



Water Resources Research National Competitive Grants Program

Fiscal Year 2013 Announcement

Announcement No. G13AS00009 under Section 104(g) of the Water Resources Research Act of 1984, as Amended November 13, 2012

Closing Dates

4:00 PM, Eastern Time, February 21, 2013(Investigators) 4:00 PM, Eastern Time, March 7, 2013 (Approved by Institutes)

Department of the Interior U. S. Geological Survey

National Institutes for Water Resources

OMB Number 1028-0095 Expiration Date mm/dd/yyyy

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NATIONAL INSTITUTES FOR WATER RESOURCES U.S. GEOLOGICAL SURVEY

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U.S. GEOLOGICAL SURVEY NATIONAL INSTITUTES FOR WATER RESOURCES

WATER RESOURCES RESEARCH NATIONAL COMPETITIVE GRANTS PROGRAM ANNOUNCEMENT FY 2013

ABSTRACT

The U.S. Geological Survey in cooperation with the National Institutes for Water Resources requests proposals for matching grants to support research on the topic of improving and enhancing the nation's water supply, including evaluation of innovative approaches to water treatment, infrastructure design, retrofitting, maintenance, management, and replacement; evaluation of the dynamics of extreme hydrological events and associated costs; development of methods for better estimation of the physical and economic supply of water; alternative approaches and governance mechanisms for integrated management of ground and surface waters; and the evaluation and assessment of conservation practices. Proposals are sought in not only the physical dimensions of supply, but also the role of economics and institutions in water supply and in coping with extreme hydrologic conditions. Any investigator at an accredited institution of higher learning in the United States is eligible to apply for a grant through a Water Research Institute or Center established under the provisions of the Water Resources Research Act of 1984, as amended (http://water.usgs.gov/wrri/institutes.html). Proposals involving substantial collaboration between the USGS and university scientists are encouraged. Proposals may be for projects of 1 to 3 years in duration and may request up to \$250,000 in federal funds. Successful applicants must match each dollar of the federal grant with one dollar from nonfederal sources. Proposals must be filed on the Internet at https://niwr.net/ by 4:00 PM, Eastern Time, Thursday, February 21, 2013 and must be approved for submission to the National Competitive Grants Program not later than 4:00 PM, Eastern Time, Thursday, March 7, 2013 by the Institute or Center through which they were submitted. The SF-424 (Application for Federal Assistance) and SF-424B (Assurances) portion of the application package must be submitted through the Internet site at http://www.grants.gov not later than 4:00 PM Eastern Time, Thursday, March 7, 2013 by the university at which the Institute or Center is located. Funds have not yet been appropriated for this program for FY 2013. The Government's obligation under this program is contingent upon the availability of funds.

ELECTRONIC FILING OF PROPOSALS

Proposals under this Announcement must be submitted using the following process:

1. All portions of the proposal, **except the SF-424 (Application for Federal Assistance)** and **SF-424B (Assurances)** must be submitted through the Internet site at https://niwr.net/. Prospective applicants (Principal Investigators) must be registered at the niwr.net site prior to submitting a proposal. Registration does not obligate the registrant to submit a proposal.

2. A separate SF-424 (Application for Federal Assistance) and SF-424B (Assurances) must be submitted for each proposal through the Internet site at http://www.grants.gov/ by the university at which the Water Resources Research Institute or Center approving the proposal is located.

I. INTRODUCTION

This Program Announcement is issued under the provisions of section 104 of the Water Resources Research Act of 1984 (Public Law 98-242), as amended by Public Laws 101-397, 104-147, 106-374, and 109-471. Section 104 of the Water Resources Research Act directs the Secretary of the Interior to administer program grants to Institutes and Centers established under the provisions of section 104(a) of the Act. Water Resources Institutes or Centers have been established in each of the 50 states, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and Guam. The Institute in Guam also serves the Federated States of Micronesia and the Commonwealth of the Northern Mariana Islands. The Institute in Hawaii also serves American Samoa. The addresses of the 54 Institutes are available on the Internet at http://water.usgs.gov/wrri/institutes.html. Responsibility for administration of the State Water Resources Research Institute program has been delegated to the U.S. Geological Survey (USGS).

The 54 Institutes are organized as the National Institutes for Water Resources (NIWR). NIWR cooperates with the USGS in the administration of the State Water Resources Research Institute Program. Questions or comments concerning the review process may be addressed to either John Schefter at the address below or to:

Dr. James P. Hurley, Director Water Resources Institute 1975 Willow Drive - 2nd Floor The University of Wisconsin-Madison Madison, Wisconsin 53706-1177 (608) 262-0905 hurley@aqua.wisc.edu

Questions or comments concerning this Program Announcement should be directed to:

Program Office
John Schefter
Chief, Office of External Research
MS 424, U.S. Geological Survey
12201 Sunrise Valley Drive
Reston, Virginia, 20192
Phone: 703-648-6800
schefter@usgs.gov

12201 Sunrise Valley Drive Reston, Virginia, 20192 Phone: 703-648-7487 kdove@usgs.gov

Office of Acquisition and Grants MS 205, U.S. Geological Survey

Grants Office

Kimberly L. Dove

II. PROGRAM OBJECTIVES

Section 104(g) of the Water Resources Research Act of 1984 requires that this competitive grant program focus on: "water problems and issues of a regional or interstate nature beyond those of concern only to a single State and which relate to specific program priorities identified jointly by the Secretary (of the Interior) and the (water resources research) institutes."

