



# 2015 Request for Proposals

The Mississippi Water Resources Research Institute (WRRRI) invites proposals for water research from faculty and staff at any Mississippi research university. Key areas for this year's priority research have been identified below. Non-tenured faculty members are strongly encouraged to submit proposals. The MWRRI strongly encourages applicants to collaborate with local, state, and federal agencies.

## Research Priority Areas

- **Climate** – historic record of climatic conditions; comparison of past climate trends to variations in groundwater and surface water demands; projections of future climatic conditions.
- **Groundwater** – innovative approaches to estimate aquifer recharge; spatial and depth variabilities of aquifer transmissivities and other characteristics.
- **Surface Water** – performance and effectiveness of innovative and established nutrient, sediment, bacteria, and storm water management methodologies, and small community wastewater treatment technologies; linkages between N and P concentrations and ecosystem response variables; analysis of point source nutrient loading trends.
- **Water Reuse and Conservation** – innovative wastewater treatment technologies and reuse applications; effective irrigation efficiency and conservation methods; innovative irrigation runoff reclamation and reuse methods.
- **Protection of Source Water** – delineation of source water protection areas, identification of potential sources of contamination, assessment of threats, and contingency planning.
- **Social Science** – stakeholder perceptions and beliefs at the individual, local and regional levels related to water resources issues; social indicators to identify the potential for and evaluate the success of watershed management projects and to build effective education and outreach.
- **Modeling and Tool Development** – prediction of future impacts of climatologic change, water use changes, social drivers, and proposed infrastructure on water resources.

**Due to federal funding constraints a maximum of two proposals will be awarded.** The Water Resources Research Act of 1984 requires that federal funds (USGS) be matched by at least two non-federal dollars for each federal dollar. MWRRI, using USGS funds, will provide up to \$25,000 for each proposal. MWRRI state appropriation funds will provide up to \$25,000 of match. Each research proposal must provide the remaining \$25,000 non-MWRRI match. **Proposals including non-MWRRI matching funds in excess of \$25,000 will be given additional consideration as part of the selection process.**

**Note: Proposal funding is contingent upon funds being made available by the USGS and the State of Mississippi.**

## **Timeline**

September 22, 2014	RFP released.
<b>November 14, 2014</b>	<b>Proposals due in the MWRRRI Office (311 Bost) by 5:00 p.m.</b>
December 4, 2014	WRRRI Advisory Council completes evaluation/grading.
December 5, 2014	Applicants notified of results and any modifications needed.
December 12, 2013	Revised final proposals returned to Institute if requested.
January 20, 2015	Final WRRRI program package submitted to USGS.
March 1, 2015	Projects begin (assuming the federal budget has been signed).
June 5, 2015	Recipients notified of the amount of state appropriations available for cost share for their project.
July 1, 2015	If available, state appropriations distributed for WRRRI cost share requirements.



**MEMORANDUM**

TO: Deans, Directors, and Department Heads  
Principal Investigators and Other Researchers  
Mississippi Water Resources Research Institute Advisory Council

FROM: Joe E. Street, Interim Director

SUBJECT: RFP, 2015 Annual Competitive Grants Program

DATE: September 22, 2014

The Institute is issuing its request for proposals (RFP) for the research year beginning March 1, 2015. Please email one electronic proposal copy (a single file in WORD format) to Jessie Schmidt at [jschmidt@ext.msstate.edu](mailto:jschmidt@ext.msstate.edu) and send twenty-five (25) copies to the Institute office to be received by **5:00 p.m. November 14, 2014**. The Institute's mailing address is Mississippi Water Resources Research Institute, Box 9547, Mississippi State, MS 39762, and the physical and express mail address is 190 Bost North, Suite 311, Mississippi State, MS 39762.

**Note: Federal support for the selected proposals is dependent on availability of USGS funding.**

**Scope of Work, research, other activities; cooperation and coordination:**

Proposals should be for applied research, information transfer, information management systems, education, or other work that fosters the research priorities shown on page 12 and also advances

- the entry of new research scientists, engineers, and technicians into the water resources field;
- the dissemination of research results to water managers and the public; and
- close cooperation with other colleges and universities in the State that have demonstrated capabilities for research, information dissemination, and graduate training in order to develop a statewide program designed to resolve State and regional water and related land problems.

