

REQUEST FOR PROPOSALS

VERMONT WATER RESOURCES AND LAKE STUDIES CENTER

ANNUAL STATE GRANTS PROGRAM, 2022-2023

TIMELINE:

RFP ISSUED: Tuesday, February 22, 2022

INTENTION TO SUBMIT EMAIL: Monday, March 14, 2022

PROPOSALS DUE: Monday, March 28, 2022

NOTIFICATION OF SELECTION: Monday, April 18, 2022

REVISED PROPOSALS DUE: Thursday, April 21, 2022

SUBMISSION TO USGS (COMPLETED BY VT WATER CENTER): Monday, May 2, 2022

AWARD PERIOD: September 1, 2022–August 31, 2023

Note important changes this year: The Water Resources Research Act was reauthorized in late 2021, enacting several important changes. Among the most important is a change in cost sharing (matching) budget requirements from \$2 matching for each \$1 federal, to \$1 matching for each \$1 federal (a 1:1 match). This is a major benefit to prospective PIs. Also, please note the tight timeline this year has led us to request that you alert us to your intent to submit a proposal. This will help us process proposals in a timely manner.

OVERVIEW

The Vermont Water Resources and Lake Studies Center seeks faculty and graduate student research, outreach, education, training, and information-transfer proposals for the 2022-2023 United States Geological Survey (USGS) 104b State Water Resources Research Institutes Grant Program. Information and forms for the national program are on the [State Water Resources Research Act Program](#) page of the USGS website. Information on the Vermont program is available at the [Vermont Water Resources and Lakes Studies Center](#) website.

The National Institutes for Water Resources seek to build an inclusive community through research, education, outreach, and training that is strengthened by the diversity of scientists and members of society to achieve the mission set forth in the Water Resources Research Act. At the Vermont Water Resources and Lake Studies Center, we encourage proposals led by diverse, early-career faculty and emphasize training of students from diverse backgrounds, experiences, and education, and we ensure Center and research projects' outreach efforts are inclusive and focus on diverse populations.

The annual request for proposals (RFP) for the Water Resources Research Institutes Grant Program has not yet been posted for FY2022, and the total funding and the official start date for awards are both dependent on Congressional and federal actions. However, we expect the 104b program to be funded again this year, and we will proceed with this call for proposals on the basis of the FY2021 RFP. Questions regarding this RFP should be sent to Julianna White (julianna.m.white@uvm.edu, 802-777-7017), Research Program Coordinator, [Vermont Water Resources and Lakes Studies Center](#)

RESEARCH FOCUS

Proposals must focus on critical water resources science and management needs in Vermont, including the Connecticut River and Lake Champlain basins. The 104b program will consider proposals to support research, outreach, education, training, and other information-transfer activities focused on physical, biological, chemical, social (equity), or engineering aspects of water quality or quantity. Water equity research examines the causes and impacts of water-related disparities, develops or evaluates tools or strategies to improve water equity, or provides scientific information to benefit underserved communities. All proposals should justify project plans based on current needs, as documented in national, regional, and especially state science and technology overviews, and they should describe how results will be disseminated to water managers and the public, inclusive of economically disadvantaged and diverse populations. Proposals that address issues in historically marginalized or underserved communities are highly encouraged.

The Vermont Water Center especially welcomes proposals from professionals who identify as Black, Indigenous, or People of Color and from early-career professionals. All proposals must originate from an institution of higher education based in Vermont, including community and technical colleges. We will prioritize funding worthy projects that foster the entry of new research scientists, engineers, and technicians into water resources fields.

PROJECT TYPES

Two types of proposals will be considered: Graduate Research and Faculty Research.

