



*Institute Correspondence*

LOUISIANA WATER RESOURCES RESEARCH INSTITUTE  
3221 CEBA, Louisiana State University, Baton Rouge, LA 70803  
225/578-6770 FAX 225/578-5043

September 1, 2004

Dear Colleague:

Proposals that address water resources priority issues for Louisiana within the Southeast-Island Region are being sought. The Louisiana Water Resources Research Institute (LWRRI) anticipates research funds of \$92,524 being available in 2004 through its Section 104 Institutes Program, U.S. Department of Interior - Geological Survey (USGS). Faculty of Louisiana's colleges and universities are eligible to apply for these research funds. The start date for projects is March 1, 2005.

The proposed research should address one of the priority research needs identified on Attachment 1. Please see Attachment 6 for more details on the LWRRI Research Priorities. The proposals will be evaluated by the Institute Advisory Board and by the Director. Proposals will be funded from only those received at LWRRI from LA institutions. **Proposals are due at the Institute office on or before October 26, 2004.** Guidelines for preparing proposals are included in Attachment 1; those proposals that do not comply with the guidelines will not be reviewed. Please submit a copy of the proposal on diskette or CDROM, as this is a USGS requirement for final submission.

After review of proposals by the Institute Advisory Board, those highest ranked will be funded based on budgets and total research funds available. The short deadline for proposals is due to the accelerated cycle from USGS, as the final application package must be at USGS by January 14, 2005.

If there are any questions concerning procedures, or potential research topics, please contact the LWRRI office. Please encourage your faculty to participate in this program.

Sincerely,

John H. Pardue, Ph.D., P.E.  
Director and Elizabeth Howell Stewart Professorship  
Professor, Civil & Environmental Engineering

Enclosures



Attachment 1  
**Proposal Guidelines**

Submission: Original and five (5) copies to: Dr. John H. Pardue  
Deadline is October 26, 2004 LA Water Resources Research Institute  
College of Engineering  
3221 CEBA Building  
Louisiana State University  
Baton Rouge, LA 70803

Information: For more information: telephone (225) 578-6770  
fax (225) 578-5043  
e-mail nkorevec@lwrii.lsu.edu

Documents to submit:

1. **Proposal containing 19 elements required** on the attached list, Attachment 2. (Include a copy on diskette)
2. **Budget, Attachment 4 and detailed justification, Attachment 5**
3. **Cost sharing commitment letter** (2 to 1: non-federal to federal \$). This letter must be signed by your chairman (if LSU Engineering), dean (if outside of LSU Engineering), or Authorized University Rep. (if off LSU main campus).  
I will obtain additional signatures in routing the application package for officials at LSU beyond those noted above.
4. **Negotiated Indirect Rate Agreement** for your institution if not LSU main campus.

Review Procedure/Funding Information

Proposals should be for projects of 12 months in duration and are recommended at about \$15,000 to 20,000 in federal funding. A 2:1 match of non-federal to federal dollars is required. Indirect costs are not allowed (Public Law 101-397, Water Research Institutes Authorization) on the Federal cost category. However, indirect costs may be used to provide part of the matching requirement, i.e., you may use the indirect costs computed for federal funds as part of the non-federal match and indirect costs are allowed on the non-federal funds.

Selection Criteria

Technical Merit	35%	Students' Educational Opportunity	10%
Applicability to the State's Needs	15%	Technology Transfer	10%
Feasibility	15%	Competence of the PI	15%

Attachment 2  
**Research Proposals**

The proposals shall consist of the following 19 elements. Please keep in mind that items numbered 1 through 11 will be entered in the Web form provided at the Website by the institute upon selection.

1. Title. Concise but descriptive.
2. Project Type. Research, Information Transfer, Information Management System, Education, or Other (please specify).
3. Focus Categories. List a maximum of three focus categories, with the most preferred focus category first. A list of focus categories is provided in Attachment 3. Enter the abbreviations in capital letters and separate them by commas.
4. Keywords. Enter keywords of your choice descriptive of the work.
5. Start Date. Enter the actual beginning date for the project. (March 1, 2005)
6. End Date. Enter the estimated end date for the project. (February 28, 2006)
7. Principal investigator(s). Provide name, academic rank, university, email address and phone numbers of the principal investigators.
8. Congressional district. of university where the research is to be conducted.
9. Abstract. Provide a brief (one-page) description of the problem, methods, and objectives (please keep in mind that this will be entered in a space provided at the Website by the institute upon selection).
10. Budget Breakdown. As requested by the Web form (See Attachment 4)
11. Budget Justification. As requested by the Web form (See Attachment 5)

Items 12 through 19 are to be “deposited” as a file document in either PDF or PostScript format at the Website by the institute upon selection. **Note: This document shall not exceed 10 single spaced pages – 12-point font, exclusive of resumes.** Please submit this portion in PDF format.

12. Title. Please use the same title as was entered in number 1., above.
13. Statement of critical regional or State water problem. Include an explanation of the need for the project, who wants it, and why.
14. Statement of results or benefits. Specify the type of information that is to be gained and how it will be used.
15. Nature, scope, and objectives of the research. Include 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. Show by literature and communication citations the similarities and dissimilarities of the proposed project to complete or on-going research on the same topic.

18. Training potential. Estimate the number and level of graduate and undergraduate students, by field or study and degree that are expected to receive training in the project.