Objectives of this program also include the following:

A. Promote collaboration between the USGS and university scientists in research on significant national and regional water resources issues.

Proposals exhibiting substantial collaboration between the USGS and the applicant are encouraged and will receive extra weight in the evaluation and selection process. Collaborative proposals should describe in detail the respective roles of the USGS and the applicant in the proposed work.

Potential applicants seeking collaborative opportunities are encouraged to contact USGS Water Science Center Directors (contact information is available on the Internet at http://water.usgs.gov/district_chief.html. Potential applicants are also encouraged to contact the Water Resources Research Branch Chiefs (see Attachment F for contact information).

- B. Promote the dissemination and application of the results of the research funded under this program.
- C. Assist in the training of scientists in relevant water resource fields.

Proposals that include a strong educational component (student support) are encouraged, as are proposals from faculty beginning their careers.

The USGS and NIWR prefer that research supported by this program involve substantial collaboration between the USGS and university scientists. Collaboration can range from use of USGS data and information in the research to mutual involvement of USGS and university scientists on projects.

III. RESEARCH PRIORITIES

Proposals are sought on the topic of improving and enhancing the nation's water supply, including the following specific areas of inquiry (levels of priority are not assigned, and the order of listing does not indicate the level of priority):

• Evaluation of innovative approaches to water treatment, infrastructure design, retrofitting, maintenance, management and replacement.

- Exploration and model development of the dynamics of extreme hydro-meteorological events and associated economic, environmental, social, and or infrastructure costs.
- Development of methods for better estimation of water supply, both surface and groundwater, at gaged and ungaged sites, including estimation of the physical supply and of the economic supply of water.
- Development and evaluation of alternative approaches and governance mechanisms for integrated surface/ground water management.
- Evaluation and assessment of the effects of water conservation practices, as well as adoption, penetration and permanence.

IV. PROPOSALS NOT ELIGIBLE FOR FUNDING

- A. Proposals for research on health effects involving human subjects.
- B. Proposals for research involving oceanography (estuarine research proposals are acceptable).
- C. Proposals submitted by an Institute or Center that has not met reporting requirements on a previous award by the USGS.
- D. Proposals that do not comply with the terms of this Announcement.

V. APPLICANT ELIGIBILITY AND PROPOSAL APPROVAL

Awards are available only to Water Research Institutes or Centers established pursuant to the provisions of section 104 of the Water Resources Research Act and listed at http://water.usgs.gov/wrri/institutes.html. However, any investigator at an institution of higher learning in the United States is eligible to apply for an award through a Water Research Institute or Center. All portions of the proposals, with the exception of the SF-424 (Application for Federal Assistance) and SF-424B (Assurances), must be submitted through the website at https://niwr.net/. The SF-424 and SF-424B must be submitted through the website at https://www.grants.gov by the university at which the Institute or Center is located. Each proposal will then be authorized for inclusion in the national competition by the Director of the Institute or Center in the state in which the university of the principal investigator is located. Proposals requesting matching funds from an Institute or Center are authorized at the discretion of the Institute or Center Director.

When a proposal is filed on the niwr.net site, the Institute or Center in the State in which the university of the principal investigator is located will be notified electronically that a proposal has been filed. The Director of that Institute or Center will subsequently review the proposal for adherence to the terms of this Announcement, and then, following the instructions provided at the website, may approve it for further consideration and technical review. The Director may, during this process, contact the principal investigator to discuss possible clarification or changes in the proposal.

VI. COLLABORATION BY FEDERAL EMPLOYEES

- A. Federal employees may, and are encouraged to, collaborate with college or university investigators in this program.
- B. Federal employees may not serve as a principal investigator, but may serve as a coprincipal investigator.
- C. Federal employees and agencies may not receive federal funds for any purpose under these awards.
- D. Federal employees and agencies may not serve as a source of matching funds under these awards.
- E. Federal employees must prepare a Statement of Government Involvement, which is to be included with collaborative proposals (See Section XIII.D.21.)

VII. FEDERAL FUNDS

- A. Funds have not yet been appropriated for this program for FY 2013. The Government's obligation under this program is contingent upon the availability of funds.
- B. All successful proposals will be fully funded for the entire duration of the project with FY 2013 funds, if available.

VIII. MATCHING FUNDS

A. Each applicant must match each Federal dollar provided to support each proposed project with not less than one dollar from non-federal sources. States may have different guidelines as to the sources of matching funds - please check with your Institute or Center Director for details.

Note: Guam, the Federated States of Micronesia, the Commonwealth of the Northern Mariana Islands, American Samoa, and the U.S. Virgin Islands are exempt from the matching requirement.

- B. Matching funds shall be obligated during the period of performance.
- C. The matching requirement should be met during each 12-month budget period.
- D. Matching funds obligated shall be reflected on line 10.i of each Financial Status Report, Standard Form 425.
- E. Matching funds may contain indirect costs and non-federal salaries and benefits. 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. **Federal funds shall not be used to pay indirect costs.**

IX. MAXIMUM SIZE AND DURATION OF PROJECT

- A. Applicants shall not request total federal funds exceeding \$250,000 per project.
- B. Proposed projects may be of 1 to 3 years in duration, with discrete 12-month budget periods.

