U.S. Geological Survey
Department of the Interior

and

Kentucky Water Resources Research Institute

Request for Proposals
Fiscal Year 2019
Under Section 104B of the
Water Resources Research Act of 1984, as amended

Issue Date: September 5, 2018

PROPOSALS DUE:
October 15, 2018 5:00 pm

Direct questions and proposal submissions to:
Kentucky Water Resources Research Institute
kwrri@uky.edu
859-257-1299

For Additional Instructions and Required Templates, please visit:
https://www.research.uky.edu/kwrri/applications
I. General Information

The Kentucky Water Resources Research Institute (KWRRI) is requesting proposals for its 2019-2020 104b program. This program, funded through the U.S. Geological Survey (USGS), will be targeted toward supporting water-related research efforts conducted by students at universities in Kentucky.

The following information and instructions apply to the application process for the FY2019 KWRRI competitive water research grants through the USGS 104b program. The project period for FY2019 is from March 1, 2019 through February 28, 2020.

The government’s obligation under this program is contingent upon the availability of appropriated funds. However, this program is anticipated to be funded at the same level as FY 2018. Delays in announcing or implementing awards past the usual March 1 project start date are possible.

Proposal submissions are due October 15, 2018 at 5:00PM by email to kwrri@uky.edu. The KWRRI staff and KWRRI’s Committee on Research and Policy will discuss, review, and score each proposal. If selected for funding, you may be required to address reviewer comments and/or provide additional project information.

II. Program Objectives and Research Priorities

KWRRI is one of 54 federally authorized water resource institutes or centers throughout the United States and its territories. It operates under the authority of the Water Resources Research Act of 1964 (P.L. 88-379 codified at 42 U.S.C. 10301 et seq.) through the Water Resources Research Institutes Program administered by the USGS. KWRRI’s Section 104(b) grant program supports the following objectives specified in the Water Resources Research Act of 1964:

1. Plan, conduct, or otherwise arrange for competent applied and peer reviewed research that fosters:
   a. improvements in water supply reliability;
   b. the exploration of new ideas that address water problems and/or expand understanding of water and water-related phenomena;
   c. the entry of new research scientists into water resources fields; and
   d. the dissemination of research results to water managers and the public.

2. Cooperate closely with other colleges and universities from the State that have demonstrated capabilities for research, information dissemination, and graduate training in order to develop a statewide program designated to resolve State and regional water and related land problems.

3. Cooperate closely with other institutes and other organizations in the region to increase the effectiveness of the institutes and for the purpose of promoting regional coordination.
Proposals submitted are to be in furtherance of these objectives and promote the national mission and objectives of the USGS which are focused on providing water quality and quantity information, understanding water availability, addressing the influence of climate on water resources, and responding to water-related emerging needs. Proposals will be evaluated based on these research priorities as well as research priorities specific to Kentucky. The Kentucky-specific water research priorities were developed based on input from several state organizations. Proposals are not required to specifically address the topics listed below, however, the following research needs are considered high-priority for the 2019 RFP.

**Kentucky’s Water Research Priorities**

- **Nutrient Management Strategy**
  Topics including but not limited to: Low-cost assessment and response to harmful algal blooms; Phosphorus reduction and transport.

- **Stormwater-related Challenges**
  Topics including but not limited to: Public education and outreach; citizen science stormwater management that harness smartphone technologies; combining transportation research and water resources science to develop sustainable water management approaches.

- **Groundwater Quality and Availability**
  Topics including but not limited to: Aquifer mapping / supply monitoring; contamination hazard assessment for management risks; recommendations for failing septic systems and straight pipes in rural counties.

- **Climate Change Water Emergency Preparedness**
  Topics including but not limited to: Vulnerability assessments; adaptation plans; and/or resilience guidelines for future drought and flooding threats.

- **Water Resources Economic Analysis**
  Topics including but not limited to: Economic analysis of benefits of landfill, superfund, and brownfield cleanups on Kentucky communities; economic benefit analysis of addressing failing small drinking water and wastewater systems in Kentucky.

- **Risk Assessment**
  Topics including but not limited to: Qualitative risk assessment methods for potential increased health risks from groundwater or surface water contamination sites (battery, plating, wood treatment, dry cleaners, superfund, etc.) due to potential urban development and encroachment.

