

Texas Water Resources Institute

USGS Graduate Student Research Program

Fiscal Year 2024 Request for Proposals

Application Deadline: February 1, 2023, by 11:59 PM CST

U.S. Geological Survey (USGS) Federal Award: \$7,500
Nonfederal Match Required: 1:1
Total Awards Planned: 3

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The Texas Water Resources Institute (TWRI) is happy to announce its call for proposals for students conducting water resources research. TWRI has funds available for graduate students at any Texas university through the [U.S. Geological Survey Graduate Research Program](#). Proposals are due February 1, 2023, by 11:59 p.m.

TWRI anticipates funding 3 graduate research projects of up to \$7,500 each in the area of water resources and hydrology that have the potential to help Texas solve future water problems. We expect the funds will become available no sooner than September 1, 2023, and the period of performance will end August 31, 2024.

Eligibility

- Applications from graduate students doing water resources-related research in Texas are encouraged. This program can support either ongoing or new studies.
- Proposals should be developed by the graduate student applying for the project in collaboration with his or her faculty advisor. Students with junior faculty thesis and dissertation advisors are highly encouraged to apply for these grants.
- Students must be enrolled at least half-time.

TWRI Research Priorities

Proposed research can deal with a wide range of water resources topics. However, priority will be given to research addressing the science, technology, policy or socioeconomics of:

- developing innovative water management strategies to aid in implementing the Texas State Water Plan that address agricultural and urban water conservation, identifying new surface water and groundwater sources, desalination, reuse (potable and non-potable), and aquifer storage and recovery;
- evaluating and understanding the implications of water availability and quality on human health outcomes;
- addressing major water quality impairments in Texas, which includes bacteria, dissolved oxygen, mercury, and other hazardous contaminants;
- understanding the vulnerability of groundwater resources (both quantity and quality) from both a management and policy perspective;
- understanding impacts of climate variability, climate change and drought on Texas water resources, along with measures to adapt and mitigate these impacts;
- understanding the long-term effects of catastrophic flooding events on surface water and groundwater resources, along with measures to adapt to or mitigate these effects;
- exploring new ideas that address or expand our understanding of water problems;
- evaluating abundance, locations, and persistence of legacy nutrients;
- evaluating trends of integrated processes, and how do changes in one aspect of water quantity and availability affect other long-term aspects; and
- evaluating risks of water conflict: drivers, thresholds, sector/community balance, stakeholder actions, agent-based modeling, relevant laws and regulations, and adaptive management.
- investigating the presence, fate, transport and management/remediation strategies for contaminants of emerging concern (including, but not limited to, PFAS, microplastics, endocrine disrupting compounds)

Timeline

Those selected for the USGS grant will begin no earlier than September 1, 2023. The maximum project timeline for each grant is one year, ending August 31, 2024, but projects may be completed with funds being spent down as needed earlier than the end date.

Budget

The USGS Program allows for a categorical budget (see template below including tuition).

Other budgetary notes:

- A maximum of **\$7,500** may be requested.
- A 1:1 non-federal match is required for USGS. (Example: If the full \$7,500 is requested, you need \$7,500 in non-federal match; if \$1,500 is requested, you need \$1,500 in match.) In addition, a signed commitment letter from your graduate committee chair is required indicating the amount of matching funds being committed to this project.
- The 1:1 non-federal match can include: salaries and fringe benefits of faculty advisors and graduate students funded by non-federal dollars; in-kind services; equipment or lab use; supplies furnished by student's department; and graduate teaching or research assistantships.
- If within Texas A&M, if you are budgeting for tuition, a proportionate amount of the student's salary and fringe must also be budgeted per TAMUS requirements.
- Indirect costs (IDC) may not be charged as part of the requested funds, but IDC and unrecovered IDC can be used toward to 1:1 non-federal match requirement. IDC used for match must be applied to modified total direct costs, thus IDC **cannot** be applied to tuition and equipment costs.
- If the student is unable to complete their project as proposed and approved or if all funds are not used within the one-year timeline, the funds will be returned to TWRI.

Reporting Requirements

Students will be required to submit a progress/final report at the end of their funding cycle and provide an oral overview of their report (specific details of the oral report to be discussed and agreed upon between recipients and TWRI). The progress/final report may include the student's thesis or dissertation or a summary of it, a manuscript suitable for publication as a TWRI technical report, or a journal article. USGS also has a specific annual reporting template that will need to be completed when requested. In addition, those receiving funds must work with the TWRI communications team to publicize their results in the form of a story and photo(s). Acknowledgement must be given to TWRI's program in any resulting publications for efforts partially funded by these funds. In addition, the selected students are responsible for alerting TWRI of any new contact information after the award/graduation to be contacted annually for updates for five years following the funding for our required reporting back to USGS.

Evaluation and Ranking Criteria

Are TWRI Research Priorities being addressed in the proposed research?

Will the proposed work help better manage Texas water resources and/or solve future water problems?

Will the proposed work advance existing science, or is it new and innovative?

Does the work proposed seem doable? Can the research be accomplished?

Applications that do not adhere to the criteria outlined in this RFP may not be considered for funding.