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

Attachment 3  
**FOCUS CATEGORIES**

<b>ACID DEPOSITION</b>	<b>ACD</b>
<b>AGRICULTURE</b>	<b>AG</b>
<b>CLIMATOLOGICAL PROCESSES</b>	<b>CP</b>
<b>CONSERVATION</b>	<b>COV</b>
<b>DROUGHT</b>	<b>DROU</b>
<b>ECOLOGY</b>	<b>ECL</b>
<b>ECONOMICS</b>	<b>ECON</b>
<b>EDUCATION</b>	<b>EDU</b>
<b>FLOODS</b>	<b>FL</b>
<b>GEOMORPHOLOGICAL &amp; GEOCHEMICAL PROCESSES</b>	<b>G&amp;G</b>
<b>GROUND WATER</b>	<b>GW</b>
<b>HYDRO GEOCHEMISTRY</b>	<b>HYDGEO</b>
<b>HYDROLOGY</b>	<b>HYDROL</b>
<b>IRRIGATION</b>	<b>IG</b>
<b>LAW, INSTITUTIONS, &amp; POLICY</b>	<b>LIP</b>
<b>MANAGEMENT &amp; PLANNING</b>	<b>M&amp;P</b>
<b>METHODS</b>	<b>MET</b>
<b>MODELS</b>	<b>MOD</b>
<b>NITRATE CONTAMINATION</b>	<b>NC</b>
<b>NONPOINT POLLUTION</b>	<b>NPP</b>
<b>NUTRIENTS</b>	<b>NU</b>
<b>RADIOACTIVE SUBSTANCES</b>	<b>RAD</b>
<b>RECREATION</b>	<b>REC</b>
<b>SEDIMENTS</b>	<b>SED</b>
<b>SOLUTE TRANSPORT</b>	<b>ST</b>
<b>SURFACE WATER</b>	<b>SW</b>
<b>TOXIC SUBSTANCES</b>	<b>TS</b>
<b>TREATMENT</b>	<b>TRT</b>
<b>WASTEWATER</b>	<b>WW</b>
<b>WATER QUALITY</b>	<b>WQL</b>
<b>WATER QUANTITY</b>	<b>WQN</b>
<b>WATER SUPPLY</b>	<b>WS</b>
<b>WATER USE</b>	<b>WU</b>
<b>WETLANDS</b>	<b>WL</b>

Attachment 4  
**BUDGET BREAKDOWN \***

Proposed Start Date: March 1, 2004		Proposed Completion Date: February 28, 2005	
Project Number: (to be assigned by institute)			
Project Title:			
Principle Investigator (s):			
Cost Category	Federal	Non Federal	Total
1. Salaries and wages:	\$	\$	\$
- Principal Investigator			
-			
-			
-			
Total salaries and wages	\$	\$	\$
2. Fringe benefits			
3. Supplies			
4. Equipment			
5. Services or consultants			
6. Travel			
7. Other direct costs			
8. Total direct costs			
9. Indirect costs	XXXXXXXXXX		
10. Total estimated cost	\$	\$	\$

**\*This form is provided for format only. Use additional sheets to incorporate the supporting information requested.**

Attachment 5  
**Budget Breakdown**

Submit a detailed budget for each project number, which includes the following line items (Indicated the amount of cost sharing for each element):

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 of 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.

4. Equipment. Identify nonexpendable personal property having a useful life of more than 1 year and an acquisition cost of more than \$5,000 per unit.

5. Services or 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, and any miscellaneous expenses for each trip.

NOTE: All travel is to be in accordance with the established travel policy of the applicant. A copy of the applicant's travel policy may be attached.

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. Indirect costs. Specify the indirect costs rate in the **non-Federal** column only based on the applicant's approved rate agreement. (un-recovered indirect cost can be included as part of your match.)

9. Total estimated cost. Total items (1) through (8).

## Attachment 6

### Research Priorities for 2005

**Total maximum daily load (TMDL) calculations in Louisiana water bodies.** Deterministic simulation models utilized for TMDL calculations commonly utilize assumptions about the aquatic system including constant flow velocities, constant rates of sediment oxygen demand and other lumped parameters. This introduces a significant amount of uncertainty into the predictions of safe loads into these water bodies. Louisiana low relief ensures that many of the rivers and bayous are subject to backwater flooding events and other hydrologic events unique to the region that are not considered in the simulation models. This introduces additional uncertainty in the model output. Proposals are sought that seek to reduce or quantify the uncertainty in making TMDL calculations in Louisiana aquatic systems. These may include new modeling approaches, modifying existing simulation models or examining the current tools utilized in TMDL development in Louisiana.

**Scale-dependent behavior of hydrologic and water quality parameters.** Monitoring for degradation of water resources or changes in hydrological parameters is strongly influenced by temporal and spatial scaling of the parameters under study. For example, diurnal oxygen and pH changes can obscure long-term trends in water quality data. Studies are sought that examine scaling relationships in Louisiana water bodies. Studies may focus on hydrologic or geochemical parameters but most desirable are studies that make both flow and chemical measurements. The overall objective of the proposed studies should be an improvement in our ability to predict degradation of water resources.

**Mercury and methylmercury formation in Louisiana water bodies.** At present, 36 water bodies in Louisiana have active fishing advisories due to mercury contamination. Conditions for formation of methylmercury and steps to mitigate that formation are poorly understood in sediments in Louisiana. Sources of mercury to the region are also poorly understood. Proposals are sought to perform watershed-based studies on mercury and methylmercury geochemistry in Louisiana water bodies. These may include scale-dependent behavior, methylation in different marsh types, and sources and sinks of mercury in Louisiana's aquatic environments.