X. PROPOSAL DUE DATE

Investigators must file their proposals on the Internet at https://niwr.net/ prior to 4:00 PM Eastern Time, Thursday, February 21, 2013. Only proposals filed by that time will be transmitted to the National Grants Competition.

Institutes or Centers must approve the proposals filed by investigators in their State prior to 4:00 PM Eastern Time, Thursday, March 7, 2013. Only proposals approved by that time will be transmitted to the National Grants Competition.

The SF-424 and SF-424B portions of the application package must be filed electronically at http://www.grants.gov prior to 4:00 PM Eastern Time, Thursday, March 7, 2013. Only applications submitted by that time will be considered.

XI. PROPOSAL REVIEW, SELECTION, AND AWARD PROCESS

Each proposal which meets the requirements of this Announcement will be evaluated by: 1) written peer reviews from qualified scientists or managers in the area of the proposed research, and 2) a selection panel consisting of Institute directors, university scientists, and USGS employees experienced in water resources research. Proposals will be reviewed according to the following criteria:

- 25 Points: Relevance and Importance. The extent to which: (1) the proposal focuses on a water problem or issue of a regional or interstate nature of concern to more than one State and directly addresses a research priority described in Section III; (2) the subject is of particularly high importance to present and future water resources management programs; and (3) the proposal includes collaboration with the USGS if appropriate.
- 25 Points: <u>Scientific Merit</u>. The extent to which the proposal (1) has potential to expand fundamental knowledge in its specific area(s); (2) is scientifically sound; and (3) demonstrates cognizance of past work.
- 10 Points: <u>Feasibility</u>. (1) The extent to which the objectives, methodologies, designs, and techniques are adequate and completely described; and (2) the likelihood of success given the methods and time frame proposed.
- 10 Points: <u>Information Transfer</u>. How well the proposal actively addresses the eventual transfer of results to user groups and whether it actively addresses the impact that the results could have?
- 10 Points: <u>Training</u>. The extent to which the proposal has a strong educational component, provides for student support, and engages a principal investigator near the beginning of his or her career?
- 10 Points: <u>Qualifications of the Investigators</u>. The extent to which the qualifications of the investigators are commensurate with the proposed research, and the adequacy of the facilities and equipment.
- 10 Points: <u>Budget</u>. The extent to which the budget is reasonable and adequate for the work proposed. Note: the principal investigator's salary is an acceptable budget item, but the federal share of the salary should not exceed one or two months per year.

Proposals recommended for funding will be forwarded to the USGS for review and approval. Awards will be made directly to the **Water Resources Research Institute or Center** through which the proposal was submitted. The target award date is August through September with a USGS-preferred project start date of September 1, 2013. The project start date must be no later than September 30, 2013

XII. PROPOSAL CONTENTS

Each proposal shall consist of the following items:

- A. SF-424, Application for Federal Assistance, and SF-424B, Assurances [Attachment A]
- B. Signed Matching Funds Commitment Letter
- C. Suggested Reviewers
- D. Research Proposal, including a Budget Breakdown (Attachment B), Budget Justification (Attachment C) and Budget Summary (Attachment D)

Attachment B (Budget Breakdown), Attachment C (Budget Justification) and Attachment G (Budget Summary) should be considered worksheets; during the proposal submission process, these data will be entered into forms on the website. Upon completion of the submission process, the actual Attachments will be generated from these form entries and bundled with your application package.

XIII. PROPOSAL INSTRUCTIONS

Prior to submission of a proposal, all principal investigators must be registered at https://niwr.net/. Registration involves providing basic contact information (name, address, phone, e-mail address, etc.) to a Web form, and subsequently being provided with a user ID and password. This ID and password may be used to update one's contact information, to submit proposals, and to be kept informed of the proposal review process, including final notification of awards. Individuals already registered should not register again.

Each proposal must be submitted through the website at https://niwr.net/ and shall be prepared and submitted in accordance with the specific instructions provided at that site. Submission will require two distinctly different actions: (1) submission of specified information as text directly into a Web form and (2) "depositing" at the website a document file containing a detailed description of the work being proposed. This file may be prepared using the word processing software of choice, but must be translated to PDF format prior to being deposited. (Detailed instructions for preparing and submitting this file, and verifying its submission, will be provided at the website.)

Applications must contain the following sections and adhere to the following guidelines:

- A. Application for Federal Assistance, SF-424 and Assurances, SF-424B (Attachment A)
 - a. The <u>official applicant is the Water Resources Research Center or Institute</u> through which the application is submitted.
 - b. The information on the SF-424 and SF-424B must pertain to that Institute/Center and its host university.
 - c. The SF-424 and SF-424B must be submitted electronically at http://www.grants.gov by the university at which the Water Resources Research Center or Institute is located. Further instructions can be found at http://www.grants.gov: click on "For Applicants" on the left side of the screen.