**III. Eligibility**

Proposals will only be considered from faculty members, post-doctoral fellows, or students with faculty sponsors at accredited colleges or universities in Kentucky (public or private). Proposals from university research staff may be considered, however investigators should contact KWRRI for guidance before submitting a proposal. KWRRI cannot contract directly with students. Faculty applicants will be considered the Principal Investigator and should
ensure that the specifications listed in this RFP are met. Faculty are strongly encouraged to collaborate with their student(s) in the proposal development process.

Proposals not meeting the specifications in this RFP will not be considered for funding and will be returned without review. Proposals should focus on a research question or address need-based objectives rather than simply characterizing a community or situation or focusing on monitoring only.

The following are not eligible for funding:
- Research on health effects involving human subjects.
- Research conducted outside of Kentucky.
- Proposals that focus exclusively on aquatic biology or biological systems (unless to be used as an indicator or wider application).
- Proposals that fund students who have been previously supported by a USGS 104b grant. However, previously funded faculty may apply to support a different student.

IV. Funding

All awards are subject to the availability of funds, quality of the proposals submitted, and other applicable considerations. It is expected that a total of approximately $100,000 will be available for new projects in FY2019. It is anticipated that 6-8 projects will be funded.

i. Approximately, $50,000 will be made available through USGS. Typical award amounts are $5,000-$10,000 (matching funds will be required).

ii. New this year, approximately $50,000 of supplemental funds from KWRRI will be made available to proposals deemed most meritorious. Typical supplemental award amounts will be $5,000-$10,000 (no matching funds required). For smaller scale projects, investigators are encouraged to seek less supplemental funding amounts and ensure the budget meets the scope and nature of the proposed project. The purpose of the KWRRI supplemental funding is to increase the quality and quantity of funded research projects through the USGS 104b grant mechanism, which has historically been limited by funding constraints.

Proposals may be categorized as student research seed grants, environmental education grants, or research enhancement grants. Student research seed grants and research enhancement grants are intended to be incubators for future research funding or enhancements to existing funding.

Proposals involving direct collaboration with the USGS Ohio-Kentucky-Indiana Water Science Center (see personnel at https://www.usgs.gov/centers/oki-water/employee-directory) are encouraged.

Grant funds may be used for student salary, travel, equipment, lab materials, supplies, analytical devices, services, or other items that improve the quality of the student's research
experience. **Funds may not be requested for student tuition and fees or for major equipment purchases.**

V. **Matching Funds**

A. For USGS funding, each applicant must match each Federal (USGS) dollar provided with not less than two dollars from non-federal sources (2:1 **Non-Federal:Federal**).

B. The matching funds shall be obligated during the period of performance.

C. The matching requirement should be met during each 12-month budget period. **Note: Matching funds in excess of the required 2:1 Non-Federal:Federal match are acceptable.**

D. Signed letters of cost-share commitment must be submitted as per the instructions in this RFP.

E. Matching funds may contain indirect costs and non-federal salaries, wages, and fringe benefits. The applicant's negotiated indirect cost rate (NICR) may be applied to both qualifying federal and non-federal direct costs, and the result used to satisfy part of the matching requirement under the non-federal share. The NICR shall **not** be applied to tuition and equipment costs. **Federal funds shall not be used to pay indirect costs.**

F. KWRRI supplemental funding is not subject to the matching requirements detailed above (items A through E). Investigators are encouraged to submit a budget for supplemental funding with the original proposal. Please note that supplemental funding requests will only be considered for proposals that are selected for USGS funding. No additional requests will be considered after proposals have been submitted.

VI. **Scoring Criteria**

Proposals must comply with the proposal submission instructions and be written following the templates provided in Attachments A, B, B1, C and C1. Proposals which meet the requirements of this RFP will be evaluated by KWRRI staff, the KWRRI Committee on Research and Policy, and/or peer reviewers. Proposals will be reviewed according to the following criteria:

- **20% Significance and Need.** Does this research address a critical barrier to progress in the field of water resources? Is the research consistent with the priorities outlined in Section II? Is there sufficient background information provided that justifies the need and benefits of this research?

