

Fiscal Year 2015 Request for Proposals



NM WRRRI Faculty Water Research Grant Program

Closing Date: 5:00 p.m., May 21, 2014

Please contact NM WRRRI if you have any questions.

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The New Mexico Water Resources Research Institute (NM WRRRI) announces availability of funding for its Faculty Water Research Grant Program. Funds have been made available through the New Mexico State Legislature with the support of the Governor to support targeted research to improve management of the waters of New Mexico. In this solicitation, NM WRRRI expects to fund about four \$30,000 grants with state funding for FY 2015.

Proposals are sought from researchers in any academic discipline at a New Mexico university. For this funding cycle, proposals are sought in three priority topic areas:

- integrated statewide water budget
- water policy for planning
- water-supply innovation

Please email your completed proposal as described below to nmwrrri@nmsu.edu no later than 5:00 p.m. on Wednesday, May 21, 2014. Proposals will be evaluated and selected applicants will be notified no later than June 18, 2014, with projects to start July 1, 2014. New to this year's program, deliverables include quarterly reports with the first report due October 1, 2014.

New Mexico Water Resources Research Institute

The NM WRRRI Faculty Water Research Grant Program is designed to provide funds for water-related research projects in the priority topic areas. The legislative and executive branches of New Mexico state government are particularly interested in research that will have tangible effects on improved water management. To this end, research proposals must identify a significant water resources problem addressing FY 2015 priority categories and include work towards proposed solutions. Research may be applied or basic. Projects with a high degree of policy relevance are strongly encouraged. Proposals are encouraged that have the potential for attracting substantial outside funding to augment the initial research. 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.

Project Eligibility

Projects must emphasize this year's legislatively funded water priority topics described below.

- **Integrated statewide water budget:** Projects are sought that will help NM WRRRI provide new, frequently updated, spatially representative assessments of water budgets for the entire state of New Mexico. The statewide water budget effort will complement existing state agency water resource assessments. Studies are sought that will involve new technologies in statewide water budget assessment or that integrate existing regional studies and prototypes into a coordinated statewide water budget. Watersheds and regions of particular interest are the Canadian River, the Rio Grande, and Southeast New Mexico. Some of the water budget components for which state agencies require improved information include: evapotranspiration, crop consumptive use, brackish groundwater, and groundwater status and recharge.
- **Water policy for planning:** In response to heightened interest in studies that include policy alternatives, at least one study will be sought that provides a suite of policy options for water management related to conservation, best use, efficiency, watershed management, water quality, sustainability, and brackish water management.
- **Water-supply innovation:** This emphasis area addresses new information or technology approaches to water supply and management issues. The application of existing technology to the solution of a water resources problem is generally not eligible for NM WRRRI support unless the existing technology is applied in a novel way.

Overall, studies that are so site specific that findings would be of marginal applicability beyond a local area are generally not eligible. Likewise, studies benefiting a single special interest or industry are generally not eligible unless there is significant cost sharing. Studies of a routine monitoring nature conducted without a clear scientific hypothesis are generally not eligible.

Project Cost and Duration

The maximum award will be \$30,000 in direct costs for a one-year project. Funding is awarded for one year at a time only. Investigators are required to provide quarterly reports and project status updates as required by the NM WRRRI. Reports will be presented to the New Mexico State Legislature and it is critical that investigators are able to show progress toward project goals by the first quarterly report. For the integrated statewide water budget projects, investigators will need to be part of an ongoing statewide water assessment working group and provide data products at least quarterly to a coordinating group at NM WRRRI. For the policy related project, a preliminary report will be due December 2014.

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.

Indirect costs are not allowed. Cost-sharing is encouraged whenever possible and the budget should reflect contributions including the source and nature of the contribution.

