

## Water Resources Research Institute Program 104(b) Research Grant Proposal Guidelines

The University of Arizona's Water Resources Research Center invites proposals for research projects that address water-related issues of importance to Arizona and the Southwest. Grant funds are provided by the Water Resources Research Act, Section 104(b) program through the U.S. Geological Survey. The program provides support for research projects that explore new ideas to address water problems in Arizona and expand understanding of water and related phenomena. The entry of new research scientists, engineers, and technicians in water resources fields and the education of students through significant involvement in water research are primary program goals.

Research proposals will be considered from the physical, biological, social, and engineering sciences, including water management, water law, economics, and public health. Proposals must fall under one of the following focus areas and are encouraged to address the associated research priority:

- **Water Scarcity and Availability**
  - *Priority:* Drivers and outcomes of water availability and demand are understood and addressed to sustain human and environmental needs.
- **Water-Related Hazards and Climate Variability**
  - *Priority:* Extreme hydrologic events and the effects of climate variability are understood and addressed to enhance community preparedness and resilience.
- **Water Quality**
  - *Priority:* High-quality water that is safe and accessible is ensured to sustain humans and ecosystems.
- **Water Policy, Planning, and Socioeconomics**
  - *Priority:* Policy, planning, and socioeconomics are integrated and applied toward the comprehensive management and governance of water resources.
- **Ecosystem and Drainage Basin Functions**
  - *Priority:* Ecosystem and drainage basin functions are conserved to support and revitalize ecosystem services.
- **Water Technology and Innovation**
  - *Priority:* State-of-the-art water technology and innovation are advanced to meet societal and ecosystem needs.
- **Workforce Development and Water Literacy**
  - *Priority:* A diverse workforce equipped to address our Nation's need for water resources is achieved in concert with greater public understanding of water resources.

Proposals that increase diversity, equity, inclusion, and justice, and address issues in historically marginalized or underserved communities are highly encouraged.

This year, the WRRC expects to award two (2) to four (4) grants of up to \$10,000 to support research projects. Projects requesting less than \$10,000 are encouraged.

Proposals must show faculty or research personnel at one of the three Arizona state universities as the Principal Investigator (PI) and include support for student involvement.

**Funded projects will start September 1, 2023**, contingent on federal budget approval. The project duration is 12 months.

**The deadline for proposals is 5:00 pm, Wednesday, February 22, 2023.**

**Funding Information:**

Proposal budgets should request no more than about \$10,000 in federal funding, and proposals for less than \$10,000 are encouraged. Federal funds should not be requested for support of faculty or research staff, and subcontracts are discouraged.

A 1:1 match of non-federal to federal dollars is required. Federal dollars may not be used for matching funds. Indirect costs are not allowed in the federal cost category (Public law 101-397, Water Research Institutes Authorization). Note that waived indirect costs may be used to fulfill the matching requirement, i.e., you may show the indirect costs computed for both federal and non-federal funds as part of the match. See Attachment E: INSTRUCTIONS FOR COMPLETING A 104(B) GRANT PROPOSAL BUDGET for details.

Matches should include PI time to perform administrative/supervisory functions.

A cost sharing commitment letter, signed by your departmental chairman, dean, or authorized university representative, committing the unit to the cost share shown in your budget, must be sent to the WRRC no later than the proposal deadline.

**Project funding is contingent on Congressional appropriation of Water Resources Research Institute Program funds.**

### Proposal Instructions:

An acceptable proposal must have the following 20 elements.  
Items numbered 1 through 10 are to be entered in the basic project information form – Attachment A.

1. Title. Concise but descriptive (Max. 10 words)
2. Project Type. Research.
3. Focus Categories. Choose a maximum of three focus categories from the list provided (Attachment B), with the most preferred focus category first.
4. Research Category. Choose from the following the one category that most closely applies: Water Scarcity and Availability, Water-Related Hazards and Climate Variability, Water Quality, Water Policy, Planning, and Socioeconomics, Ecosystem and Drainage Basin Functions, Water Technology and Innovation, or Workforce Development and Water Literacy.
5. Keywords. Enter keywords of your choice descriptive of the work.
6. Start Date. September 1, 2023
7. End Date. August 31, 2024
8. Principal investigator. Provide name, academic rank, university, email address, and phone number of the PI. Provide the same information for all PIs and Co-PIs.
9. Congressional District of the university where the work is to be conducted.
10. Abstract. Provide a brief (350-word max.) description of the problem, methods, and objectives.
11. Budget Breakdown, use the EXCEL form provided (Attachment C). Follow the instructions provided in Attachment E.
12. Budget Justification, use the PDF form provided (Attachment D). Follow the instructions provided in Attachment E.

