Fiscal Year 2023
Request for Proposals

NM WRRI Faculty Water Research Grant Program

Closing Date: April 21, 2023, 5:00 p.m.

The New Mexico Water Resources Research Institute (NM WRRI) requests proposals from water research faculty at New Mexico-based universities. Funds will be made available by the U.S. Geological Survey as part of the 104B grant program through the Water Resources Research Act to support research that improves planning and management of the waters of the state of New Mexico. For Fiscal Year 2023, NM WRRI anticipates funding three to four projects up to a maximum award of $40,000 per proposal. The final number of awards and project dollar amounts awarded will be determined based upon the availability of funds. Funding availability is contingent upon the U.S. Department of the Interior disbursement of appropriations for FY23 104B Request for Proposals (RFP).

This RFP is issued under the provisions of section 104 of the Water Resources Research Act of 1984 (Public Law 98-242), as amended by Public Laws 101-397, 104-147, 106-374, and 109-471. Section 104 of the Water Resources Research Act directs the Secretary of the Interior to administer program grants to the New Mexico WRRI established under the provisions of section 104 of the Act.

New Mexico Water Resources Research Institute
USGS 104B Request for Proposals, FY2023

The NM WRRI Faculty Water Research Grant Program is designed to provide funds for water-related research projects having the potential to attract more substantial outside funding if the initial research proves successful. Investigators who are beginning their research careers are encouraged to submit proposals, as are investigators proposing new or novel approaches to solving water resources problems. Investigators are encouraged to budget funds to emphasize support of graduate students working on the project.

All water-related research proposals are eligible for funding. Proposed projects must identify a significant water resources problem and conduct applied or basic research that will be part of the proposed solution. In addition, proposals may include dissemination, delivery, and generation of research that informs and enhances existing public, private, and stakeholder water planning and management processes. Principal investigators must hold a faculty position at a New Mexico university.

Deadline

Friday, April 21, 2023; 5:00 p.m.

Project Eligibility

NM WRRI Faculty Water Research proposal objectives will be most competitive if they address the following components. Proposals should be directed to plan, conduct, or otherwise arrange for high quality applied and peer-reviewed research that fosters

improvements in water resources management in New Mexico. Research should encourage the exploration of new ideas that address water problems and or expand understanding of water and water-related phenomena. Proposals submitted should support new research scientists, engineers, and technicians entering water resources fields. Proposals should facilitate the dissemination of research results to water managers and the public. Additionally, proposals will be ranked based on their effort to address water challenges within their communities and research designed to resolve on-the-ground water issues.

Proposals submitted should support the objectives established under Section 104(b) of the Water Resources Research Act of 1984. Proposals should promote the national mission and objectives of the U.S. Geological Survey, 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 received from a principal investigator or co-investigator who has a delinquent technical completion report will not be reviewed. Failure to complete a report jeopardizes future funding for the NM WRRI 104B grant program and will impact the PI's eligibility for future funding from NM WRRI.

Proposal Submission

All proposals must be submitted through the PI's university grants and contracts office. Please contact NM WRRI if you have any questions.

Sam Fernald, Director
afernald@nmsu.edu
575-646-4337

Carolina Mijares, Senior Program Manager
mijares@nmsu.edu
575-646-7991

Project Cost, Duration, and Match

The maximum award will be $40,000 in direct costs for a one-year project. Funding is awarded for one year at a time only. NM WRRI funded projects are considered seed money projects designed to attract outside funding after the initial research period. The initial proposed research may be designed to be conducted during a multiple-year period, but the proposal must be written such that a distinct segment is completed by the end of the first year. Renewal request proposals are reviewed and evaluated in the same manner as new proposals with no priority guaranteed.

Each applicant must match each federal dollar with not less than one dollar from non-federal sources. The matching funds must be obligated during the period of performance. Matching funds may contain indirect costs and non-federal salaries and benefits. Indirect costs 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. Indirect costs are distributed based on Modified Total Direct Costs, as defined in 2 CFR Part 200.68. Federal funds shall not be used to pay indirect costs.

