- How clear are the objectives of the proposed work? *If part of a larger project, e.g., a thesis or dissertation, or a project supported by another grant, which objectives or components of the larger project will be supported by this grant?*
- How well-qualified is the proposer (and Co-PIs) to conduct the project? Is there evidence to support that the PIs have experience with the subject matter?
- How well-conceived and organized is the proposed activity? Is there sufficient access to resources? Is the research leveraging existing resources?
- *What is the value added through support from this grant? In other words, would funding from this grant increase the student's success on the project? How important is the proposed work to the student's overall thesis or dissertation project? Does the proposed work add a new component to an existing study or increase the capacity of ongoing work? It is important to describe how this grant would provide value-added to ongoing or planned student research.*
- *Does the proposed activity address water resources problems of major importance to Virginia or the region?*

Eligibility
- Students are eligible at any point in their graduate program and undergraduate students are eligible if they enroll in independent study credit with a faculty member or are receiving wage pay and are at least junior level standing. Students must be full-time status during the grant period. The student's main faculty research supervisor should address student eligibility in their recommendation and if the applicant is an undergraduate, the research supervisor should describe how the independent study credit(s) or wages will be allocated.
- Appropriate topics may be in water resources science and engineering (including its physical, chemical, or biological aspects) or in water resources policy, planning, and management (including economics, systems analysis, sociology, and law).
- The faculty member acting as the main research supervisor must be included as a Co-PI. Other Co-PIs may be included as well.
- Only one application is allowed per student *and the student must write the proposal*.

Guidelines
All proposals should be written using 12-point Times New Roman font with 1-inch margins and standard page dimensions (8.5" by 11").

Cover page: The cover page should be *no more than one single-spaced typed page* and should include (a) project title; (b) name of the student PI and faculty Co-PI(s) including university and department/school, mailing address, phone number, and email address; (c) total budget request; (d) five keywords describing research; and (e) a simple language summary. If there is more than one Co-PI, indicate which is the student's main research supervisor.

Simple Language Summary: Provide a summary of the project that would be understandable to an individual without specific expertise in the research topic. Please limit the summary to approximately 150 words. This should be included on the cover page and is not counted in the 2-page limit for the research proposal.

Statement of Purpose: The statement should be *not more than one single-spaced typed page (including figures).* This section should be used to explain to the selection committee why receipt of this grant is important to the student's research and the field of water resources. The significance and relevance of the proposed project should be explained and it should also highlight the significance in terms of important water resource issues in Virginia or the region. It should address why receipt of this grant is important to the student's program, thesis, or dissertation and how it may allow the student to carry out work beyond that which was originally planned or how it will enhance/expand/achieve goals of the student's training. Any additional information to support the student's application should be included in this section.

Research Proposal: This section is limited to *two single-spaced typed pages (including figures)* that address 1) what is to be accomplished in the proposed project (including goals, objectives, hypotheses, or research questions), 2) how the proposed work will be carried out and 3) what results are expected (i.e., scientific, policy, or technical contributions). This section should include specific aspects of experimental design, analysis, and methodologies as appropriate and suitable background that provides context and justification to the proposed work. Details should be adequate to evaluate probability of project completion/success (a timeline is suggested). The proposal should be written so that a general professional in water resources (i.e., not necessarily a specialist) can assess its laudability and merit. If relevant (e.g., the proposed work is part of ongoing thesis or dissertation work), research progress to date should be stated. References cited are not included in the page count. The research proposal will be submitted as a separate PDF file.

Detailed Budget: Provide a detailed listing of each budget item, its estimated cost or cost rate to the nearest dollar, and justification. The budget should be as detailed as possible and uploaded as a separate PDF file. Per the language in the Water Resources Research Act, this program does not pay indirect costs. Acceptable budget items might include, but are not limited to: student summer salary or wages for lab/field assistants; research costs such as laboratory supplies, computer simulation time, analytical costs, or field instrumentation; travel costs (provide include location, number of personnel, number of days, per diem rate, lodging rate, mileage and mileage rate, airfare, etc.); publication costs (provide specific journals for planned submission); and/or one technical symposium or conference (include specific conference and detailed travel costs).

