

Request for Proposals Statewide Research Competition

Issued by the:

South Carolina Water Resources Center
at
Clemson University

Issue Date: November 10, 2005
Closing Date: December 16, 2005

PROPOSALS

SOUTH CAROLINA WATER RESOURCES CENTER COMPETITIVE GRANTS PROGRAM

I. INTRODUCTION

Section 104 of the Water Resources Research Act directs the U.S. Secretary of the Interior to administer program grants to Institutes and Centers established within the States and certain other similar jurisdictions for research, education, and training that will assist the Nation in augmenting its water-resources science and technology. Responsibility for administration of this program has been delegated to the United States Geological Survey (USGS). Research funds will be used to support water resources research that is of critical need to the state of South Carolina.

Research proposals submitted under this RFP may be for a one-year duration only. Proposals will not be considered in the following cases:

- A. Proposals submitted by an institute which has not met reporting requirements on a previous award by the USGS.
- B. Research on health effects involving human subjects or their surrogates.
- C. Research involving oceanography. NOTE: Estuarine research proposals are suitable.

II. PROGRAM OBJECTIVES

The principal objectives of the state competitive grants program include the following:

- A. Conduct research relative to important water resource problems of South Carolina.
- B. Promote the dissemination and application of the results of the research involving these problems.
- C. Assist in the training of scientists in relevant water resource fields.

III. SOUTH CAROLINA WATER RESOURCES CENTER RESEARCH PRIORITIES

Both the SCWRC and USGS have developed research priorities which must be considered in proposal development. The SCWRC research emphasis this year is to develop and maintain a watershed and reservoir studies program for the state of South Carolina. The following issues and research areas will be favored in the selection of research proposals:

- **Watersheds:** Watershed-wide studies and management strategies within watersheds that affect the rivers and streams of South Carolina.

- **Water Policy:** Policy implications related to the social, cultural and physical characteristics of the reservoirs and their watersheds.

- **Water Management:** Issues regarding reservoirs influenced by management decisions made in bordering states.

- **Water Supply:** Surface and groundwater issues, sedimentation, non-point source pollution, water quality and quantity issues as they relate to the management of watersheds and basins.
- **GIS Technologies:** The use of geographic information systems (GIS), remote sensing and image analysis and other innovative technologies involved in water resources research, technology transfer and decision-making.
- **Population and Demographics:** Demographic issues, population growth and pressure on reservoirs, recreation and tourism issues, and economic development issues.
- **Emerging Problems:** Studies not included in other priority areas but which are dedicated to solving emerging water problems which are identified as critical issues by key state water management officials in the region are included in this category.

The USGS has also established priority areas or needs for research within this competitive program. These areas are:

- **Water Quality:** Research needs in the water quality area involve information, information management, and the protection of surface and ground water from degradation. It includes industrial and municipal wastewater treatment and subsurface disposal of hazardous/toxic wastes. In addition, problems from non-point sources of both municipal and agricultural sources including soil erosion, agricultural runoff, and pesticides pertain to this area. The development and improvement of monitoring techniques and analysis are also important, as well as water quality problems associated with eutrophication and weed control. This area also includes remediation research, drinking water quality, salt water intrusion, and near coastal and island water quality issues.
- **Water Management:** Research needs in the area of water management include legal, institutional, and financial arrangements. Specific items such as basin planning, water use control, transfers and/or diversions of water flood control, and drought planning are all priority issues. It also includes construction of facilities, financing and pricing, and water conservation and reuse. Management includes quality protection studies upgrading of supplies and state and/or federal and interstate interactions or compacts.
- **Water Quantity:** Research needs in the water quantity area include studies of the basin water cycle for an understanding of prediction. It also includes items of surface water flow, basin planning, low flow prediction (7Q10), flood control, water use, and water allocation. Included also are studies of ground water availability and the locations, movement, and volume of ground water. Also of importance are use and user impacts and surface and ground water interaction.
- **Aquatic and Environmental Protection:** Research needs in this area include studies of wetlands, swamps and marshes, fish and other biota, and the quality of life. It also includes studies of ecological balance, protection of endangered species, and studies of dredging and filling. This area also includes exotic species issues and ecosystem studies.