Reporting Requirements

Each project must culminate in a final technical completion report due at the end of the project period. Final technical completion reports must follow the procedural and editorial

guidelines found at https://nmwrri.nmsu.edu/wp-content/uploads/2015/research/peguide/ProceduralandEditorialGuidelinesFinal.pdf. Authors must provide the NM WRRI with an electronic file containing the draft report. After peer review, the report will be published as part of the NM WRRI technical completion report publication series and also provided via the Institute's webpage. Investigators are encouraged to pursue publication of the findings of their project in other media, especially their professional scientific journals and to make presentations at professional meetings and conferences. Investigators are asked to notify the NM WRRI of any subsequent publications that may result from the project. Investigators should acknowledge the source of funding with the following statement on all publications: *The research on which this report is based was financed in part by the U.S. Department of the Interior, Geological Survey, through the New Mexico Water Resources Research Institute Grant #G21AP10635*. Periodically, investigators may also be asked to provide the NM WRRI with information on their projects, which is used for various reports required of the
NM WRRI.

Review Policy

The Institute's Program Development and Review Board (PDRB) will review proposals and make funding recommendations to the NM WRRI director. The PDRB comprises researchers from a variety of academic disciplines and institutions, representatives of state water agencies, and the U.S. Geological Survey. Proposals should be written for those with a general water-research background, which may incidentally include specialists in the PI's academic discipline.

PIs are expected to be accountable for carrying out the activities described in the funded project. Thus, individual projects should include clearly stated goals, specific descriptions of the activities that the PI intends to perform, and a plan in place to document the outputs of those activities.

The PDRB will base their review on the following factors.

1. Does the proposal clearly identify a water resources problem?

2. Does the proposal characterize the seriousness of the identified problem relative to other water resources problems?

3. Are the goals of the proposed research clearly focused on finding a solution to the problem and/or a significant and identifiable element of the problem?

4. Does the proposal address a water challenge within the community and is the research designed to resolve on-the-ground water issues?

5. Are the proposed project activities completely described?

6. Are the project outputs clearly stated?

7. Will the successful completion of the research make a significant contribution to the solution of the problem?

8. Does the proposed work provide for the involvement and training of students?

9. Does the proposed work have widespread applicability to problems relevant to New Mexico and the region as contrasted to being site-specific?

10. Is the proposal likely to lead to additional and more substantial funding from other sources?

Proposals will be reviewed and rated on the above criteria in addition to the proposal's overall quality, investigator qualifications, how the budget supports graduate students, and literature review supporting the work proposed.

Proposal Content

All proposals must be submitted through the PI's university grants and contracts office.

Proposals shall be submitted electronically as an MS Word document and a .pdf copy of the same document, both in an attachment to an email message addressed to mijares@nmsu.edu. On the "Subject" line of the email message, include "FY2023 104B Research Program." Proposals will consist of the following:

1. Two letters must accompany the proposal: An Authorization Letter and a signed Matching Funds Commitment Letter. These letters with original signatures should also be mailed to:

NM WRRI FY2023 – 104B Research Program
NM WRRI, MSC 3167
New Mexico State University
PO Box 30001
Las Cruces, NM 88003-0001

a) Authorization Letter: The authorization letter should be on departmental letterhead with original signatures. The letter should indicate whether the entire proposal or any segment of it has been, or will be, submitted to organizations other than the NM WRRI for the purposes of obtaining funds. The NM WRRI strongly encourages the pursuit of outside funding. Submission to other agencies does not preclude consideration of the proposal by NM WRRI, though duplicate funding for the same work would not be awarded. The proposed budget should reflect cost-share match contributions of 1:1. Indicate the source and nature of those contributions in this letter and include relevant signatures. The letter must contain signatures of the principal investigator, co-investigators if any, department head(s), and the appropriate college dean(s) or research center director(s) as prescribed by your university.

b) The applicant must also provide an institutional signed Matching Funds Commitment Letter signed by an official authorized to commit the applicant to the required 1:1 cost-share match. This letter will be sent to the USGS as required by the program.