Each budget item must include justification on a separate form available here: https://www.vwrrc.vt.edu/wp-content/uploads/2023/03/budget-justification_VWRRC_mod.docx. The justification for each item should be listed under the "federal" category and should not include anything in the "match" category. The justification must match exactly with the budget provided. This form should be uploaded as a separate MS Word document. Consult with your faculty Co-PI and your sponsored programs office for accurate rates and assistance in completing this form. This form will be submitted by the VWRRC to the U.S. Geological Survey as part of the 104b grant program.

CV and Transcripts: The student should provide a copy of their current CV (2-page maximum). Transcripts are not required and should not be submitted.

Recommendations: Two recommendations are required. 1) The student's main faculty research supervisor (or in the case of undergraduate applicants, the research advisor or department head) and 2) another faculty member (e.g., from the student's thesis committee or in the case of undergraduate applicants a faculty member that can speak to the student's research aptitude) must each submit a recommendation in support of the proposal. *Student eligibility, academic performance, and qualifications to carry out the research* should be addressed in the recommendation by the student's main faculty research supervisor and the other recommendation writer. Specific examples demonstrating the student's ability will provide a stronger endorsement. *Recommendations must be received within five days following the application deadline through the web recommendation submission page (see URL below).* It is the student's responsibility to arrange for recommendations, check on their status with recommendation writers (not with the VWRRC), and to communicate instructions to recommendation writers. Proposals with a missing recommendation will not be considered.
- Recommendations should be submitted using the web recommendation submission page: https://bit.ly/VWRRC_recommendation_form.

Other details and submission: The budget may not include indirect costs and must not exceed $10,000. The funding will be awarded as a grant to the student's faculty advisor. *Proposals submitted from institutions outside of Virginia Tech will only be accepted from the student's university office of sponsored programs or grants and contracts office and not directly from individual students or departments.* The anticipated project duration will be from September 1, 2024 to August 31, 2025. Dates and awards are contingent upon receipt of federal funds. All expenses must be invoiced or posted by August 15, 2025. Cost sharing is not required. Incomplete applications and those that do not conform to the above format will not be considered and applicants will not be notified as such. Proposals and recommendations should be submitted online by the deadlines listed in this RFP. ***Under no exceptions will late applications or recommendations be accepted.*** The proposal packet apart from recommendations should be submitted using the web interface available at: https://bit.ly/VWRRC_student_grant.

Reporting

Reporting requirements will include an interim report to be submitted to the VWRRC by February 14, 2025 and a final report to be submitted by August 15, 2025. All funds must be spent by the end date even if the award is delayed from the anticipated start date. Reports are to be written in the form of a broad science communication article (<450 words) that describes progress or findings and significance of the work. Details on the report format are provided on the VWRRC's website. The student PI may be asked to contribute to VWRRC communications (e.g., newsletter, website, etc.) related to the student's research. The VWRRC shall be credited in all publications (journal articles, conference papers, presentations, graduate thesis, websites, etc.) that result from the project. ***It is the responsibility of the student and faculty Co-PI to communicate publications, proposals, and data resulting from this grant even after the reporting period.***

Data Archiving and Publication Open Access: Federal funds are used to support this grant program, which require that data are made fully accessible, discoverable, and usable (open access) as soon as possible, but no later than one (1) year after project completion. However, if the data are critical for completion of a student thesis or dissertation, they can be released one year after the submission of the thesis or dissertation. Data products will be archived by the Virginia Tech Data Repository (data.lib.vt.edu), the institutional repository in the University Libraries at Virginia Tech, or at the institutional data repository of the recipient of the seed grant home institution if not from Virginia Tech, for purposes of preservation, discoverability, and access. PIs must provide a URL (or doi) to their data repository entry no later than one year after submission of their final report or completion of a student thesis or dissertation. Manuscripts resulting from this grant program should also be open access if possible. For Virginia Tech researchers, an open access deposit of accepted manuscripts is available through the university's institutional repository (see Virginia Tech Policy 13000 2.3.A. #8).

For More Information Contact: Daniel McLaughlin (mclaugd@vt.edu), 540-231-6616