IV. ELIGIBLE APPLICANTS

The South Carolina Water Resources Center will only consider proposals from faculty members or affiliates at institutions of higher education in South Carolina. Applications **not** eligible include the following: 1) Applications for research on health effects involving human subjects; 2) Applications for research involving oceanography (estuarine research applications are acceptable).

V. CONFLICT OF INTEREST

An applicant may not permit any federal employee to use his or her position for a purpose that is or gives the appearance of being in conflict of interest, either by giving the applicant an unfair advantage or by a desire for private financial gain.

VI. APPLICATION DUE DATE

The SCWRC must submit its application to the USGS on or before December 16, 2005. Thus, as stated in the cover memorandum, **the deadline for submitting proposals to the SCWRC is December 16, 2005 at 4:30 p.m. (local time)**. Proposals received after this date and time will be returned to the principal investigator. Proposals must be sent electronically this year. The SCWRC will accept proposals e-mailed to:

scwrc@strom.clemson.edu

VII. FUNDS

- A. The total amount available in FY 2006 for the statewide competitive grant program is anticipated to be approximately \$60,000.

NOTE: The federal government's obligation under this program is contingent upon the availability of appropriated funds.

- V. Proposals should be for research and information transfer projects **12 months in duration** and shall not request Federal funding exceeding \$60,000. The SCWRC typically funds two or three projects in the range of \$20,000 - \$30,000 each.
- C. Each applicant shall match each Federal dollar provided to support each proposed project with not less than two (2) non-federal dollars. If multiple projects are funded under a single grant award, the required matching funds must be met on the total grant award, not necessarily on each individual project. **However, higher consideration will be given to high quality proposals that include the two-to-one non-federal to federal match.**

VIII. PROPOSAL REVIEW AND SELECTION PROCESS

1. Proposals will be sent out for peer review as well as to SCWRC's statewide advisory committee for evaluation. Results of this evaluation will be forwarded to the director of the SCWRC.
2. Up to six proposals may be sent out for technical evaluation. Those performing the technical evaluation must sign a statement that serving as a reviewer will not constitute a conflict of interest. A minimum of two written technical evaluations will be attached to each proposal.

3. Based on all of these evaluations and availability of funds, the director of the SCWRC will select the top proposal(s) to be submitted to the USGS.

4. The criteria for the technical evaluation will be as follows:

Technical/Scientific Merit:	30%
Relevance to SCWRC and USGS Research Priorities	25%
Feasibility:	25%
Competence of the PI:	10%
Students' Educational Opportunities:	5%
Contribution to Water Sciences and/or Information Transfer:	5%

5. Upon completion of the advisory board review and technical evaluation, The director of the SCWRC will submit a list of the proposals recommended for funding to the USGS, the total value meeting their criteria for funds available.

The tentative research competition schedule is:

November 10, 2005:	RFP made available
December 16, 2005:	Proposals due to the SCWRC.
December 20, 2005:	Proposals sent to advisory committee.
December 20, 2005:	Proposals sent for technical review.
January 13, 2006:	Proposal package submitted to USGS.