**\*\*Please have the budget reviewed by your departmental accountant before you submit it\*\***

Items 13 through 19 shall not exceed 3 single-spaced pages, 12-point font, one-inch margins. Citations/References do not count against the 3-page limit.

13. Title. Use the same title as in item 1, above. (Max. 10 words)
14. Statement of regional or state water problem. Include an explanation of the need for the project, who wants it, and why. (Max. 250 words)
15. Statement of results or benefits. Specify the type of information that is to be gained and how it will be used. (Max. 250 words) **[Specify deliverables, such as publication]**

16. Nature, scope, and objectives of the project, including a timeline of activities. Proposals should be for projects of 12 months in duration. (Max. 350 words)

17. Methods, procedures, and facilities. Provide enough information to permit evaluation of the technical adequacy of the approach to satisfy the objectives. (Max. 350 words)

18. Related research. Show by literature and communication citations the similarities and dissimilarities of the proposed project to completed or on-going work on the same topic. (Max. 350 words)

19. Training potential. List graduate and undergraduate students, by degree level, who are expected to receive training in the project. (Max 50 words)

20. Investigator's qualifications. Include resume(s) of the principal investigator(s) and the resume of the co-principal investigator student. Does not count against 3-page limit. No resume shall exceed two pages or list more than 15 pertinent publications.

### **Required Additional Documentation:**

- For all proposals –
  - **Cost Sharing Commitment Letter:** To be signed by your departmental chairman, dean, or authorized university representative, committing the unit to the cost share shown in your budget
  - **Data Management Plan:** This supplementary document should *briefly* describe how the proposal will conform to USGS policy on the dissemination and sharing of research results and associated data. A valid DMP may include only the statement that no detailed plan is needed (e.g. “No data are expected to be produced from this project”), as long as the statement is accompanied by a clear justification. Please keep this DMP to one page. This supplementary document may include:
    - the types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project;
    - the standards to be used for data and metadata format and content (where existing standards are absent or deemed inadequate, this should be documented along with any proposed solutions or remedies);
    - policies for access and sharing including provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements;
    - provisions for re-use, re-distribution, and the production of derivatives; and
    - plans for archiving data, samples, and other research products, and for preservation of free public access to them.
- For ASU or NAU - Negotiated Indirect Rate Agreement for your institution

**Selection Criteria:**

WRRRA Section 104(b) research should explore new ideas to address water problems in Arizona and expand understanding of water and related phenomena, focusing on issues of Water Scarcity and Availability, Water-Related Hazards and Climate Variability, Water Quality, Water Policy, Planning, and Socioeconomics, Ecosystem and Drainage Basin Functions, Water Technology and Innovation, or Workforce Development and Water Literacy.

**1. *Responsiveness.***

Does the proposed project promise to foster improvements in water supply reliability, explore new ideas that address water problems, or expand understanding of water and related phenomena? Does the proposal directly address research topics of significance to Arizona?

**2. *Technical Merit.***

Are the objectives, methods and techniques adequately described and is the proposal scientifically and technically sound as described? Is the proposal well-written, organized, and complete? Do the investigators demonstrate cognizance of past work?

**3. *Feasibility.***

Is the project likely to be successful given the methods, budget and timeline proposed? Are the qualifications of the investigators appropriate for the proposed research?

**4. *Student Training.***

Does the proposal support the training and education of students?

## Deliverables

The award recipient will be required to submit a final report by October 31, 2024. Instruction for the final report can be found at

<http://wrrc.arizona.edu/sites/wrrc.arizona.edu/files/pdfs/104Final%20Report%20Instructions.pdf>

Award recipients are expected to provide written updates to Michael Seronde by email ([seronde@arizona.edu](mailto:seronde@arizona.edu)) at regular intervals to track research progress. Updates should align with PI invoices and financial reports to their department.

Recipients may be required to submit a poster to the WRRC Annual Conference in 2024 and/or present their research in a WRRC Brown Bag webinar.