*Source: 42 USC Sec. 10303(b), Chapter 109 – Water Resources Research Act, amended 2006 (Public Law 109-471) and signed into law on January 11, 2007 by President Bush.*

**The Water Resources Research Act of 1984, as amended, (42USC1031 et seq.) requires that federal funds be matched by at least two non-federal dollars for each federal dollar.** The MWRRRI may provide a portion of the required cost share from funds appropriated to the Institute from the State of Mississippi. The extent of the Institute's contribution to cost share depends upon the amount of funds received from the state appropriation and the number of proposals funded. If MWRRRI experiences any reduction in its appropriated budget, then awarded project budgets will be reduced.

A written cooperator commitment to contribute non-federal funds is required if using third-party cost share. Two points of clarification: 1) you cannot use federal funds or federal in-kind services to match these federal funds, and, 2) **3rd party cash and in-kind contributions from state, regional or local businesses, agencies, and non-profit organizations can be used for cost share and will increase a proposal's ranking in the evaluation process.** The recipients will be required to fully and accurately document the cost share. Please contact us if you need assistance in identifying potential cooperators. Proposal format changes reflecting this new emphasis are bolded in the instruction.

**Proposals must be complete and must have been reviewed by your sponsored programs or contracts office when they are submitted.** Proposals from any college or university in the state addressing Mississippi's water resource needs will be considered. Please remember that your proposal will be evaluated and scored by the Institute's Statewide Advisory Council and not a technical peer review panel. As such, in writing your proposal, please write to a general audience as Council members may not necessarily be experts in your particular field.

Multiple year proposals not exceeding two years will be considered, but it must be understood that **successful multiple year projects must reapply for funding annually.** The Institute is not required to give any preference to continued funding of multi-year projects. Instructions and other relevant information concerning proposals are attached to this memorandum. Please share the materials with others who may be interested in having a project considered for funding.

Unlike in previous years, projects funded in FY2015 will not be allowed to extend funding beyond February 28, 2016 through a no cost extension. The federal Water Resources Research Act is authorized for five year periods and 2016 is the end of the current authorization.

For your information, a copy of the Project Proposal Grade Standards (Evaluation Form) is attached. The Institute Advisory Committee, in their evaluation and ranking of the proposals, uses this form.

The MWRRRI strongly encourages applicants to seek third party cost share from outside local, regional and state agencies. In addition, to help leverage the MWRRRI's state appropriation, proposals which include some amount of cost-share from state, regional or local businesses, agencies, or non-profit organizations are given a priority in the evaluation process.

1. Is there a letter of support/cooperation from a state, regional or local agency?
2. Is there documentation of Contribution of Cost-Share from a state, regional or local agency?

**INSTRUCTIONS FOR THE PREPARATION OF PROPOSALS FOR THE  
STATE WATER RESOURCES RESEARCH PROGRAM: FY 2015**

**Proposal deadline is 5:00 PM, November 14, 2014**

This year's RFP is being issued before we receive formal notification of funding from the U.S. Geological Survey (USGS) headquarters. While we do not anticipate any significant changes to the program's terms, conditions, deadlines or availability of funds, awards will be contingent upon available funding. You will be notified immediately of any significant changes. This provides guidance for preparing proposals for the Institute's annual U.S. Geological Survey research program. The 2015-2016 MWRRRI Research Program's timetable is:

September 19, 2014	RFP Released
November 14, 2014	Proposals due in the MWRRRI Office (311 Bost) by 5:00 p.m.
December 4, 2014	WRRRI Advisory Council completes evaluation/grading
December 5, 2014	Applicants notified of results and any modifications needed
December 12, 2014	Revised final proposals returned to Institute if requested
January 20, 2015	Final program package submitted to USGS
March 1, 2015	Projects begin (assuming the federal budget has been signed)
June 5, 2015	Recipients notified of the amount of state appropriations available for cost share for their project
July 1, 2015	If available, state appropriations distributed for WRRRI cost share requirements

**Special Provisions**

The following special provisions are issued by the USGS to guide the MWRRRI in preparing the annual program package. They are included here for your information in developing your proposal and are subject to revisions by the USGS.