As stated previously, proposals may be for a one-year duration only. **Those with a duration greater than one year will not be considered for funding. The SCWRC encourages investigators to look at other funding sources for multi-year projects.**

IX. APPLICATION REQUIREMENTS

- A.** The SCWRC (and applicants) shall have its matching funds (\$2.00 Non-Federal for every \$1.00 Federal requested) committed at time of application submittal to the USGS. Commitment means that the application shall contain an institutional cost-sharing agreement (letter) signed by an official authorized to commit the applicant to all or part of the matching share or a third party, in-kind contribution signed by an official authorized to commit the third party.
- B.** Matching funds shall be obligated during the period of performance.
- C.** The matching requirement should be met during the 12-month budget period.
- D.** Matching funds may contain indirect costs. Federal funds shall not be used to pay indirect costs. The applicant's negotiated indirect cost rate (NICR) 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. The NICR shall not be applied to tuition and equipment costs.
- E.** The length of the project period shall not exceed 1 year.
- F.** SCWRC may consider research proposals only from faculty members or affiliates at institutions of higher education.

Investigators shall submit their proposals (in Word, WordPerfect or PDF formats) electronically to the SC Water Resources Center e-mail address shown below:

scwrc@strom.clemson.edu

It will be assumed that all proposals submitted have the proper signatures from their respective institutions. Signature pages can be surface mailed or faxed to the following address:

SC Water Resources Center
Strom Thurmond Institute
Silas Pearman Blvd.
Clemson University
Clemson, SC 29634-0125
(FAX: 864-656-4780) (Phone: 864-656-0208)

X. RESEARCH PROPOSAL CONTENTS

A. Application for Federal Assistance, SF 424. Note: Not required for Clemson University proposals. SCWRC will submit the final SF 424. Proposals from investigators from other universities must file a separate SF 424. Use the SF 424 as page 1 of the application. The SF 424 shall be signed by an authorized representative of the applicant (See NIWR web (www.niwr.org) for 104-B RFP and forms.).

1. **Direct Costs.** Those costs that can be identified with a particular research project, an instructional activity, or any other institutional activity that can be directly assigned to such activities relatively easily with a high degree of accuracy.
2. **Indirect Costs (non-Federal share only).** Those costs that have been incurred for common or joint objectives and therefore cannot be identified with a particular research project, an instructional activity, or any other institutional activity. At educational institutions such costs normally are classified under the following categories: 1) general administration and general expenses; 2) research administration expenses; 3) operation and maintenance expenses; 4) library expenses; and 5) departmental administration expenses.

B. Research Proposals. Proposals shall consist of the following 21 elements. The first 11 elements listed below shall not exceed 4 pages. Begin a new page with element 12 (Elements 12-19 shall not exceed 10 single spaced pages).

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 B. Enter the abbreviations in capital letters and separate them by commas.
4. **Keywords.** List descriptor words, separated by commas. Make up your own or select words from the attached list of keywords.

5. **Start Date.** Use the actual beginning date for project.
6. **End Date.** Estimated ending date for project.
7. **Principal investigator(s)** name(s), academic rank, university, address, phone number, and e-mail address.
8. **Congressional district** of university where research is to be conducted.
9. **Abstract (3 paragraphs maximum)** Provide a brief description of the problem, methods, and objectives.
10. **Budget Breakdown.** See NIWR web (www.niwr.org) for 104-B RFP and forms.
11. **Budget Justification.** See NIWR web (www.niwr.org) for 104-B RFP and forms.

(NOTE: Begin a new page with item 12. Items 12-19 shall not exceed 10 single spaced pages.)

12. **Title.** Use the same title as entered in element #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 from the project 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. Continuing projects should include a detailed progress report in this section.
17. **Related Research.** Show by literature and communication citations the similarities and dissimilarities of the proposed project to completed or on-going research on the same topic.
18. **Training potential.** Estimate the number and level of graduate and undergraduate students, by field of study and degree, that are expected to receive training in the project (use Attachment C).
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.
20. **Matching Funds Commitment Letter.** The proposal shall contain an institutional cost-sharing agreement (letter) signed by an official authorized to commit the institution of the principal investigator to the matching share or a third party, in-kind contribution signed by an official authorized to commit the third party.
21. **Negotiated indirect cost rate agreement.** Attach a copy of the approved negotiated indirect cost rate agreement.