Proposals should be created with 12 pt. Times New Roman font using one-inch margins and single-spaced text. All graphics must be embedded in the text.

2. Pages One and Two

Simple Language Summary. In 250 words or less provide a project summary that would be understandable to an individual without specific expertise in the research topic.

Project Period. Proposed starting and ending dates (the anticipated project period is September 1, 2023 – August 31, 2024).

Name of Principal Investigator and Affiliation. Include name, address, e-mail, and telephone number for principal investigator and co-investigators, if any.

Title. Use a concise but descriptive title that clearly reflects a specific relationship to a water

resources problem.

Project Type. Research, Information Transfer, or Education and Outreach

Congressional District. Provide Congressional district where the work will be performed.

Science Priority. Choose from the following categories the one that most closely applies: Water Scarcity and Availability; Water-Related 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.

USGS Cross-Discipline Landscape. Arctic, California Bay-Delta, Chesapeake Bay, Columbia River, Everglades, Great Lakes, Gulf Coast, Klamath, Puget Sound, Salton Sea, Upper Mississippi River, or none of the mentioned.

USGS Cross-Discipline Science Topic. Climate, Energy, HABs, Indian Water Rights, Natural Hazards, Oceans/Coastal/Great Lakes, STEM, Water Challenges, or Other.

Geographic Study Area. Provide the geographic study area.

Keywords. Select primary, secondary, and tertiary keywords from the list provided. (Attachment A).

Student Support Breakdown. Provide the number of post-doc, graduate, and undergraduate students who will be supported by federal funds. Separately provide a grand total of all students supported by the proposed project, including any students that are supported entirely by matching funds.

Abstract. Provide a brief description of the problem, methods, and objectives limited to 5,000 characters including spaces.

Statement of Critical Water Resource Problem. State briefly the regional or state problem to be addressed by the project, including an explanation for the research, who wants it and why. This section should not exceed two paragraphs.

Statement of the Results, Benefits Expected. Indicate the results, benefits or information expected to be gained from the project and how they could be used. Describe in detail any long-term, large-scale plans that might be explored as a result of this proposal, including possible external funding sources. This section should not exceed two paragraphs.

3. Pages Three through Five: Main Body

Nature, Scope, and Objectives, including a timeline of activities. This section should contain two major sub-sections. The first is a description of the specific water problem to be addressed, in greater detail than the brief summary on the first page. It should also describe, in non-technical terms, the relevance of the proposed project to the problem. The relevancy and responsiveness of the project to existing or foreseeable local, regional, or national water resource problems is one of the principal means by which federal and state governmental officials evaluate the effectiveness, importance, and value of water resources research programs. The second sub-section should describe the specific project objectives.

Methods, Procedures and Facilities. Provide sufficient information to permit evaluation of the technical adequacy of approach to satisfy objectives. If the proposed budget includes the purchase of a major item of equipment, a description of the equipment with justification for the need must be included in this section.

Related Research. Using a review of literature, show the similarities and dissimilarities of the proposed research to completed or ongoing activities on the same or related topics.

4. Page Six: Other Research Support and Training Potential

   Other Research Support. Include a brief summary of involvement by the investigator(s) in other current project support, pending proposals to other funding agencies, amount of grant or proposal, and current status. Show the relationship, if any, of your proposed project to your present involvement in other projects.

   Training Potential. Give a detailed explanation of the ways your project will promote a strong training program in the area of water resources. Include the number of graduates or undergraduates you expect to train, and the degrees and field of specialty you anticipate will result from their participation on the project.