1. Performance Period: The period of performance of the project will be March 1, 2015 through February 28, 2016. Short **(1-2 pages)** quarterly reports are required, and PIs will submit draft copies of interim/completion reports which will be compiled and uploaded for required reports to USGS.
2. Participation Requirement
  - (a) Institutes may only consider project proposals from faculty members or affiliates at institutions of higher learning in the state.
  - (b) Institutes shall not submit proposals from any investigator who has not met reporting requirements for projects funded by a prior formula grant administered by the Department of the Interior.
3. Non-Federal Funds
  - (a) The non-federal portion must be \$2.00 for every \$1.00 federal.

**NOTE: The Institute anticipates that some State appropriations will be available. In the event that State appropriations are not adequate to cover the non-federal share, other cost share contributions must be generated, thus the submitter's cognizant department/agency must be prepared to cover all cost share.**

- (b) **If using third-party cost-share, one or more letters of commitment from state, regional or local business, agency, or non-profit organization are required.**
4. Charges Allowable to Federal Funds
- (a) Costs will be allowed in accordance with OMB Circular A-21, revised, "Cost Principles for Educational Institutions," on file in your university's contract office or available online at [whitehouse.gov/omb/circulars](http://whitehouse.gov/omb/circulars).
- (b) The portion of benefits paid to individuals cannot exceed the proportion of their salaries paid from the grant.
- (c) **Indirect costs may not be charged on the federal funds provided by the Department of Interior; however, they are chargeable to the total direct costs and should be shown in the non-federal column.** The Geological Survey will accept indirect cost rates approved by the cognizant agency in accordance with OMB Circular A-88.
- Note: A copy of the approved rate agreement or other approving documentation must be attached to proposals from universities other than MSU.
5. Program Funds Management: Funds available to the Institute (both Federal and State appropriations) will be applied to projects as available. **In the event that State appropriations are not adequate to cover the non-federal share, other cost share contributions must be generated, thus the submitter's cognizant department/agency must be prepared to cover all cost share.**

#### PROPOSAL APPLICATION FORMAT INSTRUCTIONS

The application shall be prepared in accordance with the following instructions.

**The proposal consists of the following 20 elements.** The synopsis (first 11 elements) **can not exceed 2 pages**. Begin a new page with element 12 (Nature, scope, and objectives of the research).

1. **Title.** Concise but descriptive.
2. **Project Type.** Choose from the following: Research, Information Transfer, Information Management System, Education, or Other (please specify).
3. **Focus Categories.** List a maximum of three focus categories, with the most relevant focus category first. A list of focus categories is provided on page 12. Enter the abbreviations in capital letters separated by commas.
4. **Research Category.** Choose from the following selections the one category that most closely applies: Social Sciences, Ground-water Flow and Transport, Water Quality, Biological Sciences, Engineering, or Climate and Hydrologic Processes.
5. **Keywords.** List descriptor words, separated by commas. Select words from the attached list of keywords (see page 12).
6. **Start Date.** Enter the actual beginning date for the project on or after March 1, 2015.
7. **End Date.** Enter the estimated end date for the project on or before February 28, 2016.
8. **Budget Breakdown.**

- **Federal** funds requested
- **Non-Federal** (matching) funds pledged and **cooperator contribution**.
- Please include a separate budget and justification along with the cooperator contribution letter at the end of the proposal submission. See page 11 for an example of the budget format and include a budget justification for salaries (full-time and student), fringe benefits (full-time and student), tuition, travel, supplies (commodities), services (contractuals), equipment, and indirect costs.

**Fiscal year 2014 Federal funds:** \_\_\_\_\_

**Non-Federal funds allocated:** \_\_\_\_\_ (\_\_\_\_) (\_\_\_\_) (\_\_\_\_)  
 (Total) Direct Indirect Cooperator  
 Contribution

**Project Total:** \_\_\_\_\_

9. **Principal investigator(s).** Provide name, academic rank, university, email address and phone number of the principal investigators.