Application & Deadline

Graduate students interested in applying should complete the Proposal Application Form using the criteria below. The completed Proposal Application Form (Microsoft Word), budget (Excel) and budget justification (Word) must be e-mailed to Danielle Kalisek at Danielle.Kalisek@ag.tamu.edu. Proposals must be received electronically by **11:59 p.m. CST, February 1, 2023**, to be considered.

For technical questions, contact Lucas Gregory at LFGregory@ag.tamu.edu.

Proposal Application Form 2023–2024 TWRI Graduate Student Research Programs

Please complete all parts of this Proposal Application Form to be considered for the Texas Water Resources Institute (TWRI) Graduate Student Research Programs. Proposals should be at least 11-point Times New Roman font with 1-inch margins. Proposals must be received electronically by **11:59 p.m. CST, February 1, 2023**, to be considered.

The completed Proposal Application Form (Microsoft Word), budget (Excel) and budget justification (PDF) must be e-mailed as an electronic document to Danielle Kalisek at Danielle.Kalisek@ag.tamu.edu. The application package is **limited to 5 pages** and must include items 1 through 13 below. You do not have to keep the instructions within your application form but ensure that each section is titled accordingly and the required items 1 through 13 are addressed. *Applications with Basic Information beyond the 5-page limit will not be considered in the review process.* The Other Required Information (items 14-16) are not included in the 5-page limit.

Basic Information

1. **Title** of proposal. Concise but descriptive.
2. **Project Type.** Choose from the following: Research, Information Management System, Education, or Other (please specify).
3. **Would these funds be initiating new research or supporting ongoing research?** If ongoing, please briefly explain where you are at in the research and project timeline, funding source, funding amount (please differentiate between federal and nonfederal), and project start and end dates.
4. **Focus Categories.** Choose a maximum of three focus categories from the list provided (Attachment A) with the most preferred focus category first.
5. **Research Category.** Choose one category from the following list that most closely applies: Water Scarcity and Availability, Water Hazards and Climate Variability, Water Quality, Water Policy, Planning, and Socioeconomics, Watershed and Ecosystem Function, Water Technology and Innovation, or Workforce Development and Water Literacy.
6. **Keywords.** Enter keywords of your choice that describe your proposed work. Up to 100 characters including spaces.
7. **Student** name, contact information (email and phone number), university, department, degree being pursued as well as degree starting year and expected year of graduation.
8. **Faculty advisor or committee chair** name, title, contact information (email and phone number), university and department.
9. **Congressional District** of the university where the work is to be conducted.
10. **Abstract.** Please provide a brief (300 words) description of the problem, methods and objectives.

Description of your research proposed research, emphasizing how it will address water resources-related concerns (particularly how, if possible, it will benefit Texas), including:

11. **Statement of critical regional or state water problem.** Describe how your research will address RFP research priorities and explain the need for the project, who wants it and why.
12. **Statement of expected 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 research, including a timeline of activities.** This is the major emphasis of your proposal
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.** Show by literature and communications citations the similarities and dissimilarities of the proposed project to completed or ongoing work on the same topic. *Note: Reference/Citations do not count toward the 5-page limit.*
16. **Training potential.** Estimate the number of graduate students and undergraduate students, by degree level, who are expected to receive training in the project.
17. **Intended career path** you anticipate pursuing.

Other Required Information *(These items are not included in the 5-page limit.)*

18. **Academic qualifications of the student:** current degree plan/grades, unofficial transcript or list of courses taken and grades.
19. **Investigators Qualifications**
Include resume(s) for both the principal investigator(s) student and advisor(s). No resume should exceed two (2) pages or list more than 15 pertinent publications.
20. **Budget** *(Submit as an Excel spreadsheet attachment)*
USGS funds can go toward tuition as well as salaries, fringe, supplies, travel and other costs. Indirect costs are not allowed on the federal request but can be used toward match. The fillable Excel Budget Breakdown spreadsheet is required. Please only fill in the information in the yellow-shaded cells. Total request is not to exceed \$7,500; non-federal match must at least equal the federal request amount.
21. **Budget Justification** *(Submit as a Word document file attachment)*

FOCUS CATEGORIES

ATTACHMENT A

ACID DEPOSITION	ACD
AGRICULTURE	AG
CLIMATOLOGICAL PROCESSES	CP
CONSERVATION	COV
DROUGHT	DROU
ECOLOGY	ECL
ECONOMICS	ECON
EDUCATION	EDU
FLOODS	FL
GEOMORPOLOGICAL PROCESSES	GEOMOR
GEOCHEMICAL PROCESSES	GEOCHE
GROUNDWATER	GW
HYDROGEOCHEMISTRY	HYDROGEO
HYDROLOGY	HYDROL
INVASIVE SPECIES	INV
IRRIGATION	IG
LAW, INSTITUTIONS, AND POLICY	LIP
MANAGEMENT AND PLANNING	M&P
METHODS	MET
MODELS	MOD
NITRATE CONTAMINATION	NC
NON POINT POLLUTION	NPP
NUTRIENTS	NU
RADIOACTIVE SUBSTANCES	RAD
RECREATION	REC
SEDIMENTS	SED
SOLUTE TRANSPORT	ST
SURFACE WATER	SW
TOXIC SUBSTANCES	TS
TREATMENT	TRT
WASTEWATER	WW
WATER QUALITY	WQL
WATER QUANTITY	WQN
WATER SUPPLY	WS
WETLANDS	WET