5. Pages Seven and Eight: Financial Plan Summary

   Submit a Budget Breakdown (Attachment B) and Budget Justification (Attachment C) using the following line items. All categories should contain adequate detail as to use of funds. If the project is designed to last for more than one year, a budget estimate for each year, with required match for each year, and a total for the project should be included. Non-NM WRRI contributions to each category, if applicable, should be shown. Note: Indirect costs may not be requested as recoverable costs to the project, but can be included as a cost-share/matching contribution. The matching requirement for this program is 1:1 and should be included in the summary.

   1. Salaries and Wages: Identify individuals when known, and categories of salaries and wages, estimated percentage of time and month/hours, and the rate of compensation proposed for each. If the rate of pay shown is higher than the current rate of pay, include an explanation. The use of NM WRRI funds to supplement research salaries resulting in compensation above the regular salary rate is not allowed. NM WRRI funds may not provide salary for investigators during the regular academic year, but could be requested for up to two months of summer salary. The Institute does not allow the budgeting of NM WRRI funds for non-university consultants, nor the hiring of university faculty on a consulting basis for extra compensation.

   2. Fringe Benefits: Use rates/amounts in conformance with normal accounting procedures. Explain the costs and the basis of the rate computations. Indicate whether the rates are estimated for application purposes or whether they are fixed or provisional rates for billing purposes.

   3. Tuition for graduate and undergraduate students

   4. Supplies: Indicate separately the amounts estimated for laboratory, field and/or computer supplies. Provide detail on any specific item that represents a significant portion of the proposed amount. If fabrication of equipment is proposed, list parts and costs separately from other items.

   5. Nonexpendable Equipment: Identify individually any item having a useful life of more than one year and an acquisition cost of more than $5,000 per unit. Each item must be described and justified as to specific need for the project.

   6. Services or Consultants: The Institute does not allow the budgeting of its funds for non-university consultants, nor hiring faculty for consulting for extra compensation.

   7. Travel: All estimated costs should be itemized showing the number of trips required, type of trip (field, scientific meeting, conference), using rates approved by your

university's travel policy. A maximum of $1,000 per year will be authorized for active participation at professional meetings or conferences.

8. Other Direct Costs: Itemize costs not included elsewhere, such as computer and other machine use charges, communications, analysis, equipment maintenance, manuscript page charges, or other costs as appropriate.

9. Total Direct Costs: Total amount requested from the NM WRRI.

10. Indirect Costs: Shown as a cost share contribution only, based on the applicant's approved rate agreement.

11. Total Estimated Costs: Total cost of the project including NM WRRI funding request and cost share contribution.

6. Page Nine: Data Management Plan (DMP)

   Proposals must include no more than a one-page description of how the proposal will conform to USGS policy on the dissemination and sharing of research results and associate 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. Guidance on data management plans is available from the USGS Data Management website here: https://www.usgs.gov/products/data-and-tools/data-management/data-management-plans

7. Beginning on Page Ten: Investigator(s) Qualifications

   Investigator(s) Qualifications. Limit to two pages per investigator. Include the biographical sketch for the principal investigator and any co-investigators using the National Science Foundation format as described below.

   (a) Professional Preparation
   A list of the individual's undergraduate and graduate education and postdoctoral training as indicated below:
   Institution(s), Location, Major/Area of Study, Degree, and Year

   (b) Appointments
   A list, in reverse chronological order, of all the individual's academic/professional appointments beginning with the current appointment.

   (c) Publications
   A list of: (i) publications most closely related to the proposed project; and (ii) other significant publications, whether or not related to the proposed project. Each publication identified must include the names of all authors (in the same sequence in which they appear in the publication), the article and journal title, book title, volume number, page numbers, and year of publication. If the document is available electronically, the Website address also should be identified. For unpublished manuscripts, list only those submitted or accepted for publication (along with most likely date of publication). Patents, copyrights, and software systems developed may be substituted for publications. Additional lists of publications, invited lectures, etc., should not be included. No resume shall exceed two pages or list more than 15 pertinent publications.