**Cooperator (please attach an official letter of cooperation including a firm commitment to contribute non-federal funds or in-kind support for the project).**

10. **Congressional District** of the university where the work is to be conducted.

11. **Abstract. Provide a brief (one-page) description of the problem, methods, and objectives.**

**Note: Begin a new page with Item 12. Items 12-19 shall not exceed 10 single-spaced pages, 12 point font, exclusive of resumes.)**

12. **Title.** Please use the same title as was entered in #1.

13. **Statement (2 paragraphs maximum) of regional or State critical water problem.** Include an explanation of the need for the project research, who wants it, and why. Specify the priorities addressed.

14. **Statement (2 paragraphs maximum) of the results, benefits, and/or information** expected to be gained during the performance period and by the end of the project, if of longer duration, and how they will be used. Discuss manner and amount parties will cooperate.

15. **Nature, scope, and objectives of the project, including a timeline of activities.**

16. **Methods, procedures, and facilities.** Provide enough information to permit evaluation of the technical adequacy of the approach to satisfy the objectives.

17. **Related Research. (research projects only)** Show by literature and communication citations the similarities and differences of the proposed project to completed or on-going work on the same topic.

18. **Training potential.** Estimate the number and class rank of graduate and undergraduate students, by degree, who are expected to receive training during the project.

19. **Investigator's qualifications.** Include resume(s) of the principal investigator(s). No resume shall exceed two pages or list more than 15 pertinent publications.

**20. Attach Budget Breakdown (see example for budget preparation on page 11), Budget Justification, Cooperator letter(s), and Information Transfer Plan.**

**The Information Transfer Plan** (up to two pages) should discuss plans for disseminating information on the results of the research and promoting their application. Each plan shall:

1. Define the subject matter and the problems to be addressed.
2. Identify the target audience.
3. Indicate the strategies to be employed; e.g. workshops, publications.
4. Identify the cooperators (e.g., Cooperative Extension service, external agencies).

**Budget.** Submit a detailed budget for each proposal, which includes the following line items. (Indicate the amount of cost sharing for each element):

**Cost category** - Allocate Federal and non-Federal costs.

**I. Direct Costs.**

- a. Direct costs are those costs which can be identified specifically with a particular research project, an instructional activity, or any other institutional activity, and which can be directly assigned to such activities relatively easily with a high degree of accuracy.
- b. Identifiable benefit to the research work rather than the nature of the goods and services involved are the determining factor in distinguishing direct from indirect costs of research agreements. Typical transactions chargeable to a research agreement as direct costs are the compensation of employees for performance of work under the research agreement, including related staff benefits and pension plan costs to the extent that such items are consistently treated by the educational institution as direct rather than indirect costs; the costs of materials consumed or expended in the performance of such work; and other items of expense incurred for the research agreement, including extraordinary utility consumption. The cost of materials supplied from stock or services rendered by specialized facilities or other institutional service operations may be included as direct costs of research agreements provided such items are consistently treated by the institution as direct rather than indirect costs and are charged under a recognized method of costing or pricing designed to recover only actual costs and conforming to generally accepted cost accounting practices consistently followed by the institution.

**II. Indirect costs** (non-Federal share only). Indirect costs are those that have been incurred for common or joint objectives and therefore cannot be identified specifically with a particular research project, an instructional activity, or any other institutional activity. At educational institutions such costs normally are classified under the following functional categories:

- a. General administration and general expenses;
- b. Research administration expenses;
- c. Operation and maintenance expenses;
- d. Library expenses; and
- e. Departmental administration expenses.