- **20% Research Impact.** Will the proposed research achieve meaningful contributions to the field? Will the research objectives result in meaningful outcomes? How will the research impact stakeholders, reach appropriate audiences, and enhance the research of the student, faculty and/or post-doc?
• **20% Scientific Merit and Research Approach.** To what extent does the proposal's scope, objectives, methods, procedures, facilities, and related research sections demonstrate (1) the potential to expand fundamental knowledge through the stated goals and objectives; (2) scientifically sound approach and objectives; and (3) cognizance of past and on-going work on the same topic?

• **20% Training.** Does the proposal promote student and/or post-doctoral education and training? Research that informs a student’s master’s thesis or doctoral dissertation is a funding priority.

• **15% Qualifications of the Investigators.** Are the qualifications of the investigators and the adequacy of the facilities and equipment commensurate with the proposed research? The development of early career investigators and/or the entry of established investigators into new areas of research are considered funding priorities of this program.

• **5% Budget.** Is the budget reasonable and adequate for the work proposed? Proposals with budgets providing student support are a funding priority.

### VII. Proposal and Project Timelines

Proposals must be submitted electronically by email to kwrri@uky.edu by **October 15, 2018 at 5:00 PM**. Questions on proposals may also be submitted kwrri@uky.edu.

The following table presents the anticipated timeline of KWRRI’s proposal review and selection process, the application submission to USGS, and the project timeline. The USGS typically releases its RFP at the end of October. The government's obligation of support for this program is contingent upon the availability of appropriated funds. Delays in the federal budget and appropriations process may result in potential delays in the project start dates.

<table>
<thead>
<tr>
<th>Date</th>
<th>Milestone</th>
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<tbody>
<tr>
<td>September 5, 2018</td>
<td>RFP is Released</td>
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<tr>
<td><strong>October 15, 2018</strong></td>
<td><strong>Proposal Submissions Due</strong></td>
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<td>November 5-9, 2018</td>
<td>Committee on Research and Policy Proposal Review</td>
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<td>Late November 2018</td>
<td>Proposal Review Summary Statement Released and Recommendations for Funding Announced to Investigators (Revisions may be requested)</td>
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<tr>
<td>December 7, 2018</td>
<td>Submission of Requested Revisions and Data Management Plan for Proposals Recommended for Funding</td>
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<tr>
<td>January 15, 2019</td>
<td>Estimated Application Submission Due Date for USGS</td>
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<tr>
<td>March 1, 2019</td>
<td>Expected Project Start Date</td>
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<tr>
<td>September 30, 2019</td>
<td>Mid-Year Project Status Update</td>
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<td>Oct-Nov, 2019</td>
<td>KWRRI Annual Symposium Abstract Submission</td>
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<td>February 28, 2020</td>
<td>Expected Project End Date</td>
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<td>March 2020</td>
<td>KWRRI Annual Symposium Presentation</td>
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VIII. Proposal Instructions

Each proposal to KWRRI shall consist of the following items, as detailed below. With exception of the letters of support, all documents must be submitted as MS Word or MS Excel files only. All templates are available for download on the KWRRI website here: https://www.research.uky.edu/kwrri/applications.

1. Basic Information (Attachment A – MS Word Template)
2. Project Proposal (Attachment A – MS Word Template)
3. Budget Breakdown for USGS and Supplemental (KWRRI) (see Attachments B and B1 – MS Excel Template)
4. Budget Justification (see Attachments C and C1– MS Excel Template)
5. Official Letter from Institution to KWRRI
6. Commitment of Matching Funds for USGS Funding

Basic Information (Use Attachment A):

Enter responses to items 1 through 10 in the template provided to you (Attachment A).

1. Title. Concise but descriptive.
2. Project Type. Please specify whether your project is (1) Research, (2) Information Transfer, (3) Information Management System, (4) Education, or (5) Other.
3. Focus Categories. Choose a maximum of three focus categories from the list provided in Attachment D and list in order of preference.
5. Keywords. Enter keywords of your choice that are descriptive of the work.
6. Start Date. Enter the actual beginning date for the project (March 1, 2019, or after).
7. End Date. Enter the estimated end date for the project (February 28, 2020, or before).
8. Principal investigator(s). Provide name, academic rank, university, email address and phone number of the principal investigator(s).
9. Congressional District. Identify the congressional district of the university where the work is to be conducted (Note: enter the district of your university, even if field work is being conducted in another district).
10. Abstract. Provide a brief (one-page or 250 to 500 word) description of the problem, methods, and objectives. This information will be published in the USGS and KWRRI annual reports.
Project Proposal (Use Attachment A):

Enter responses to items 11 through 18 in the template provided to you (Attachment A). This document shall not exceed ten (10) single-spaced pages (12-point type, 1-inch margins) exclusive of citations and resume(s) (item 18).