Award recipients are expected to provide appropriate information needed to produce a short article about completed research to be posted on the WRRC website and linked from the WRRC's Weekly Wave e-news digest.

## Proposal Submission Procedure:

1. Email the complete proposal package to Michael Seronde at the address below no later than **5:00 pm, Wednesday February 22, 2023**. The Letter of Commitment and the Negotiated Indirect Rate Agreement (ASU and NAU) may be sent as separate files.
2. You will receive an email confirming receipt of your proposal. If you do not receive a confirming email within 48 hours, contact Michael Seronde.
3. The PIs on selected proposals will be sent additional instructions as appropriate if proposal modifications or other actions are required.

For information, contact:

Michael Seronde, Program Manager  
Water Resources Research Center  
Email: [seronde@arizona.edu](mailto:seronde@arizona.edu)  
Telephone: (520) 621-3795

**FY2022 Basic Project Information – Attachment A****NIWR Project Code:** \*Leave Blank\***Title:****Project Type:** Research**Start Date:** MM: 9 DD: 1 YYYY: 2023**End Date:** MM: 8 DD: 31 YYYY: 2024**Congressional District:****Research Category:****Focus Category #1:****Focus Category #2:****Focus Category #3:****Keywords:****Primary PI:****Other PIs:****Abstract:**

**Attachment B****FOCUS CATEGORIES**

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	HYDGEO
HYDROLOGY	HYDROL
INVASIVE SPECIES	INV
IRRIGATION	IG
LAW, INSTITUTIONS, AND POLICY MANAGEMENT AND PLANNING	LIP
METHODS	M&P
MODELS	MET
NITRATE CONTAMINATION	MOD
NON POINT POLLUTION	NC
NUTRIENTS	NPP
RADIOACTIVE SUBSTANCES	NU
RECREATION	RAD
SEDIMENTS	REC
SOLUTE TRANSPORT	SED
SURFACE WATER	ST
TOXIC SUBSTANCES	SW
TREATMENT	TS
WASTEWATER	TRT
WATER QUALITY	WW
WATER QUANTITY	WQL
WATER SUPPLY	WQN
WATER USE	WS
WETLANDS	WU
	WL

## **INSTRUCTIONS FOR COMPLETING A 104(B) GRANT PROPOSAL BUDGET - Attachment E**

If selected, your grant proposal will be one of a group of grants that are awarded simultaneously from the WRRC. The WRRC needs to have uniform budgets and budget justifications to make the grant process manageable.

Projects overlap two fiscal years and ERE (Fringe Benefits) rates and Indirect Cost rates may change with the fiscal year. This complicates the calculation of ERE and Indirect because you may have to use one rate for March – June and a different rate for July – February.

### **Budget Form – Excel (Attachment C):**

1. Enter the amounts you are requesting in the federal column.
2. Enter matching amounts in the non-federal column. (Although legally allowable, please DO NOT use operations expenses for cost sharing.)
3. Show nothing in the federal column for Indirect Costs.
4. Show both federal and non-federal Indirect Costs on the appropriate rows in the non-federal column.
5. The total in the non-federal column should equal the total in the federal column.

Example: If you request \$7,500 and your Indirect rate is 53.5%, then you can get to a \$7500 total match with waived federal and non-federal indirect and about \$3500 in actual match.

### **Budget Justification Form - PDF (Attachment D):**

1. For “Salaries and Wages” and “Fringe Benefits,” on the Budget Justification Form, you will need to have the following information.
  - The names of the people who will be paid with federal funds.
  - For each individual, percentage time and annual salary/stipend (for faculty and/or GRA), or hours and hourly rate (for staff and/or students)
2. If the ERE rate changes with the fiscal year, you will have to list separately the information below for FY23 (March 2023 - June 2024) and FY24 (July 2023 – February 2024).
  - For each individual, the amount of time dedicated to the project in percentage time or hours as appropriate.
  - For each individual, the amount of federal funds requested.
  - For each individual, the amount of salary match.
  - For each individual, the ERE on the federal funds requested.
  - For each individual, the ERE on the match.
3. If the Indirect Cost rate changes with the fiscal year, show both rates and the months to which they apply on the Budget Justification Form.
4. Follow the instructions on the form for all other entries.