**Note: Indirect costs are allowed under the non-Federal cost category only.**

1. **Salaries and Wages.** Identify the individuals and categories of salaries and wages, estimated hours or percentage of time, and the rate of compensation proposed for each individual or category. (Tuition remission and other forms of compensation paid as or in lieu of wages to students performing necessary work are allowable provided that the tuition or other payments are reasonable compensation for the work performed and are conditioned explicitly upon the performance of necessary work.) If the rate of pay shown is higher than the current rate of pay, include an explanation.
2. **Fringe Benefits.** Propose rates/amounts in conformance with normal accounting procedures. Explain the costs and the basis of the rate computations. Indicate whether the rates are used for application purposes or whether they are fixed or provisional rates for billing purposes.
3. **Supplies.** Indicate separately the amounts estimated for office, laboratory, computing, and field supplies. Provide detail on any specific item which represents a significant portion of the proposed amount. If fabrication of equipment is proposed, list parts and materials required for each, and show costs separately from the other items. (Follow Mississippi's rules and regulations (Asset Codes 710 through 799) for equipment purchases but show here if the amount is over \$500 but under \$5,000.)
4. **Equipment.** Identify nonexpendable personal property (Asset Codes 710 through 799) having a useful life of more than 2 years and an acquisition cost of more than \$5,000 per unit.
5. **Services of consultants.** Identify the specific project numbers for which these services would be used. List the contemplated consultants (including sub recipients), the estimated amount of time required, and the quoted rate per day or hour. State whether the consultant's rate is the same as s/he has received for similar services under other government awards.
6. **Travel.** All estimated costs should be itemized showing the number of trips required, type of trip (field, scientific meeting, or conference attendance), the destinations, the number of people traveling, the per diem and local reimbursement rates allowed by the applicant's organization, and any miscellaneous expenses for each trip.
7. **Other direct costs.** Itemize the costs not included elsewhere; e.g., shipping, telemetry, computing, equipment-use charges, age dating, or other services. Provide breakdowns showing how the cost was estimated; e.g. computer time should show the type of computer, the estimated time of use, and the established rates.
8. **Total direct costs.** Total (1) through (7).
9. **Indirect costs.** Specify the indirect costs in the non-Federal column only based on the applicant's approved rate agreement. An amount equivalent to what the indirect costs would have been under the federal portion may also be included as match under the indirect cost in the non-federal portion.
10. **Total estimated costs.** Total (1) through (8) for Federal and (1) through (9) Non-Federal

# Sample Budget Form

Project Title:

Cost Category	Federal Contribution (up to \$20K)	State/WRRRI Contribution (up to \$20K)	Non- Federal Contribution (University)	Non- Federal Contribution (3rd Party)	Total
1. Salaries and Wages	\$	\$	\$	\$	\$
-					
-					
-					
-					
Total Salaries and					
2. Fringe Benefits					
- full time employees					
- students					
- tuition					
3. Supplies*					
4. Equipment (> \$5000)					
5. Services or					
6. Travel					
7. Other direct costs					
8. Total direct costs					
9a. Indirect costs on federal share					
9b. Indirect costs on non-federal share					
10. Total estimated					
Total Costs at Mississippi State on which the Institute or Center is located					
Total Costs at other University Campus	\$	\$	\$	\$	\$
Name of University					

\* Equipment costs greater than \$500 and less than \$5000 are charged to supplies.

Finally, a breakdown of the budgeted funds shown in elements 5 and 6 should be on a separate page.

At the present time, the bottom line (10) must show at least \$1.00 non-federal and \$1.00 State/WRRRI (total of \$2.00) for \$1.00 federal. The Institute hopes that some legislative appropriations will be available. In the event they are not, or they are inadequate to cover the required cost share, you must rely on department assistance.

If you are proposing a project of more than one-year duration, conclude with the statement:

Estimated Budget:      Year 2      \$ \_\_\_\_\_

**Negotiated indirect cost rate agreement.** Attach a copy of the approved negotiated indirect cost rate agreement if you are not at Mississippi State University.