11. **Title.** Please use the same title as entered for Item 1, above.
12. **Statement of regional or state water problem.** Describe the water problem or issue and how it relates to the region or the state. Discuss how the research relates to the research priorities described in Section II of this RFP. Document the magnitude of the situation and relevance of the issue/problem to the stakeholders of the research and why they are interested in this topic. Be sure to indicate how the research will benefit the region/state and how the research fits into the broader scientific field.
13. **Statement of results or benefits.** Specify the type of information that is to be gained and how it will be used. Include plans for information transfer, follow on funding potential, and community or stakeholder collaboration or participation.
14. **Nature, scope, and objectives of the project, including a timeline of activities.**
15. **Methods, procedures, and facilities.** Provide enough information to permit evaluation of the technical adequacy of the approach to satisfy the objectives.
16. **Related research.** (Research projects only) Cite relevant literature by the investigators and others that adequately supports the proposed research. Collaborative proposals with the USGS should describe the nature of the project and the responsibilities for all investigators involved.
17. **Training potential.** Provide the number of post-doctoral fellows, graduate students, and undergraduate students, including degree level, who are expected to receive training on the project. If the information is available, please include each student’s name, major, and expected graduation date, and indicate if the research will be used to inform his or her master’s thesis or doctoral dissertation.
18. **Investigator qualifications.** Include resume(s) of the investigator(s). No resume shall exceed two pages or list more than 15 pertinent publications. Please provide the telephone number, postal address, and email address of all project participants (post-doctoral fellows, students and faculty).

**Budget Breakdown and Justification (Use Attachments B, B1, C and C1)**

Enter responses to items 19 and 20 in the template provided to you (Attachments B, B1, C and C1).

19. **Budget Breakdown.** See Attachments B and B1.
20. **Budget Justification.** See Attachments C and C1. Proposals lacking adequate detail in the budget justification will be eliminated from consideration. USGS employees may not receive compensation for participation in the project.
Letters of Support

21. **Cover letter.** Include a cover letter from the University Office of Sponsored Research or equivalent authorizing unit. For institutions that do not have such an office, the letter should come from the unit that will receive and administer the funds, if awarded. The letter should be addressed to “Director, Kentucky Water Resources Research Institute.”

22. **Matching funds commitment letter.** The applicant shall provide an institutional cost sharing agreement (letter) signed by an official authorized to commit the applicant to all or part of the matching share and/or a third party, in-kind contribution signed by an official authorized to commit the third party. This letter should be addressed to “Director, Kentucky Water Resources Research Institute.” The total amount committed must match the amount entered in the Budget Breakdown (Item 19, above).

   a. Note: Items 21 and 22 may be combined in a single letter if appropriate. If matching funds are committed by more than one organization, a letter must be received from each organization.

   b. Note: Projects selected from the University of Kentucky will be required to complete the electronic Internal Approval Form (eIAF) process to verify contribution of the required level of matching when KWRRI’s application is submitted to the USGS (do not complete the eIAF until informed that your UK project has been selected).

After notification of award by KWRRI, proposals chosen for funding will be required to submit information to assist KWRRI in developing a “Data Management Plan” (DMP) for the application. This supplementary 1-2 page document will describe how all proposals will conform to USGS policy on the dissemination and sharing of research results and associated data. Additional guidance on data management plans is available from the USGS Data Management web site here: [http://www.usgs.gov/datamanagement/plan/dmplans.php](http://www.usgs.gov/datamanagement/plan/dmplans.php).

IX. **Project Reporting Requirements**

If selected for funding, you will be required to complete a mid-year project status report (September 2019), give an oral or poster presentation at the KWRRI Annual Symposium (March 2020), and complete a final report summary (May 2020). The USGS tracks project productivity such as research publications, conference proceedings, patents, student participation, training sessions, etc., and you will be required to provide this information in your project reports. Additionally, all outputs of your 104b supported research must acknowledge both the USGS and KWRRI for the 104b grant opportunity and must include the project number assigned to your research. Copies of any student thesis or dissertation resulting from the project and any manuscripts submitted for publication must also be provided to the Institute.