APPLICATION FOR FEDERAL ASSISTANCE

OMB Approval No. 0348-0043

1. TYPE OF SUBMISSION: Application <input type="checkbox"/> Construction <input type="checkbox"/> Non-Construction Preapplication <input type="checkbox"/> Construction <input type="checkbox"/> Non-Construction		2. DATE SUBMITTED	Applicant Identifier
		3. DATE RECEIVED BY STATE	State Application Identifier
		4. DATE RECEIVED BY FEDERAL AGENCY	Federal Identifier
5. APPLICANT INFORMATION			
Legal Name:		Organizational Unit:	
Address (give city, county, State, and zip code):		Name and telephone number of person to be contacted on matters involving this application (give area code)	
6. EMPLOYER IDENTIFICATION NUMBER (EIN): <input type="text"/> <input type="text"/> - <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>		7. TYPE OF APPLICANT: (enter appropriate letter in box) <input type="checkbox"/>	
8. TYPE OF APPLICATION: <input type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision If Revision, enter appropriate letter(s) in box(es) <input type="checkbox"/> <input type="checkbox"/> A. Increase Award B. Decrease Award C. Increase Duration D. Decrease Duration Other(specify): _____		A. State H. Independent School Dist. B. County I. State Controlled Institution of Higher Learning C. Municipal J. Private University D. Township K. Indian Tribe E. Interstate L. Individual F. Intermunicipal M. Profit Organization G. Special District N. Other (Specify) _____	
10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: <input type="text"/> <input type="text"/> - <input type="text"/> <input type="text"/> <input type="text"/>		9. NAME OF FEDERAL AGENCY:	
12. AREAS AFFECTED BY PROJECT (Cities, Counties, States, etc.): _____ TITLE:		11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:	
13. PROPOSED PROJECT		14. CONGRESSIONAL DISTRICTS OF:	
Start Date	Ending Date	a. Applicant	b. Project
15. ESTIMATED FUNDING:		16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?	
a. Federal	\$.00	a. YES. THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON:	
b. Applicant	\$.00	DATE _____	
c. State	\$.00	b. No. <input type="checkbox"/> PROGRAM IS NOT COVERED BY E. O. 12372	
d. Local	\$.00	<input type="checkbox"/> OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW	
e. Other	\$.00	17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?	
f. Program Income	\$.00	<input type="checkbox"/> Yes If "Yes," attach an explanation. <input type="checkbox"/> No	
g. TOTAL	\$.00		
18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT, THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED.			
a. Type Name of Authorized Representative		b. Title	c. Telephone Number
d. Signature of Authorized Representative		e. Date Signed	

INSTRUCTIONS FOR THE SF-424

Public reporting burden for this collection of information is estimated to average 45 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0043), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

This is a standard form used by applicants as a required facesheet for preapplications and applications submitted for Federal assistance. It will be used by Federal agencies to obtain applicant certification that States which have established a review and comment procedure in response to Executive Order 12372 and have selected the program to be included in their process, have been given an opportunity to review the applicant's submission.

