REQUEST FOR PROPOSALS
VERMONT WATER RESOURCES AND LAKE STUDIES CENTER
ANNUAL GRANTS PROGRAM
2021-2022

TIMELINE:

PROPOSALS DUE: FRIDAY, OCTOBER 23, 2020

NOTIFICATION OF SELECTION: FRIDAY, DECEMBER 4, 2020

REVISED PROPOSALS DUE: FRIDAY, DECEMBER 18, 2020

SUBMISSION TO USGS (COMPLETED BY VT WATER CENTER): FRIDAY, JANUARY 8, 2021

AWARD PERIOD: MARCH 1, 2021 – FEBRUARY 28, 2022

OVERVIEW

The Vermont Water Resources and Lake Studies Center seeks faculty and graduate student research, outreach, education, training and information-transfer proposals for the 2021-2022 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 annual request for proposals (RFP) for the Water Resources Research Institutes Grant Program has not yet been posted for FY2021, 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 FY2020 RFP, as there have been few changes to USGS guidelines for this program in recent years... The Vermont Water Center has excerpted relevant guidance for project proposals from the USGS RFP and included them in this state-level 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 Basin and the Lake Champlain Basin. The 104b program will consider proposals to support research, outreach, education, training and other information-transfer opportunities on physical, biological,
chemical, social, or engineering aspects of water quality or quantity. All proposals should justify project plans based on current needs, as documented in national, regional, and especially state science and technology overviews, and should describe how results will be disseminated to water managers and the public.

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. We will prioritize funding to support 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 any other direct cost that is 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 projects one-year projects with direct costs of up to $45,000/year, of which **$15,000 may be requested directly from the Water Center** (i.e. the federal source) and up to **$30,000 must come from non-federal matching sources** (either cash or in-kind). In all cases the project budget must be at least **1:2 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. No-cost extensions of project funds beyond one year are possible, but in recent years they have become much harder to obtain. 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. The Director and Project Review Panel will give priority to 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 $120,000/year, of which **$40,000/year may be requested directly from the Water Center** (i.e. the federal source) and up to **$80,000/year must come from non-federal matching resources** (either cash or in-kind). Requests of less than $120,000 are encouraged so that the Water Center can fund more individual projects. In all cases, the project budget must show that **federal to non-federal matching funds ratio is at least 1:2**.
All Vermont Water Center proposals require a **1:2 federal to non-federal match**. This means that for each $1 requested, $2 of non-federal “match” that will be expended during the award period, March 1 – February 28 is **required**. This is a high level of match. However, 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 develop the official 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.
- The combination of two weeks of PI salary support and the associated overhead costs can often contribute up to $1 of the $2 required non-federal match in many projects.
- 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 both fringe benefits and the full overhead costs of salaries as match.

- For Graduate Research proposals, we suggest that supporting faculty consider allocating a minimum of two weeks of cost-shared salary to this type of proposal. If your department will support a greater cost-share, you may certainly do that.
- For Faculty Research proposals, you may request federally funded support (e.g., for summer salary), but remember that ever $1 of federal support requested requires $2 of non-federal match.

### 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 student 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 2020 data management plan is available [online](#). This data management plan 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. Please email Julianna White if you have questions or concerns.

**PROPOSAL CONTENTS AND SUBMISSION**

The deadline for submission is midnight, Friday, October 23, 2020. Proposals must utilize the outline below and submit the project narrative, budget, and budget justification by email to [julianna.m.white@uvm.edu](mailto:julianna.m.white@uvm.edu). Please call Julianna at 802-777-7017 if she has not confirmed receipt by 4pm on Monday, October 26.

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 most preferred focus category first.
   - Acid Deposition
   - Agriculture
   - Climatological Processes
   - Conservation
   - Drought
   - Ecology
   - Economics
   - Education
   - Floods
   - Geomorphological Processes
   - Geochemical Processes
   - Groundwater
   - Hydrogeochemistry
   - Hydrology
   - Invasive Species
   - Irrigation
   - Law, Institutions, and Policy
   - Management and Planning
   - Methods
   - Models
   - Nitrate Contamination
   - Non-Point Pollution
   - Nutrients
   - Radioactive Substances
   - Recreation
   - Sediments
   - Solute Transport
   - Surface Water
   - Toxic Substances
   - Treatment
   - Wastewater
   - Water Quality
   - Water Quantity
   - Water Supply
   - Wetlands
4. **Research Category.** Choose the one category that most closely applies. (These categories may change in the final RFP but rarely do.)

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

5. **Keywords.** Enter keywords of your choice descriptive of the work.

6. **Start Date.** Expected 1 March 2021.

7. **End Date.** Expected 28 February 2022.

8. **Principal Investigator(s).** Provide name, title, university, email address and phone number of the principal investigators.

9. **Congressional District.** Vermont At-Large

10. **Abstract.** Provide a brief (one-page) 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. [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 on-going 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.