- d. The SF-424 must request the total amount of Federal funds for the full duration of the project.
- e. An SF-424 and SF-424B must be submitted for each proposal. An SF-424 and SF-424B covering more than one proposal is not acceptable.
- **B.** Matching Funds Commitment Letter. The applicant shall provide 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.
 - 1. Signed matching funds commitment letters are to scanned and uploaded to the niwr.net website following the instructions on the website .
 - 2. Note: Copies of the original signed letter(s) need only be uploaded to niwr.net at the time of submission of the application; they need NOT be mailed to the USGS. Please be sure that the scanned documents are legible.
- **C. Suggested Reviewers**. Provide the names and contact information for no more than six (6) suggested reviewers having expertise in the field of the proposal as requested by the Web form at the niwr.net website, including street address, city, state, zip code, phone, fax, email address and subject areas. Suggested reviewers <u>MAY NOT</u> be from your State. In fairness to all applicants, it is requested that no reviewers be contacted other than by the USGS or NIWR.
- **D. Research Proposal.** Each proposal shall consist of the following 24 elements. Items numbered 1 through 13 are to be entered in the Web forms provided at the niwr.net website.
 - 1. <u>Title</u>. Concise but descriptive.
 - 2. <u>Project Type</u>. Select "Research" if not pre-selected by the system.
 - 3. <u>Focus Categories</u>. Choose a maximum of three focus categories from the list provided (Attachment E), with the most preferred focus category first.
 - 4. <u>Research Category</u>. Choose from the following 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. <u>Keywords</u>. Enter keywords of your choice descriptive of the work.
 - 6. <u>Start Date</u>. Enter the requested beginning date for the project. The target award date is August through September with a USGS-preferred project start date of September 1, 2013. The project start date must be no later than September 30, 2013.
 - 7. End Date. Enter the estimated end date for the project.
 - 8. <u>Principal investigator(s)</u>. Provide name, academic rank, university, email address and phone number of ALL principal investigators.

- 9. <u>Congressional District</u> of the university where the work is to be conducted.
- 10. <u>Abstract</u>. Provide a brief (one-page) description of the problem, methods, and objectives in the space provided at the Internet site. Please be as descriptive as possible in the space allowed. The abstract will be distributed to prospective reviewers to elicit their interest in providing a review.
- 11. <u>Budget Breakdown</u>, as requested by the Web form (See Attachment B).
- 12. <u>Budget Justification</u>, as requested by the Web form (See Attachment C).
- 13. <u>Budget Summary</u>, as requested by the Web form (See Attachment D).

Budget Note: Multi-year projects will be fully funded with FY 2013 funds, if funded. The budget must be complete for all years of the project.

Items 14 through 24 are to be "deposited" as a file document in PDF format on the niwr.net website. Note: This document shall not exceed 12 single-spaced pages, with 12 point font and at least 1 inch margins, including tables, pictures, graphs, figures, and appendices, but excluding resumes (item 24) and literature citations/references (item 23). Upon submission of your application components, the entire package will be available in PDF format for your inspection and final approval. You are responsible for verifying the approval, including compliance with the 12-page limit. Proposals exceeding the 12-page limit will not be considered in the competition. If editing is required, you must edit the document using your word processor and resubmit the document.

- 14. <u>Title</u>. Please use the same title as was entered in the Web form under item 1, above.
- 15. <u>Statement of regional, interstate, or multi-state water problem</u>. Include an explanation of the need for the project, who wants it, and why.
- 16. <u>Statement of results or benefits</u>. Specify the type of information that is to be gained and how it will be used.
- 17. Nature, scope, and objectives of the project, including a timeline of activities.
- 18. <u>Methods</u>, <u>procedures</u>, <u>and facilities</u>. Provide enough information to permit evaluation of the technical adequacy of the approach to satisfy the objectives.
- 19. <u>Related research</u>. Demonstrate by literature and communication citations the similarities and dissimilarities of the proposed project to completed or on-going work on the same topic.

- 20. <u>Training potential</u>. Estimate the number of graduate and undergraduate students, by degree level, who are expected to receive training in the project.
- 21. <u>Statement of Government Involvement</u>. If a Federal employee will collaborate on the project, provide a detailed description of the role and responsibilities of the Federal collaborator in the proposed research project. A brief narrative description is sufficient; there is no specified format or form. (Caution: see Item VI, above)
- 22. <u>Information Transfer Plan</u>. Describe the plan for disseminating information on the results of the research and promoting their application. Each plan should define the subject matter and the problems to be addressed, identify the target audience, indicate the strategies to be employed (e.g., workshops, publications), and identify the cooperators (e.g., Cooperative Extension Service).
- 23. Literature Citations/References
- 24. <u>Investigator's qualifications</u>. Include a resume(s) of the principal investigator(s). No resume shall exceed two pages or list more than 15 pertinent publications.

If <u>letters of support</u> for the application are provided, they should be scanned and uploaded to the niwr.net website following the instructions on the website at https://niwr.net/. **Letters of support do not count against the 12-page limit.**

An <u>Application Checklist</u> is provided to help guide the principal investigator and the relevant Water Center or Institute through the application process. Please see Attachment G.

XIV. PROPOSALS SELECTED FOR FUNDING IN PREVIOUS YEARS

Total Funds Available, Number of Proposals Received and Funded, and the Minimum and Maximum Federal Funds Awarded, by Year.