Reporting Requirements

Projects will start on July 1, 2014, with the first quarterly report due October 1, 2014. Subsequent quarterly reports are due January 1, 2015, April 1, 2015, and the final report on June 30, 2015. Projects must culminate in a final technical completion report due at the end of the project period. Authors must provide the NM WRRRI with an electronic file containing the final technical completion report draft at the end of the project period. After peer review, the report is published as part of the NM WRRRI 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 WRRRI of any subsequent publications that may result from the project. Periodically, investigators may also be asked to provide the NM WRRRI with information on their projects, which is used for various reports required of the NM WRRRI. Investigators are encouraged to present a poster of their early work at the 59th Annual New Mexico Water Conference to be held in November 2014 in Santa Fe.

Review Policy

All proposals receive extensive peer review. Proposals will be sent to reviewers knowledgeable in the field who have no conflict of interest in providing a review. After receiving peer review, proposals are reviewed by the NM WRRRI's statewide Program Development and Review Board (PDRB) composed of researchers from a variety of academic disciplines and institutions, representatives of state water agencies, and the U.S. Geological Survey. After a proposal is selected for funding, reviews will be available to applicants upon request.

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Peer reviewers assess proposals using the following factors.

1. Does the proposal address one of the FY 2015 priority categories?
2. Are the objectives and the proposed methodology clearly stated?
3. Will the approach and methodology lead to satisfying the objectives?
4. Are the scope, effort, and budget reasonable in relation to the approach and stated objectives?
5. Does the proposal reflect new ideas and/or approaches to solving the problem?
6. Does the proposal reflect an adequate awareness of related research complete or being done elsewhere?
7. Will the proposed research produce original data and avoid unnecessary duplication of work being done by others?
8. Are there adequate facilities to complete the proposed work successfully?
9. Is the principal investigator qualified to undertake the proposed work as demonstrated through past training, experience, and publication record in this or closely related research?

The PDRB will receive peer reviewer comments and make recommendations based on the above factors and following factors.

1. Does the proposal address one of the FY 2015 priority categories?
2. Does the proposal clearly identify a water resources problem related to a priority category?
3. Does the proposal characterize the seriousness of the identified problem relative to other water resources problems?
4. Does the proposed research clearly focus on finding a solution to the problem and/or a significant and identifiable element of the problem?
5. Will successful completion of the research make a significant contribution to the solution of the problem?
6. Does the proposed work provide for the involvement and training of students?
7. Does the proposed work have widespread applicability to state and regional problems as contrasted to being site specific?
8. Is the proposal likely to lead to additional and more substantial funding from other sources?
9. On a scale of 1 to 100, how would you rate the overall quality of this proposal?

Proposal Content

Proposals shall be submitted electronically in **pdf** as an attachment to an email message addressed to nmwrrri@nmsu.edu. On the “Subject” line of the email message, include “FY 15 NM WRRRI Faculty Water Research Grant Program.” Proposals should be created with 12 pt Times Roman font using one-inch margins and single-spaced text. All graphics must be embedded in the text.

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Proposals will consist of the following.

1. Cover letter should indicate whether the entire proposal or any segment of it has been, or will be submitted to organizations other than the NM WRRRI for the purposes of obtaining funds. The NM WRRRI strongly encourages the pursuit of outside funding. Submission to other agencies does not preclude consideration of the proposal by the NM WRRRI, though duplicate funding for the same work would not be awarded. If the proposed budget reflects contributions from other entities, including cost share match being contributed by the investigator's department and/or research center, indicate the source and nature of those contributions. The letter must also 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.

2. First Page

Title: Use a **concise** descriptive title that clearly reflects a specific relationship to a water resources problem. Titles should include "keywords" suitable for indexing and retrieval.

Priority Problem Area: Choose one of the following:

- 1) integrated statewide water budget
- 2) water policy for planning
- 3) water-supply innovation

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

Project Period: All projects will start on July 1, 2014 and end on June 30, 2015. Quarterly reports are due October 1, 2014, January 1, 2015 and April 1, 2015, and a final report due June 30, 2015.

Congressional District Number: District where research is to be conducted

Statement of Critical Water Resource Problem: State briefly the priority 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 Two through Four: Main Body

Nature, Scope, and Objectives: This section should contain two major sections. The first is a description of the specific water problem priority to be addressed, in greater detail than the brief summary on the first page. It should 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 segment 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.

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. The NM WRRRI strongly encourages student support.