Graduate research projects

Graduate research awards can be used for stipend, tuition, research operating costs, travel, or other direct costs directly relevant to the student's research at a Vermont university or college. Graduate students must have a faculty sponsor, who will act as lead principal investigator (PI) on the project. Graduate students may propose one-year projects with budgets of up to \$30,000/year, of which up to **\$15,000 may be requested directly from the Water Center** (i.e., the federal source) and **an equal amount must come from non-federal matching sources** (either cash or in-kind). The project budget must be at least **1:1 federal to non-federal** matching funds. UVM graduate students are required to include graduate student tuition in the budget (federal funds or matching funds) unless the student is on continuing registration. If funds will be used over the course of an entire academic year (which does not align with the award period), we can plan for that when developing the budget. Graduate research projects are not renewable.

Faculty Research Projects

Faculty research awards must be led by a Vermont university or college faculty PI but can and should include federal, state, or private partners, whose contributions can often be counted as budget match. To be consistent with USGS policy and award conditions, PIs should propose projects that have defined objectives that can be delivered in one year, however, PIs may plan for multi-year projects. Our advice is to focus the proposal on the objectives that are attainable in one year and to include a section within the proposal that explains how the current objective(s) fit into the longer-term plan. Proposals for second- or third-year funding must also focus on objectives that are attainable in one year and explain how the proposed objectives fit into a specific, longer-term plan. No-cost extensions of project funds beyond one year are possible, but in recent years have become much harder to obtain. The review panel and Water Center director will prioritize under-represented PIs, early-career PIs, and second-year projects that have shown sufficient progress in year one. Faculty may propose projects with budgets of up to \$80,000/year, of which up to **\$40,000/year may be requested directly from the Water Center** (i.e., the federal source) and **an equal amount must come from non-federal matching resources** (either cash or in-kind). In all cases, the project budget must show that **federal to non-federal** matching funds ratio is at least **1:1**.

BUDGET GUIDELINES FOR FEDERAL FUNDING AND NON-FEDERAL MATCH FUNDS

Starting in 2022, all Vermont Water Center proposals require a **1:1 federal to non-federal match**. This means that for each \$1 requested, \$1 of non-federal “**match**” that will be expended during the award period is required. It is possible to obtain this match relatively easily with some ingenuity and willing partnerships. Following are possible non-monetary and monetary sources of match. Proposals must clearly state how the federal funding obtained from the USGS will leverage other funds used as match. If your proposal is selected for funding, we will work with you to finalize the budget. Graduate students submitting graduate research proposals should work with their faculty advisors to identify appropriate match opportunities.

Overhead (F&A) costs

The most substantial source of matching funds is unrecovered overhead costs. The USGS will not pay for overhead costs (also called facilities and administrative rate cost agreement, or F&A) attributable to projects supported by the state Water Centers. This “unrecovered” overhead can and should be used as match.

- The sum of all sources of overhead (e.g., salaries, graduate and undergraduate student support, operational costs, etc.) count towards this unrecovered overhead.
- Note that overhead may not be applied to tuition and equipment costs or third-party cost share.

PI salary

PI salary is an important form of match. As noted above, USGS guidelines allow projects to count wages, fringe benefits, and related full overhead costs as match. Faculty should consider allocating a minimum of two weeks of cost-shared salary to meet match requirements.

Graduate student support from other, non-federal resources

Consider matching graduate student support from the Vermont Water Center with other institutional sources of support, e.g., graduate research stipends, tuition support, start-up funds etc. If the source of funding for the other portion of the graduate student support is non-federal, then this funding, as well as the overhead multiplier associated with it, can be claimed as match. This is an effective way to stretch your institutional dollars.

Third-party matching support

External, “third-party” matching is a simple and important form of matching support. Interested clients and stakeholders may provide matching support in the form of either cash or in-kind services. A letter documenting the value of the third-party match is required and is usually relatively easy to obtain. This letter must be included with the proposal. A second letter documenting that the matching support was provided will be required at the end of the grant.