**Budget** (This is not counted toward the 10-page project narrative limit.)

1. **Budget breakdown.** The main budget table is copied below for your information, but please complete the three budget tables in the fillable excel form available at [https://www.uvm.edu/rsenr/vtwatercenter/request-research-proposals](https://www.uvm.edu/rsenr/vtwatercenter/request-research-proposals). In addition to the guidance above regarding budget and match, please follow university budget policies (e.g. allowable expenses for travel, food, computers, etc.). For UVM, you may refer to the Sponsored Project Administration policy and award management website.
### Budget Justification

2. **Budget Justification.** The template is copied below for your information, but please complete using the fillable PDF form available at [https://www.uvm.edu/rsenr/vtwatercenter/request-research-proposals](https://www.uvm.edu/rsenr/vtwatercenter/request-research-proposals). Note: USGS is very particular about the detail required in budget justifications. For example, it will be insufficient to state that “$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 prevailing mileage reimbursement rate is $0.54/mile. Thus, we request $270 in support of this expense 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 until the detail is provided for that project. To avoid delays in funding, please carefully and fully justify your federal and non-federal cost estimates.

**Project Title**

<table>
<thead>
<tr>
<th>Salaries and Wages for PIs. Provide personnel, title/position, estimated hours and the rate of compensation proposed for each individual.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries and Wages for Graduate Students. Provide personnel, title/position, estimated hours and the rate of compensation proposed for each individual. (Other forms of compensation paid as or in lieu of wages to students performing necessary work are allowable provided that the other payments are reasonable compensation for the work performed and are conditioned explicitly upon the performance of necessary work. Also, note that tuition has its own category below and that health insurance, if provided, is to be included under fringe benefits.)</td>
</tr>
<tr>
<td>Salaries and Wages for Undergraduate Students. Provide personnel, title/position, estimated hours and the rate of compensation proposed for each individual. (Other forms of compensation paid as or in lieu of wages to students performing necessary work are allowable provided that the other payments are reasonable compensation for the work performed and are conditioned explicitly upon the performance of necessary work. Also, note that tuition has its own category below and that health insurance, if provided, is to be included under fringe benefits.)</td>
</tr>
<tr>
<td>Salaries and Wages for Others. Provide personnel, title/position, estimated hours and the rate of compensation proposed for each individual.</td>
</tr>
<tr>
<td>Fringe Benefits for PIs. Provide the overall fringe benefit rate applicable to each category of employee proposed in the project. Note: include health insurance here, if applicable.</td>
</tr>
<tr>
<td>Fringe Benefits for Graduate Students. Provide the overall fringe benefit rate applicable to each category of employee proposed in the project. Note: include health insurance here, if applicable.</td>
</tr>
<tr>
<td>Fringe Benefits for Undergraduate Students. Provide the overall fringe benefit rate applicable to each category of employee proposed in the project. Note: include health insurance here, if applicable.</td>
</tr>
<tr>
<td>Fringe Benefits for Others. Provide the overall fringe benefit rate applicable to each category of employee proposed in the project. Note: include health insurance here, if applicable.</td>
</tr>
<tr>
<td>Tuition for Graduate Students.</td>
</tr>
<tr>
<td>Tuition for Undergraduate Students.</td>
</tr>
<tr>
<td>Supplies. Indicate separately the amounts proposed for office, laboratory, computing, and field supplies. Provide a breakdown of the supplies in each category.</td>
</tr>
<tr>
<td>Equipment. Identify non-expendable personal property having a useful life of more than one (1) year and an acquisition cost of more than $5,000 per unit. If fabrication of equipment is proposed, list parts and materials required for each, and show costs separately from the other items. A detailed breakdown is required.</td>
</tr>
<tr>
<td>Services or Consultants. Identify the specific tasks for which these services, consultants, or subcontracts would be used. Provide a detailed breakdown of the services or consultants to include personnel, time, salary, supplies, travel, etc.</td>
</tr>
<tr>
<td>Travel. Provide purpose and estimated costs for all travel. A breakdown should be provided to include location, number of personnel, number of days, per diem rate, lodging rate, mileage and mileage rate, airfare (whatever is applicable).</td>
</tr>
<tr>
<td>Other Direct Costs. Itemize costs not included elsewhere, including publication costs. Costs for services and consultants should be included and justified under “Services or Consultants (above). Please provide a breakdown for costs listed under this category.</td>
</tr>
<tr>
<td>Indirect Costs. Provide negotiated indirect (“Facilities and Administration”) cost rate.</td>
</tr>
</tbody>
</table>

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 project narrative limit.)

**List of three potential reviewers.**

In a separate document, please include the name, home institution, email, and phone number of three potential reviewers who are competent in the field of study but with whom you have no conflict of interest. Reviewers do not need to be from Vermont.

**REVIEW PROCESS**

The review process has two steps.

**Step One** consists of external technical review by up to three disciplinary experts and consideration by a Proposal Review Panel composed of local, state, university, private sector, and non-governmental organization (NGO) 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 public stakeholder groups.

An additional three points will be added 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 Proposal Review Panel will take into account external technical 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 Proposal Review Panel 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 Water Center 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 Proposal Review Panel for strategic investment reasons. Such departures are not common and will be fully justified to the Proposal Review Panel. PIs for all proposals will be notified of the outcomes by Friday, December 4, 2020.

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 both UVM Sponsored Projects Administration (SPA) and USGS. The final proposal, budget, and budget justification must be submitted in three separate files to julianna.m.white@uvm.edu by midnight on Friday, December 18, 2020. Please call Julianna at 802-777-7017 if you do not receive a confirmation by 4pm Monday, December 21, 2020.
The Vermont Water Resources and Lake Studies Center will submit all proposals selected for advancement to USGS in a single package by Friday, January 8, 2021.

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 March 1, 2021. We will communicate to PIs any changes to these expectations.