REQUEST FOR PROPOSALS

2020-2021 VERMONT WATER RESOURCES AND LAKE STUDIES CENTER ANNUAL GRANTS PROGRAM

TENTATIVE TIMELINE:

PROPOSALS DUE: MONDAY, OCTOBER 7, 2019

NOTIFICATION OF SELECTION FROM STEP ONE: FRIDAY, NOVEMBER 15, 2019

REVISED PROPOSALS DUE: MONDAY, DECEMBER 13, 2019

SUBMISSION TO USGS (COMPLETED BY VT WATER CENTER): FRIDAY, JANUARY 10, 2020

AWARD PERIOD: MARCH 1, 2020 – FEBRUARY 29, 2021

OVERVIEW

The Vermont Water Resources and Lake Studies Center seeks faculty and graduate student research and information transfer proposals for the 2020-2021 United States Geological Survey (USGS) 104b State Water Resources Research Institutes Grant Program. Information and forms for the Vermont program can be found on 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 FY2020. 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 FY2019 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 on physical, biological, chemical, social, or engineering aspects of water quality or quantity, as well as proposals for outreach, education, training and other information-transfer opportunities. All proposals should justify project plans based on current needs, as documented in national, regional, and especially state science and technology overviews. Contact Julianna White if you have an idea you would like to pursue, especially in the case of information-transfer proposals.

PROJECT TYPES

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

Graduate Research Proposals

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 with direct costs of up to $30,000/year, of which **$10,000 may be requested directly from the Water Center** (i.e. the Federal source) and up to **$20,000 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.

Faculty Research Proposals

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 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**.

BUDGET GUIDELINES FOR FEDERAL FUNDING AND NON-FEDERAL MATCH FUNDS

All Vermont Water Center proposals require a **1:2 Federal:Non-Federal match**. This means that for each $1 you request, you are required to identify $2 of non-federal "match" that **will be expended during the award period, March 1 – February 28.** 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. Proposal must clearly state how the Federal funding obtained from the USGS will leverage other funds that are being 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.

PI SALARY

PI salary is an important form of match. 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, please know that you may request federally funded support (e.g., for summer salary), but remember that every dollar of federal support requested requires $2 of Non-Federal match.

OVERHEAD (F&A) COSTS

The USGS does not pay overhead costs (also called facilities and administrative rate cost agreement, or F&A) to the institutions that host 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.

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.

- Direct cash support from a client or partner can be received by the university. At UVM, it will likely be necessary to create a separate contract to bring the funding that is offered 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.
- Overhead (F&A) should *not* be calculated on third-party matching funds.

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. We will develop this data management plan on behalf of all of the projects that are awarded in the coming year; i.e., you do not need to develop an individual plan for your project. The data management plan we develop will describe how the program will conform to USGS policy on the dissemination and sharing of research results and associated data. All PIs who accept Water Center funding will be expected to adhere to this data management plan we develop. You may review the current data management plan on the Vermont Water Center website. Please email Julianna White if you have questions or concerns.

PROPOSAL CONTENTS AND SUBMISSION

The deadline for submission is 4:00pm, Monday, October 7, 2019. Proposals must utilize the outline described below and submit all parts by email to **Julianna White (julianna.m.white@uvm.edu). Please call Julianna if she has not confirmed receipt by 4pm on Wednesday, October 9.**

Proposal narrative – no longer than 10 single-spaced pages. 12-pt font, including references. Content outline:

1. **Title.** Concise but descriptive.

2. **Project Type.** Choose from the following:
   Research
   Information Transfer
   Information Management System
   Education
   Other (please specify)

3. **Focus Categories.** Choose a maximum of three focus categories from the list below. 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 from the following the one category that most closely applies:
   Social Sciences
   Ground-water Flow and Transport
   Water Quality
   Biological Sciences
   Engineering
   Climate and Hydrologic Processes

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

6. **Start Date.** Expected 1 March 2020.

7. **End Date.** Expected 28 February 2021.

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

9. **Congressional District** of the college or university where the work is to be conducted.

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.

