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

The University of Arizona’s Water Resources Research Center invites proposals from students for research grants that address water-related issues of importance to the 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 the water resources field and education of students through significant involvement in water research are primary program goals.

Research proposals will be considered from the physical, social, biological and engineering sciences, including water management, water law, planning and public health. Proposals should demonstrate that projects will foster improvements in water supply, addressing issues of water yield and water reliability, water quality, treatment, infrastructure, and assessment of management practices.

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

Proposals must show a faculty member at one of the three Arizona state universities as the Principal Investigator (PI). The student investigator should be listed as a Co-PI and his or her resume must be included in the proposal package.

Funded projects will start March 1, 2020, contingent on federal budget approval. Project duration is 12 months.

The deadline for proposals is 5:00 pm, Tuesday, November 5, 2019.

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 2:1 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 B: 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 FY 2020 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: Social Sciences, Groundwater Flow and Transport, Water Quality, Biological Sciences, Engineering, or Climate and Hydrologic Processes.

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

6. Start Date. March 1, 2020

7. End Date. February 28, 2021

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 form provided. (Attachment C) Follow the instructions provided in Attachment E.

12. Budget Justification, use the 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 deliverable, 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 signed by your departmental chairman, dean or authorized university representative, committing the unit to the cost share shown in your budget
- For ASU or NAU - Negotiated Indirect Rate Agreement for your institution

Selection Criteria:

WRRA 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 yield and water reliability, water quality, treatment, and assessment of management practices.

1. Responsiveness.
   a. 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.
   a. 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?
**Deliverables**

The award recipient will be required to submit a final report by May 30, 2021. Instruction for the final report can be found at [http://wrrc.arizona.edu/sites/wrrc.arizona.edu/files/pdfs/104Final%20Report%20Instructions.pdf](http://wrrc.arizona.edu/sites/wrrc.arizona.edu/files/pdfs/104Final%20Report%20Instructions.pdf)

Student recipients may be required to submit a poster to the WRRC Annual Conference in 2021.

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-newsletter.

**Submission Procedure:**

1. Email the complete proposal package as a single PDF to Susanna Eden at the address below no later than 5:00 p.m. on Tuesday, November 5, 2019. The Letter of Commitment and the Negotiated Indirect Rate Agreement (ASU and NAU) may be sent separately.
2. You will receive an email confirming receipt of your proposal. If you do not receive a confirming email within 48 hours, contact Susanna Eden.
3. The PIs on selected proposals will be sent additional instructions as appropriate if proposal modifications or other actions are required.

For information, contact:

Susanna Eden, Assistant Director  
Water Resources Research Center  
Email: [seden@email.arizona.edu](mailto:seden@email.arizona.edu)  
Telephone: 520-621-5670
FY2018 Basic Project Information – Attachment A

NIWR Project Code: None
Title:
Project Type: Research
Start Date: MM: 3 DD: 1 YYYY: 2020
End Date: MM: 2 DD: 28 YYYY: 2021
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
- Geomorphological Processes: GEOMOR
- Geochemical Processes: GEOCHE
- Groundwater: GW
- Hydrogeochemistry: HYDGEO
- 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
- Water Use: WU
- Water Use: WU
- Wetlands: WL
## BUDGET BREAKDOWN - Attachment C

**Project Title:**

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>Federal</th>
<th>Non-Federal</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>1. Salaries and Wages</td>
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<tr>
<td>- Principal Investigator(s)</td>
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<td>- Graduate Student(s)</td>
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<td>- Undergraduate Student(s)</td>
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<td>- Others</td>
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<tr>
<td>Total Salaries and Wages</td>
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<td>2. Fringe Benefits</td>
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<td>- Principal Investigator(s)</td>
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<td>- Graduate Student(s)</td>
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<td>- Undergraduate Student(s)</td>
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<td>- Others</td>
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<td>Total Fringe Benefits</td>
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<td>3. Tuition</td>
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<td>- Graduate Student(s)</td>
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<td>- Undergraduate Student(s)</td>
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<td>Total Tuition</td>
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<td>4. Supplies</td>
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<td>5. Equipment</td>
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<td>6. Services or Consultants</td>
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<td>7. Travel</td>
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<td>8. Other direct costs</td>
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<td>9. Total direct costs</td>
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<tr>
<td>10a. Indirect costs on federal share</td>
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<td>XXXXXXXXX</td>
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<tr>
<td>10b. Indirect costs on non-federal share</td>
<td>XXXXXXXXX</td>
<td>XXXXXXXXX</td>
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<td>11. Total estimated costs</td>
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<td>Total Costs at Campus of the University on which the Institute or Center is located</td>
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<td>Total Costs at other University Campus</td>
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<tr>
<td>Name of University:</td>
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</tbody>
</table>
### Salaries and Wages for PIs
Provide personnel, title/position, estimated hours and the rate of compensation proposed for each individual. Justify both federal request and non-federal matching.

### 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.) Justify both federal request and non-federal matching.

### 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.) Justify both federal request and non-federal matching.

### Salaries and Wages for Others
Provide personnel, title/position, estimated hours and the rate of compensation proposed for each individual. Justify both federal request and non-federal matching.

### Fringe Benefits for PIs
Provide the overall fringe benefit rate applicable to each category of employee proposed in the project. Justify both federal request and non-federal matching.

### Fringe Benefits for Graduate Students
Provide the overall fringe benefit rate applicable to each category of employee proposed in the project. Justify both federal request and non-federal matching.

### Fringe Benefits for Undergraduate Students
Provide the overall fringe benefit rate applicable to each category of employee proposed in the project. Justify both federal request and non-federal matching.

### Fringe Benefits for Others
Provide the overall fringe benefit rate applicable to each category of employee proposed in the project. Justify both federal request and non-federal matching.

### 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.
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 in order 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 (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 twice 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 $15,000 total match with waived federal and non-federal indirect and about $7,200 in actual match.

**NIWR Budget Justification Form (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 FY 19 (March 2019 - June 2019) and FY20 (July 2019 - February 2020).
   - For each individual, the amount of time dedicated to the project in percent 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.