- Direct cash support from a client or partner can be received by the university. At UVM, it may be necessary to create a separate contract to bring the funding that is offered by a partner into the UVM system. In the case of a client who might like to support more than one project, the Vermont Water Center can help consolidate the budgets and contracts to simplify the process for everyone. Direct "gifts" from a foundation can be handled in a similar manner.
- In-kind services (e.g., consulting services provided by a partner, subcontracting done on behalf of the project by a client) are a valuable and sometimes overlooked resource. In-kind services must be described and quantified in the letter of support from the partnering entity.
- We are happy to work with you, your partner(s), and your Office of Sponsored Projects representative to determine the documentation required, including developing documentation for matching contributions.
- Third-party contributions are a valuable source of match and often include F&A costs of the contributor. Host institutions should note that federal guidance prohibits them from assessing their own F&A charges on third-partner matching contributions.

DATA MANAGEMENT PLAN

All projects that are supported by the Vermont Water Resources and Lake Studies Center must adhere to a USGS-approved data management plan, which describes how the program conforms to USGS policy on the dissemination and sharing of research results and associated data. The Vermont Water data management plan is available [online](#) and will be revised as needed. All PIs who accept Water Center funding will be expected to adhere to this data management plan we develop, i.e., you do not need to develop an individual plan for your project.

INTENT TO SUBMIT

If you plan to submit a proposal, please send the following information to julianna.m.white@uvm.edu. We will treat this information as draft; it will be used for Water Center planning only. Due March 14, 2022

1. PI name, institution, email
2. Project title
3. One-sentence summary of project
4. Two potential reviewers' names, institutions, and email addresses. Reviewers do not need to be from Vermont.

PROPOSAL CONTENTS AND SUBMISSION

Proposals must utilize the outline below and submit the project narrative, budget, and budget justification by email to julianna.m.white@uvm.edu by the deadline indicated. Please call Julianna at 802-777-7017 if she has not confirmed receipt within 24 hours of your submission. Due March 28, 2022.

Proposal narrative – max of 10 single-spaced pages including references, 12-pt font, 1-inch margins. Contents:

1. **Title.** Concise but descriptive.
2. **Project Type.** Choose from the following:

Research	Education
Information Transfer	Other (please specify)
Information Management System	
3. **Focus Categories.** Choose a maximum of three focus categories. List the preferred focus category first.

Acid Deposition	Hydrogeochemistry	Recreation
Agriculture	Hydrology	Sediments
Climatological Processes	Invasive Species	Solute Transport
Conservation	Irrigation	Surface Water
Drought	Law, Institutions, and Policy	Toxic Substances
Ecology	Management and Planning	Treatment
Economics	Methods	Wastewater
Education	Models	Water Quality
Floods	Nitrate Contamination	Water Quantity
Geomorphological Processes	Non-Point Pollution	Water Supply
Geochemical Processes	Nutrients	Wetlands
Groundwater	Radioactive Substances	
4. **Research Category.** Choose one category that most closely applies.

Water Scarcity and Availability	Watershed and Ecosystem Function
Water Hazards and Climate Variability	Water Technology and Innovation
Water Quality	Workforce Development and Water Literacy
Water Policy, Planning, and Socioeconomics	