	Total	Number of	Number of Minimum.		Maximum.
	Funds	Proposals	Proposals	Federal Funds	Federal Funds
Year	Available	Received	Funded	Awarded	Awarded
1999	\$1,000,000	68	10	\$13,833	\$183,650
2000	\$1,000,000	106	8	\$41,937	\$216,999
2001	\$1,000,000	75	9	\$84,294	\$150,000
2002	\$1,000,000	75	8	\$103,134	\$157,586
2003	\$1,000,000	76	6	\$92,839	\$233,953
2004	\$950,000	45	8	\$69,246	\$170,596
2005	\$950,000	49	8	\$63,014	\$172,842
2006	\$920,000	61	8	\$58,155	\$250,000
*2007	\$814,419	63	5	\$61,312	\$242,508
2009	\$937,358	61	6	\$82,489	\$235,148
2010	\$950,183	46	6	\$60,396	\$247,563
2011	\$1,064,754	40	5	\$140,162	\$249,949
2012	\$853,498	46	6	\$35,885	\$243,835

^{*}The program did not receive funding in FY 2007. Projects selected in FY 2007 were supported with FY 2008 funds. A program competition was not held in FY 2008. Descriptions of the projects selected for funding since 1999 are provided at http://water.usgs.gov/wrri/projects.html. The research priorities established for FY 2013

XV. REPORTING REQUIREMENTS

All award recipients will be required to submit the following reports:

Report	Number of Copies and	Submit to	Due
	Format		
Final Technical	1 PDF file.	Project Officer	No later than 90 days
Report	See instructions below.	through Annual	after expiration of the
		Report system at	award.
		https://niwr.net	
Annual Progress	1 PDF file	Project Officer	No later than May 31
Report (except for	See instructions below.	through Annual	of each year. To be
final year – replaced		Report system at	filed with the
by Final Technical		https://niwr.net	recipients Annual
Report			Program Report.
SF-425 Federal	Submit Electronically.	www.fedconnect.net*	See XV(B) below
Financial Report	_		"Financial Reporting
			Requirements"

^{*}Please see the Terms and Conditions provided with the Award document.

A. TECHNICAL REPORTING REQUIREMENTS

The annual progress report and final report shall contain:

- 1. The "Basic Information" requested by the Annual Report System at https://niwr.net, including the project title, project number, start date, end date, research category, focus category, descriptors, and the name of the principal investigator.
- 2. A description of the problem addressed and work performed under the award and the results and significance thereof.
- 3. A list of publications resulting from the work under the award.

B. FINANCIAL REPORTING REQUIREMENTS

CASH MANAGEMENT AND FINANCIAL REPORTING REQUIREMENTS

1. Annual Financial Reports.

The recipient will submit annual STANDARD FORM 425, FEDERAL FINANCIAL REPORT(S) for each individual USGS award. The SF 425 is available at - http://www.whitehouse.gov/omb/grants_forms. The SF 425 will be due ninety (90) calendar days after the grant year (i.e., 12 months after the approved effective date of the grant agreement and every 12 months thereafter until the expiration date of the grant agreement). USGS acknowledges that this annual reporting schedule may not always correspond with a specific budget period. The SF 425 must be submitted electronically through the FedConnect Message Center (www.fedconnect.net). If after 90 days, recipient has not submitted a report, the recipient's account in ASAP will be placed in a manual review status until the report is submitted.

2. Final Financial Report.

- a. The recipient will liquidate all obligations incurred under the award and submit a final STANDARD FORM 425, FEDERAL FINANCIAL REPORT through FedConnect (www.fedconnect.net) no later than 90 calendar days after the grant/cooperative agreement completion date. The SF 425 is available at http://www.whitehouse.gov/omb/grants_forms. Recipient will promptly return any unexpended federal cash advances or will complete a final draw from ASAP to obtain any remaining amounts due. Once 120 days has passed since the grant/agreement completion date, the ASAP subaccount for this award may be closed by USGS at any time.
- b. Subsequent revision to the final SF 425 will be considered only as follows -
 - (i) When the revision results in a balance due to the Government, the recipient must submit a revised final Federal Financial Report (SF 425) and refund the excess payment whenever the overcharge is discovered, no matter how long the lapse of time since the original due date of the report.
 - (ii) When the revision represents additional reimbursable costs claimed by the recipient, a revised final SF 425 may be submitted to the Contracting Officer with an explanation. If approved, the USGS will either request and pay a final invoice or reestablish the ASAP subaccount to permit the recipient to make a revised final draw. Any revised final report representing additional reimbursable amounts must be submitted no later than 1 year from the due date of the original report, i.e., 15 months following the agreement completion date. USGS will not accept any revised SF 425 covering additional expenditures after that date and will return any late request for additional payment to the recipient.

Attachment A - SF424

OMB Number: 4040-0004 Expiration Date: 01/31/2009

Application for Federal As	sistance SF-424	Version 02			
* 1. Type of Submission:	* 2. Type of Application: *	If Revision, select appropriate letter(s):			
☐ Preapplication ☐ New					
Application	Continuation *	Other (Specify)			
Changed/Corrected Application	Revision				
* 3. Date Received:	4. Applicant Identifier:				
5a. Federal Entity Identifier:		* 5b. Federal Award Identifier			
State Use Only:					
6. Date Received by State:	7. State Application	Identifier:			
8. APPLICANT INFORMATION:	-				
* a. Legal Name:					
* b. Employer/Taxpayer Identification	Number (EIN/TIN):	* c. Organizational DUNS:			
d. Address:					
* Street1:					
Street2:					
* City:					
County:					
* State:					
Province:					
* Country:					
* Zip / Postal Code:					
e. Organizational Unit:					
Department Name:		Division Name:			
f. Name and contact information	of person to be contacted on n	natters involving this application:			
Prefix:	* First Name	e:			
Middle Name:					
* Last Name:					
Suffix:					
Title:					
Organizational Affiliation:					
* Telephone Number:		Fax Number:			
* Email:					