**Budget Form Example (For help in preparation only. Many other combinations are possible)**

Project Title: **Example Project Using MSU Rates**

Cost Category	Federal Contribution (up to \$20K)	State/WRRRI Contribution (up to \$20K)	Non- Federal Contribution (University)	Non- Federal Contribution (3rd Party)	Total
1. Salaries and Wages	\$	\$	\$	\$	\$
- Professor			9,810		
-					
- Grad Student Scholar	5,000				
- Undergrad Learner		3,000			
Total Salaries and Wages	5,000	3,000	9,810		17,810
2. Fringe Benefits					
- full time employees 36.09%			3,540		3,540
- students .73% **	37	22			59
- tuition \$564/mo (4 mo) **	2,256				2,256
3. Supplies*		2,800			2,800
4. Equipment (>\$5000)	10,000				10,000
5. XYZ Corporation Sponsor				10,000	10,000
6. Travel		4,000			4,000
7. Other direct costs					
8. Total direct costs	17,293	9,822	13,350	10,000	50,465
9a. Indirect costs on federal share @ 44.5% (less equipment + tuition)	XXXXXXX	2,292			2,292
9b. Indirect costs on state/WRRRI share @ 45.5%	XXXXXXX	4,469			4,469
10. Total estimated costs	\$17,293	\$16,583	\$13,350	\$10,000	\$57,226
Total Costs at Mississippi State on which the Institute or Center is located	\$17,293	\$16,583	\$13,350	\$10,000	\$57,226
Total Costs at other University Campus Name of University	\$	\$	\$	\$	\$

\* Equipment costs greater than \$500 and less than \$5000 are charged to supplies.

\*\* Fringe and tuition follow salary

Finally, a breakdown of the budgeted funds shown in elements 5 and 6 should be on a separate page.

At the present time, the bottom line (10) must show at least \$1.00 non-federal and \$1.00 State/WRRRI (total of \$2.00) for \$1.00 federal. The Institute hopes that some legislative appropriations will be available. In the event they are not, or they are inadequate to cover the required cost share, you must rely on department assistance.

If you are proposing a project of more than one-year duration, conclude with the statement:

Estimated Budget: Year 2 \$ \_\_\_\_\_

**Negotiated indirect cost rate agreement.** Attach a copy of the approved negotiated indirect cost rate agreement if you are not at Mississippi State University.

## Key Words

**Climate** – historic record of climatic conditions; comparison of past climate trends to variations in groundwater and surface water demands; projections of future climatic conditions.

**Groundwater** – innovative approaches to estimate aquifer recharge; spatial and depth variabilities of aquifer transmissivities and other characteristics.

**Surface Water** – performance and effectiveness of innovative and established nutrient, sediment, bacteria, and storm water management methodologies, and small community wastewater treatment technologies; linkages between N and P concentrations and ecosystem response variables; analysis of point source nutrient loading trends.

**Water Reuse and Conservation** – innovative wastewater treatment technologies and reuse applications; effective irrigation efficiency and conservation methods; innovative irrigation runoff reclamation and reuse methods.

**Protection of Source Water** – delineation of source water protection areas, identification of potential sources of contamination, assessment of threats, and contingency planning.

**Social Science** – stakeholder perceptions and beliefs at the individual, local and regional levels related to water resources issues; social indicators to identify the potential for and evaluate the success of watershed management projects and to build effective education and outreach.

**Modeling and Tool Development** – prediction of future impacts of climatologic change, water use changes, social drivers, and proposed infrastructure on water resources.

## 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
Wetlands	WL

# Project Proposal Grade Standards

**Proposal Title/Author:** \_\_\_\_\_

**Reviewer Name:** \_\_\_\_\_

**NOTE:** Conflict of Interest: Please do not review this proposal if you have an institutional or consulting affiliation with the submitting institution, applicants or collaborators, or will gain some benefit from the funding of the project, financial or otherwise. Please do not review this proposal if you have collaborated on a research project or been a co-author with the submitting applicants and collaborators within the past four years. We will ask you to leave the room when the review is conducted. This will ensure that we do not have any conflict of interest in the awarding of any submitted proposal.

**Proposal Review Criteria:** Please provide a concise summary of the merit of the proposed work, qualifications of the investigators, originality of approach, and probability of success. Please use the following rating scale (one point being the lowest, five points being the highest) in ranking the proposal in the following areas:

	1	2	3	4	5
Addresses defined priority area	___	___	___	___	___
Clearly defines results or benefit	___	___	___	___	___
Scope and timeline of project are reasonable	___	___	___	___	___
Methods and procedures are clearly defined	___	___	___	___	___
Investigator is qualified to conduct research	___	___	___	___	___
Has potential to result in other funded research	___	___	___	___	___
Significant collaboration with local, state, federal agencies	___	___	___	___	___
Graduate students are included on proposal	___	___	___	___	___

**Total Points:** \_\_\_

**Comments:**