   (d) Synergistic Activities
   A list of up to five examples that demonstrate the broader impact of the

individual's professional and scholarly activities that focuses on the integration and transfer of knowledge as well as its creation. Examples could include, among others: innovations in teaching and training (e.g., development of curricular materials and pedagogical methods); contributions to the science of learning; development and/or refinement of research tools; computation methodologies, and algorithms for problem-solving; development of databases to support research and education; broadening the participation of groups underrepresented in science, mathematics, engineering and technology; and service to the scientific and engineering community outside of the individual's immediate organization.

8. Pages Eleven through Twelve: Research References

ATTACHMENT A KEYWORDS

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

ATTACHMENT B BUDGET BREAKDOWN*

Principle Investigator:

Project Title:

Cost Category	Federal	Non-Federal	Total
Salaries and Wages · Principal Investigator · Regular Investigators · Post Docs · Graduate Students · Undergraduate Students · Director · Admin Assistants Total Salaries and Wages	$	$	$
Fringe Benefits · Principal Investigator · Regular Investigators · Post Docs · Graduate Students · Undergraduate Students · Director · Admin Assistants Total Fringe Benefits			
Tuition · Graduate Student(s)_____ · Undergraduate Student(s)_____ Total Tuition			
Supplies			
Equipment			
Services or Consultants			
Travel			
Other direct costs			
Total direct costs			
Indirect costs on federal share	XXXXXXXX		
Indirect costs on non-federal share	XXXXXXXX		
Amount Proposed	$	$	$
Total Costs at Campus of the University on which the Institute or Center is located.	$	$	$
Total Costs at other University Campus Name of University:	$	$	$

ATTACHMENT C BUDGET JUSTIFICATION*

Note: Please include details regarding both Federal and Matching funds in each section below.

Project Title:

Salaries and Wages for PIs. Provide personnel, title/position, estimated hours and the rate of compensation proposed for each individual.

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 and that health insurance, if provided, is to be included under fringe benefits.)

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 and that health insurance, if provided, is to be included under fringe benefits.)

Federal

Matching

Salaries and Wages for Others. Provide personnel, title/position, estimated hours and the rate of compensation proposed for each individual.

Federal

Matching

Fringe Benefits for PIs. Provide the overall fringe benefit rate applicable to each category of employee proposed in the projects. Note: include health insurance here, if applicable.

Federal

Matching

Fringe Benefits for Graduate Students. Provide the overall fringe benefit rate applicable to each category of employee proposed in the projects. Note: include health insurance here, if applicable.

Federal

Matching

Fringe Benefits for Undergraduate Students. Provide the overall fringe benefit rate applicable to each category of employee proposed in the projects. Note: include health insurance here, if applicable.

Federal

Matching

Fringe Benefits for Others. Provide the overall fringe benefit rate applicable to each category of employee proposed in the projects. Note: include health insurance here, if applicable.

Federal

Matching

Tuition for Graduate Students. Provide time & amount. In-state or Out-of-state tuition?

Federal

Matching

Tuition for Undergraduate Students. Provide time & amount. In-state or Out-of-state tuition?

Federal

Matching

Supplies. Indicate separately the amounts proposed for laboratory and field supplies followed by a breakdown of the supplies in each category (amounts per unit, # of units, cost per unit).

Federal

Matching

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.

Federal

Matching

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. A breakdown is required for each cost.

Federal

Matching

Travel. Provide the purpose and estimated cost for all travel. A separate breakdown should be provided for each trip, and it should include the destination, number of personnel, number of days, per diem rate, lodging rate, mileage and mileage rate or airfare (whatever is applicable). Please indicate the source you used for the per diem rate (e.g. https://www.gsa.gov/travel/plan-book/per-diem-rates). Failure to provide the necessary information for each project has the potential to delay the entire award.

Federal

Matching

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 detailed breakdown for costs listed under this category.

Federal

Matching

Indirect Costs. Provide negotiated indirect ("Facilities and Administration") cost rate. If indirect costs are provided, please include a copy of your current Indirect Cost Rate Agreement so the rate can be verified.

Federal

Matching