OMB Number: 4040-0004 Expiration Date: 01/31/2009

Application for Federal Assistance SF-424	Version 02
9. Type of Applicant 1: Select Applicant Type:	
Type of Applicant 2: Select Applicant Type:	
Type of Applicant 2. Select Applicant Type.	
Type of Applicant 3: Select Applicant Type:	
* Other (specify):	
Other (specify).	
* 10. Name of Federal Agency:	
11. Catalog of Federal Domestic Assistance Number:	
CFDA Title:	
*** F - I' O 1 - 1'- N 1	
* 12. Funding Opportunity Number:	
* Title:	
13. Competition Identification Number:	
13. Competition Identification Number.	
Title:	
14. Areas Affected by Project (Cities, Counties, States, etc.):	
14. Aleas Allected by 1 Toject (offices, obtaines, etc.).	
* 15. Descriptive Title of Applicant's Project:	
Attach supporting documents as specified in agency instructions.	
Add Attachments Delete Attachments View Attachments	

OMB Number: 4040-0004 Expiration Date: 01/31/2009

Application fo	r Federal Assista	nce SF-424	Version 02
16. Congressiona	I Districts Of:		
* a. Applicant			* b. Program/Project
Attach an addition	al list of Program/Projec	t Congressional Distric	cts if needed.
		Add Attachment	Delete Attachment View Attachment
17. Proposed Pro	ject:		
* a. Start Date:			* b. End Date:
18. Estimated Fu	nding (\$):		
* a. Federal			
* b. Applicant			
* c. State			
* d. Local			
* e. Other			
* f. Program Incom	ne		
* g. TOTAL			
* 19. Is Application	on Subject to Review I	By State Under Exec	utive Order 12372 Process?
a. This applica	ion was made available	to the State under the	Executive Order 12372 Process for review on .
b. Program is s	ubject to E.O. 12372 bu	t has not been selecte	d by the State for review.
c. Program is r	ot covered by E.O. 123	72.	
* 20. Is the Appli	cant Delinquent On Ar	y Federal Debt? (If "	Yes", provide explanation.)
Yes	No Ex	planation	
21. *By signing this application, I certify (1) to the statements contained in the list of certifications** and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001) ** I AGREE ** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.			
Authorized Repr	esentative:		
Prefix:		* First I	Name:
Middle Name:			
* Last Name:			
Suffix:			
* Title:			
* Telephone Numb	er:		Fax Number:
* Email:			
* Signature of Auth	orized Representative:		* Date Signed:

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Standard Form 424 (Revised 10/2005) Prescribed by OMB Circular A-102

OMB Number: 4040-0004 Expiration Date: 01/31/2009

Application for Federal Assistance SF-424	Version 02
* Applicant Federal Debt Delinquency Explanation	
The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.	

INSTRUCTIONS FOR THE SF-424

Public reporting burden for this collection of information is estimated to average 60 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 (including the continuation sheet) required for use as a cover sheet for submission of preapplications and applications and related information under discretionary programs. Some of the items are required and some are optional at the discretion of the applicant or the Federal agency (agency). Required items are identified with an asterisk on the form and are specified in the instructions below. In addition to the instructions provided below, applicants must consult agency instructions to determine specific requirements.

Item	Entry:	Item	Entry:		
1.	Type of Submission: (Required): Select one type of submission in accordance with agency instructions. Preapplication Application	10.	Name Of Federal Agency: (Required) Enter the name of the Federal agency from which assistance is being requested with this application.		
	Changed/Corrected Application – If requested by the agency, check if this submission is to change or correct a previously submitted application. Unless requested by the agency, applicants may not use this to submit changes after the closing date.	11.	Catalog Of Federal Domestic Assistance Number/Title: Enter the Catalog of Federal Domestic Assistance number and title of the program under which assistance is requested, as found in the program announcement, if applicable.		
2.	 Type of Application: (Required) Select one type of application in accordance with agency instructions. New – An application that is being submitted to an agency for the first time. 	12.	Funding Opportunity Number/Title: (Required) Enter the Funding Opportunity Number and title of the opportunity under which assistance is requested, as found in the program announcement.		
	 New – An application that is being submitted to an agency for the first time. Continuation - An extension for an additional funding/budget period for a project with a projected completion date. This can include renewals. Revision - Any change in the Federal Government's financial obligation or contingent liability from an existing obligation. If a revision, enter the appropriate letter(s). More than one may be selected. If "Other" is selected, please specify in text box provided. A. Increase Award B. Decrease Award 		Competition Identification Number/Title: Enter the Competition Identification Number and title of the competition under which assistance is requested, if applicable.		
	C. Increase Duration E. Other (specify) D. Decrease Duration	14.	Areas Affected By Project: List the areas or entities using the categories (e.g., cities, counties, states, etc.) specified in agency instructions. Use the continuation sheet to enter additional areas, if needed.		
3.	Date Received: Leave this field blank. This date will be assigned by the Federal agency.	15.	Descriptive Title of Applicant's Project: (Required) Enter a brief descriptive title of the project. If appropriate, attach a		
4.	Applicant Identifier: Enter the entity identifier assigned buy the Federal agency, if any, or the applicant's control number if applicable.		map showing project location (e.g., construction or real property projects). For preapplications, attach a summary description of the project.		
5a.	Federal Entity Identifier: Enter the number assigned to your organization by the Federal Agency, if any.	16.	Congressional Districts Of: (Required) 16a. Enter the applicant's Congressional District, and 16b. Enter all		
5b.	Federal Award Identifier: For new applications leave blank. For a continuation or revision to an existing award, enter the previously assigned Federal award identifier number. If a changed/corrected application, enter the Federal Identifier in accordance with agency instructions.		District(s) affected by the program or project. Enter in the format: 2 characters State Abbreviation – 3 characters District Number, e.g., CA-005 for California 5th district, CA-012 for California 12th district, NC-103 for North Carolina's 103rd district. • If all congressional districts in a state are		
6.	Date Received by State: Leave this field blank. This date will be assigned by the State, if applicable.		affected, enter "all" for the district number, e.g., MD-all for all congressional districts in Maryland. • If nationwide, i.e. all		
7.	State Application Identifier: Leave this field blank. This identifier will be assigned by the State, if applicable.		districts within all states are affected, enter US-all. • If the program/project is outside the US, enter 00-000.		
8.	Applicant Information: Enter the following in accordance with agency instructions:				
	a. Legal Name: (Required): Enter the legal name of applicant that will undertake the assistance activity. This is ththat the organization has registered with the Central Contractor Registry. Information on registering with CCR may be obtained by visiting the Grants.gov website.	17.	Proposed Project Start and End Dates: (Required) Enter the proposed start date and end date of the project.		
	b. Employer/Taxpayer Number (EIN/TIN): (Required): Enter the Employer or Taxpayer Identification Number (EIN or TIN) as assigned by the Internal Revenue Service. If your organization is not in the US, enter 44-4444444.	18.	Estimated Funding: (Required) Enter the 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 only the amount of the change. For decreases, enclose the amounts in parentheses.		