5. **Keywords.** Enter keywords of your choice descriptive of the work.
6. **Start Date.** Expected 1 September 2022.
7. **End Date.** Expected 31 August 2023.
8. **Principal Investigator(s).** Provide name, academic rank, university, email address and phone number of the PI(s).
9. **Congressional District.** Vermont At-Large
10. **Abstract.** Provide a brief (one-page or less) description of the problem, methods, and objectives.
11. **Statement of regional or state water problem.** Include an explanation of the need for the project, who wants it, and why.
12. **Statement of results or benefits.** Specify the type of information that is to be gained and how it will be used and by whom. [Describe societal relevance, including impacts on diversity, equity, and inclusion, if applicable.]
13. **Nature, scope, and objectives of the project, including a timeline of activities.**
14. **Methods, procedures, and facilities.** Provide enough information to permit evaluation of the technical adequacy of the approach to satisfy the objectives.
15. **Related research** (research projects only). Show by literature and communication citations the similarities and dissimilarities of the proposed project to completed or ongoing work on the same topic.
16. **Training potential.** Estimate the number of graduate and undergraduate students, by degree level, who are expected to receive training in the project.
17. **Detailed budget.** Please complete the budget tables in the fillable excel form available at <https://www.uvm.edu/rsenr/vtwatercenter/request-research-proposals>. In addition to the guidance above regarding budget and match, please follow the PI's institution's budget policies (e.g., allowable expenses for travel, food, computers, etc.). For UVM, refer to the Sponsored Project Administration policy and award management [website](#).
18. **Budget justification.** Please complete using the fillable PDF form available at <https://www.uvm.edu/rsenr/vtwatercenter/request-research-proposals>. Note: USGS is particular about the detail provided in budget justifications. For example, it will be insufficient to state, "\$270 is requested to defray mileage reimbursement costs." Instead, provide the breakdown that generates the requested funding, for example: "We expect to make 10 round trips of approximately 50 miles per trip using personal vehicles. The institutional mileage reimbursement rate is \$0.54/mile. Thus, we request \$270 from the federal sponsor." This level of detail is required for each budget item in the federal and non-federal budgets. If USGS determines that

budget details are insufficient in one project, they will delay the award of the entire funding package. *To avoid delays in funding, please carefully and fully justify your federal and non-federal cost estimates.*

19. **Investigators' qualifications.** Two-page CV with no more than 15 pertinent publications for all PIs, including graduate students for graduate research proposals. (This is not counted toward the 10-page narrative limit.)
20. **List of three potential reviewers.** Please list the name, home institution, and email, of three potential reviewers who are competent in the field of study but with whom you have no known conflict of interest. They may or may not be the same reviewers sent in the intention to submit email. Reviewers do not need to be from Vermont. (This is not counted toward the 10-page narrative limit.)

REVIEW PROCESS

The review process has two steps. **Step One** consists of a) **external technical review** by up to three disciplinary experts who have no conflict of interest and b) consideration by a **Proposal Review Panel** (PRP) composed of local, state, university, private sector, and non-governmental organization stakeholders.

External technical reviewers will score proposals using the following criteria and a five-point scale:

- The problem is clearly defined and substantially justified.
- The project objectives, hypotheses, or questions are logical and stated clearly.
- The proposed methods or approaches are appropriate.
- The proposed project is likely to achieve its objectives.
- The proposed project is likely to inform resource management decisions or the public.

Up to three points will be added to proposal scores for each of the following characteristics:

- The proposal involves graduate students or early-career PIs.
- Proposal identifies how researchers will engage with stakeholders from a diversity of backgrounds.
- Proposal identifies how the research will be of benefit to underserved populations.

The PRP will consider review scores; assess proposals' strengths, weaknesses, and relevance to Vermont's water quality and quantity needs; and provide a set of funding recommendations to the Water Center Director. The PRP will prioritize graduate research proposals, early-career PIs, and second-year projects that have shown sufficient progress in year one. Projects requesting renewals beyond two years will be considered on equal priority with new projects. The Director will use these recommendations to select a group of proposals that will advance to Step Two. The Director has the right and responsibility to balance the selection of proposals differently from the recommendations of the PRP for strategic investment reasons. Such departures are not common and will be fully justified to the PRP. PIs for all proposals will be notified of the outcomes **by April 18, 2022**.

In **Step Two**, PIs of recommended proposals will **a) revise proposals** based on comments and recommendations from Step One and any additional guidance received from USGS and **b) develop a final budget and budget justification** that is acceptable to UVM Sponsored Projects Administration and USGS. The final proposal, budget, and budget justification must be submitted in three separate files to julianna.m.white@uvm.edu **by April 21, 2022**.

It is highly likely that proposals selected for advancement in the state-level review will be funded by USGS. Ultimately, the total funding made available by USGS and the official start date for awards are both dependent on Congressional and federal actions. At this point, we expect funding to be forthcoming with a planned start date of September 1, 2022. We will communicate to PIs any changes to these expectations.