- | Item: | Entry: | Item: | Entry: |
|-------|---|-------|--|
| 1. | Self-explanatory. | 12. | List only the largest political entities affected (e.g., State, counties, cities). |
| 2. | Date application submitted to Federal agency (or State if applicable) and applicant's control number (if applicable). | 13. | Self-explanatory. |
| 3. | State use only (if applicable). | 14. | List the applicant's Congressional District and any District(s) affected by the program or project. |
| 4. | If this application is to continue or revise an existing award, enter present Federal identifier number. If for a new project, leave blank. | 15. | Amount requested or to be contributed during the first funding/budget period by each contributor. Value of in-kind contributions should be included on appropriate lines as applicable. If the action will result in a dollar change to an existing award, indicate <i>only</i> the amount of the change. For decreases, enclose the amounts in parentheses. If both basic and supplemental amounts are included, show breakdown on an attached sheet. For multiple program funding, use totals and show breakdown using same categories as item 15. |
| 5. | Legal name of applicant, name of primary organizational unit which will undertake the assistance activity, complete address of the applicant, and name and telephone number of the person to contact on matters related to this application. | 16. | Applicants should contact the State Single Point of Contact (SPOC) for Federal Executive Order 12372 to determine whether the application is subject to the State intergovernmental review process. |
| 6. | Enter Employer Identification Number (EIN) as assigned by the Internal Revenue Service. | 17. | This question applies to the applicant organization, not the person who signs as the authorized representative. Categories of debt include delinquent audit disallowances, loans and taxes. |
| 7. | Enter the appropriate letter in the space provided. | 18. | To be signed by the authorized representative of the applicant. A copy of the governing body's authorization for you to sign this application as official representative must be on file in the applicant's office. (Certain Federal agencies may require that this authorization be submitted as part of the application.) |
| 8. | Check appropriate box and enter appropriate letter(s) in the space(s) provided:

-- "New" means a new assistance award.

-- "Continuation" means an extension for an additional funding/budget period for a project with a projected completion date.

-- "Revision" means any change in the Federal Government's financial obligation or contingent liability from an existing obligation. | | |
| 9. | Name of Federal agency from which assistance is being requested with this application. | | |
| 10. | Use the Catalog of Federal Domestic Assistance number and title of the program under which assistance is requested. | | |
| 11. | Enter a brief descriptive title of the project. If more than one program is involved, you should append an explanation on a separate sheet. If appropriate (e.g., construction or real property projects), attach a map showing project location. For preapplications, use a separate sheet to provide a summary description of this project. | | |

Attachment B

FOCUS CATEGORIES

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

Attachment C

TRAINING ACCOMPLISHMENTS

Academic I Level

<u>FIELD OF STUDY</u>	<u>Undergraduate</u>	<u>Master's Degree</u>	<u>Ph.D. Degree</u>	<u>Post Ph.D.</u>	<u>Total</u>
Chemistry					
<u>Engineering</u>					
Agricultural					
Civil					
Environmental					
Soils					
System					
Other*					
Geology					
Hydrology					
Agronomy					
Biology					
Ecology					
Fisheries, Wildlife and Forestry					
Computer Science					
Economics					
Geography					
Law					
Resources Planning					
Other (specify)					
TOTAL					

*Less than 5 students in any one field of study.

BUDGET BREAKDOWN*

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

Project Title:

Cost Category		Federal	Non-Federal	Total
1.	Salaries and Wages	\$	\$	\$
	- <u>Principal Investigator</u>			
	- _____			
	- _____			
	- _____			
	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	XXXXXXXX		
10.	Total estimated costs	\$	\$	\$
Total Costs at Campus of the University on which the Institute or Center is located.		\$	\$	\$
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. Provide estimated hours and the rate of compensation proposed for each individual. (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.)</p>
<p>Fringe Benefits. Provide the overall fringe benefit rate applicable to each category of employee proposed in the project.</p>
<p>Supplies. Indicate separately the amounts proposed for office, laboratory, computing, and field supplies.</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.</p>
<p>Services or Consultants. Identify the specific tasks for which these services would be used. Estimate amount of time required and the hourly or daily rate.</p>
<p>Travel. Provide purpose and estimated costs for all non-local travel.</p>
<p>Other Direct Costs. Itemize costs not included elsewhere.</p>

* This form is provided as a worksheet only.

BUDGET SUMMARY*

Project Number							All Projects	
Principal Investigator								
Cost Category	Federal	Non-Federal	Federal	Non-Federal	Federal	Non-Federal	Federal	Non-Federal
Salaries and Wages								
Fringe Benefits								
Supplies								
Equipment								
Services or Consultants								
Travel								
Other Costs								
Total Direct Costs								
Indirect Costs								
Total Estimated Costs								

* This form is provided as a worksheet only.