	c. Organizational DUNS: (Required) Enter the organization's DUNS or DUNS+4 number received from Dun and Bradstreet. Information on obtaining a DUNS number may be obtained by visiting the Grants.gov website.	19.	Is Application Subject to Review by State Under Executive Order 12372 Process? 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. Select the appropriate box. If "a." is selected, enter the date the application was submitted to the State.
	d. Address : Enter the complete address as follows: Street address (Line 1 required), City (Required), County, State (Required, if country is US), Province, Country (Required), Zip/Postal Code (Required, if country is US).	20.	Is the Applicant Delinquent on any Federal Debt? (Required) Select the appropriate box. 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. If yes, include an explanation on the continuation sheet.
	e. Organizational Unit: Enter the name of the primary organizational unit (and department or division, (if applicable) that will undertake the assistance activity, if applicable.	21.	Authorized Representative: (Required) To be signed and dated by the authorized representative of the applicant organization. Enter the name (First and last name required) title (Required), telephone number (Required), fax number, and email address (Required) of the person authorized to sign for the applicant. A copy of the governing body's authorization for you to sign this application as the official representative must be on file in the applicant's office.
9.	f. Name and contact information of person to be contacted on matters involving this applicat required), organizational affiliation (if affiliated with an organization other on: Enter the name (First and last name than the applicant organization), telephone number (Required), fax number, and email address (Required) of the person to contact on matters related to this application. Type of Applicant: (Required) Select up to three applicant type(s) in		(Certain Federal agencies may require that this authorization be submitted as part of the application.)
	accordance with agency instructions. A. State Government B. County Government C. City or Township Government D. Special District Government E. Regional Organization F. U.S. Territory or Possession G. Independent School District H. Public/State Controlled Institution of Higher Education I. Indian/Native American Tribal Government (Federally Recognized) J. Indian/Native American Tribal Government (Other than Federally Recognized) K. Indian/Native American Tribally Designated Organization L. Public/Indian Housing Authority M. Nonprofit N. Defict of Higher Education Higher Education (Other than Small Business S. Hispanic-serving Institution Universities (HBCUs) Universities (HBCUs) V. Alaska Native and Native Hawaiian Serving Institution Universities (TCCUs) V. Alaska Native and Native Hawaiian Serving Institution Universities (TCCUs) V. Alaska Native and Native Hawaiian Serving Institution		

BUDGET BREAKDOWN*

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

Project Title:

Cost Category	Federal	Non-Federal	Total
1. Salaries and Wages	\$	\$	\$
- Principal Investigator(s)			
- Graduate Student(s)			
- Undergraduate Student(s)			
- Others			
Total Salaries and Wages			
2. Fringe Benefits - Principal Investigator(s)			
- Graduate Student(s)			
- <u>Undergraduate Student(s)</u>			
- Others			
Total Fringe Benefits 3. Tuition			
- Graduate Student(s)			
- <u>Undergraduate Student(s)</u>			
Total Tuition			
4. Supplies			
5. Equipment			
6. Services or Consultants			
7. Travel			
8. Other direct costs			
8. Other direct costs			
9. Total direct costs			
10a. Indirect costs on federal share	XXXXXXXX		
	XXXXXXX		
10b. Indirect costs on non-federal share	XXXXXXXX		
	XXXXXXX		
11. Total estimated costs	\$	\$	\$
Total Costs at Campus of the University on which the Institute or Center	¢	¢	ά
is located.	\$	\$	\$
Total Costs at other University Campus Name of University:	\$	\$	\$
Name of Officersty.	Ψ	Φ	φ

^{*} This form is provided as a worksheet only

Budget Justification

BUDGET JUSTIFICATION*

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

Salaries and Wages for PIs. Provide personnel, title/position, estimated hours and the rate of compensation proposed for each individual. 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.) 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.) Salaries and Wages for Others. Provide personnel, title/position, estimated hours and the rate of compensation proposed for each individual. 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 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 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 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 **Tuition for Graduate Students. Tuition for Undergraduate Students** Supplies. Indicate separately the amounts proposed for office, laboratory, computing, and field supplies. Provide a breakdown of the supplies in each category. 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. 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. 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). Other Direct Costs. Itemize costs not included elsewhere, including publication costs. Costs for services and consultants should be included and justified under "Services or Consultants (above). Please provide a breakdown for costs listed under this category. Indirect Costs. Provide negotiated indirect ("Facilities and Administration") cost rate.