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**. Project budgets do *not* need to be officially vetted at this stage but should provide sufficient detail so that the project can be assessed by reviewers. Please use the template to compile your budget. An Excel version of this template can be downloaded from the Water Center website. 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 Sponsored Project Administration policy and award management website.

	Put lead PI names here			
	Put short title here			
Cost category	**Federal**	**Non-Federal Match**	**Total**	Federal is requested funds. A 1:2 Federal:Non-Federal match is required.
Salaries and wages				
- Principal Investigator	$ -	$ -	$ -	Insert sum of all PIs
- Graduate Students	$ -	$ -	$ -	Insert sum of all grads
- Undergraduate Students	$ -	$ -	$ -	Insert sum of all undergrads

- Others: staff assistant	$ -	$ -	$ -	
- Others	$ -	$ -		
- Total Salaries and Wages	$ -	$ -	$ -	
Fringe Benefits				
- Principal Investigator	$ -	$ -	$ -	Insert sum of all PI's
- Graduate Students	$ -	$ -	$ -	Insert sum of all grad's
- Undergraduate Students	$ -	$ -	$ -	Insert sum of all undergrad's
- Others: staff assistant	$ -	$ -	$ -	
- Others	$ -	$ -		
- Total Fringe Benefits	$ -	$ -	$ -	
Tuition				
- Graduate Students	$ -	$ -	$ -	
- Undergraduate Students	$ -	$ -		
- Total Tuition	$ -	$ -	$ -	
Supplies	$ -	$ -	$ -	
Equipment	$ -	$ -	$ -	
Services or Consultants	$ -	$ -	$ -	
Travel	$ -	$ -	$ -	
Other Direct Costs	$ -	$ -	$ -	
Total Direct Costs	$ -	$ -	$ -	
Indirect costs on federal share	XXXXXX	$ -	$ -	
Indirect costs on non-federal share	XXXXXX	$ -	$ -	
Total Estimated Costs	$ -	$ -	$ -	
Total costs at Center campus	$ -	$ -	$ -	
Total costs at other University	$ -	$ -	$ -	

2. Budget justification.

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, you will be required to 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 expensive from the Federal sponsor." This level of detail will be required for each budget item, on the Federal and the Non-Federal sides of the budget. If USGS determines that budget details are insufficient in one project, they will delay the award of the entire 2020-21 funding to the Water Center 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
Salaries and Wages for PIs. Provide personnel, title/position, estimated hours and the rate of compensation proposed for each individual.
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.)
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.)
Salaries and Wages for Others. Provide personnel, title/position, estimated hours and the rate of compensation proposed for each individual.
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.
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.
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
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.
Tuition for Graduate Students.
Tuition for Undergraduate Students
Supplies. Indicate separately the amounts proposed for office, laboratory, computing, and field supplies. Provide a breakdown of the supplies in each category.
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.
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.
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).
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.
Indirect Costs. Provide negotiated indirect ("Facilities and Administration") cost rate.

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 includes an external technical review by disciplinary experts and consideration by a Proposal Review Panel composed of local state agency, university, private sector, and non-governmental organization (NGO) stakeholders. The Proposal Review Panel will give priority to 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. Deliberations of the Proposal Review Panel result in a set of recommendations to the Water Center Director. 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 of Step One **by Friday, November 15, 2019**.

In Step Two, we assemble the proposals approved by the Director in Step One into a package that will be submitted to the USGS. To ensure that there is no delay in the final award caused by inconsistencies at our end, PIs must adhere to following instructions. PIs of recommended proposals should a) revise their proposals based on comments and recommendations from Phase 1 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 version of the proposals, including the budget template and justification, should be submitted as an MS/Word.doc file and excel file, respectively, to Julianna White (julianna.m.white@uvm.edu) **by 4pm on Monday, December 16, 2019**. Please call Julianna at 802-777-7017 if you do not receive a confirmation by 4pm Wednesday, December 18, 2019.

The Vermont Water Resources and Lake Studies Center will submit all proposals selected for advancement to USGS in a single package by Friday, January 10, 2020. 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, 2020. We will immediately communicate to PIs any changes to these expectations.