4. Pages Five and Six: Financial Plan Summary

Submit a Budget Breakdown (Attachment A) and Budget Justification (Attachment B) 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 and a total for the project should be included. Non-NM WRRRI 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. Cost sharing is not required but encouraged.

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 WRRRI funds to

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supplement research salaries resulting in compensation above the regular salary rate is not allowed. NM WRRRI 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 WRRRI 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: Identify 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. 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.
 7. 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.
 8. Total Direct Costs: Total amount requested from the NM WRRRI.
 9. Indirect Costs: Shown as a cost-share contribution only, based on the applicant's approved rate agreement.
 10. Total Estimated Costs: Total cost of the project including NM WRRRI funding request and cost share contribution.
5. Beginning on Page Seven

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.

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(a) Professional Preparation

A list of the individual's undergraduate and graduate education and postdoctoral training as indicated below:

Undergraduate Institution(s) Major Degree and Year

Graduate Institution(s) Major Degree and Year

Postdoctoral Institution(s) Area and Inclusive Dates (years)

(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) up to five publications most closely related to the proposed project; and (ii) up to five 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. Only the list of 10 publications should be included.

(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.

Budget Breakdown

Attachment A

BUDGET BREAKDOWN*

Project Number: (Number will be provided by the application system)

Project Title:

Cost Category	State	Cost-share	Total
1. Salaries and Wages - <u>Principal Investigator(s)</u> - <u>Graduate Student(s)</u> - <u>Undergraduate Student(s)</u> - <u>Others</u> Total Salaries and Wages	\$	\$	\$
2. Fringe Benefits - <u>Principal Investigator(s)</u> - <u>Graduate Student(s)</u> - <u>Undergraduate Student(s)</u> - <u>Others</u> Total Fringe Benefits			
3. Tuition - <u>Graduate Student(s)</u> - <u>Undergraduate Student(s)</u> Total Tuition			
4. Supplies			
5. Equipment			
6. Travel			
7. Other Direct Costs			
8. Total Direct Costs			
9. Indirect Costs	XXXXXXXX XXXXXXXX		
10. Total Estimated Costs	\$	\$	\$
Total costs at campus of the project's principal investigator	\$	\$	\$
Total costs at other university campus Name of university:	\$	\$	\$

* This form is provided as a worksheet only.

BUDGET JUSTIFICATION*

Project Number: (Number will be provided by the application system)

Project Title:

<p>Salaries and Wages for PIs. Provide personnel, title/position, estimated hours and the rate of compensation proposed for each individual.</p>
<p>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.)</p>
<p>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.)</p>
<p>Salaries and Wages for Others. Provide personnel, title/position, estimated hours and the rate of compensation proposed for each individual.</p>
<p>Fringe Benefits for PIs. Provide the overall fringe benefit rate applicable to each category of employee proposed in the project. Note: include health insurance here, if applicable.</p>
<p>Fringe Benefits for Graduate Students. Provide the overall fringe benefit rate applicable to each category of employee proposed in the project. Note: include health insurance here, if applicable.</p>
<p>Fringe Benefits for Undergraduate Students. Provide the overall fringe benefit rate applicable to each category of employee proposed in the project. Note: include health insurance here, if applicable.</p>
<p>Fringe Benefits for Others. Provide the overall fringe benefit rate applicable to each category of employee proposed in the project. Note: include health insurance here, if applicable.</p>
<p>Tuition for Graduate Students</p>
<p>Tuition for Undergraduate Students</p>
<p>Supplies. Indicate separately the amounts proposed for office, laboratory, computing, and field supplies. Provide a breakdown of the supplies in each category.</p>
<p>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.</p>
<p>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.</p>
<p>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).</p>
<p>Other Direct Costs. Itemize costs not included elsewhere, including publication costs. Please provide a breakdown for costs listed under this category.</p>
<p>Indirect Costs. Indirect costs may not be requested as recoverable costs to the project, but can be included as a cost-share/matching contribution. Provide negotiated indirect ("Facilities and Administration") cost rate.</p>

* This form is provided as a worksheet only