^{*} This form is provided as a worksheet only.

Budget Summary

BUDGET SUMMARY*

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

Project Title:

COST CATEGORY	Federal Year 1	Non-Federal Year 1	FEDERAL YEAR 2#	Non-Federal Year 2 [#]	FEDERAL YEAR 3#	Non Federal Year 3#	TOTAL ALL YEARS#
Salaries and Wages for: Principal Investigators Grad. Students Undergrad Students Total Salaries and Wages	\$	\$	\$	\$	\$	\$	\$
Pringe Benefits for: Principal Investigators Grad. Students Undergrad. Students Total Fringe Benefits	\$	\$	\$	\$	\$	\$	\$
3. Tuition for: - Grad. Students - Undergrad. Students Total Tuition							
4. Supplies	\$	\$	\$	\$	\$	\$	\$
5. Equipment	\$	\$	\$	\$	\$	\$	\$
6. Services or Consultants	\$	\$	\$	\$	\$	\$	\$
7. Travel	\$	\$	\$	\$	\$	\$	\$
8. Other Direct Costs	\$	\$	\$	\$	\$	\$	\$
9. TOTAL DIRECT COSTS (sum of 1-8)	\$	\$	\$	\$	\$	\$	\$
10. Indirect Costs		\$		\$		\$	\$
11. Amount Proposed (9 + 10)		\$		\$		\$	\$

^{*} This form is provided as a worksheet only. # Multi-year projects only.

ACD **ACID DEPOSITION AGRICULTURE** AG **CLIMATOLOGICAL PROCESSES** CP **CONSERVATION COV DROUGHT** DROU **ECOLOGY ECL ECONOMICS ECON EDUCATION EDU FLOODS** FL GEOMORPOLOGICAL PROCESSES **GEOMOR GEOCHEMICAL PROCESSES GEOCHE GROUNDWATER** GW **HYDROGEOCHEMISTRY 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

SW SURFACE WATER TOXIC SUBSTANCES TS **TREATMENT TRT WASTEWATER** WWWOL WATER QUALITY WATER QUANTITY **WQN** WS WATER SUPPLY WATER USE WU **WETLANDS** W

NATIONAL RESEARCH PROGRAM

Eastern Region

Pierre D. Glynn MS 433 U.S. Geological Survey 12201 Sunrise Valley Drive Reston, Virginia 20192 Phone: (703) 648-5823 pglynn@usgs.gov

Central Region

Donald H. Campbell U.S. Geological Survey MS 418 Denver Federal Center Lakewood, Colorado 80225 Phone: (303) 236-5022 dhcampbe@usgs.gov

Western Region

Cynthia Brown (Acting) U.S. Geological Survey MS 466 McKelvey Building 345 Middlefield Road Menlo Park, California 94025 PHONE: (650) 329-4477 clbrown@usgs.gov

Application Checklist

Principal Investigator (Items to be completed by Investigator Deadline)

	_File application on the website at https://niwr.net following the instructions in the
	Announcement and on the website. Filing the application requires the PI to:
	Complete the Basic Info webform, which includes proposal abstract;
	Complete Suggested Reviewers webform;
	Complete Budget Breakdown webform;
	Complete Budget Justification webform;
	Complete Budget Summary webform;
	Upload Proposal in pdf format - Check that page limit as stated in the
	Announcement is not exceeded;
	Upload signed Letter(s) of Commitment of Matching Funds; and
	Upload signed letter(s) of support (optional, not required)
	_Check that email has been received by Water Institute or Center from niwr.net
	stating that the application has been submitted.

<u> Water</u>	r Institute or Center (Items to be completed by Institute Deadline)
	_Check that email received from niwr.net stating that application has been
	submitted.
	_Review application for conformance with the Announcement.
	_If revision necessary, "Enable" the proposal on niwr.net and notify the PI of
	changes to be made. Instructions for "enabling" the proposal for editing are
	available by clicking on the Approve Proposals" menu item of the 104G system.
	, , , , , , , , , , , , , , , , , , , ,
	PI makes requested changes and (re)submits the application.
	_ If application is acceptable, Approve application
	Check that email received from niwr.net stating that application has been
	approved.
	approved.
	Submit an SF-424 and SF-424B on http://www.grants.gov for the application.
	NOTE: One SF-424 and SF-424B is to be submitted for each
	application/proposal approved by the institute/center. One SF-424 and SF-424B
	covering all applications/proposals approved is <u>not</u> acceptable.
	Record and retain confirmation messages from grants.gov, including
	tracking number, for each application submitted.
Note:	It is expected that the Principal Investigator will coordinate the application process
	with the Water Center or Institute in his or her state from the beginning of the

process.