



Water Resources Research  
National Competitive Grants Program

Fiscal Year 2017 Announcement

Announcement No. G17AS00027  
under Section 104(g) of the  
Water Resources Research Act of 1984, as Amended  
December 12, 2016

Closing Dates

5:00 PM, Eastern Time, February 15, 2017 (Preproposals)  
5:00 PM, Eastern Time, June 1, 2017 (Institutes)

Department of the Interior  
U. S. Geological Survey

National Institutes for  
Water Resources

OMB Number 1028-0097  
Expiration Date: Pending OMB Review

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**NATIONAL INSTITUTES FOR WATER RESOURCES  
U.S. GEOLOGICAL SURVEY**

**WATER RESOURCES RESEARCH NATIONAL COMPETITIVE GRANTS PROGRAM  
ANNOUNCEMENT**

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**U.S. GEOLOGICAL SURVEY  
NATIONAL INSTITUTES FOR WATER RESOURCES**

**WATER RESOURCES RESEARCH  
NATIONAL COMPETITIVE GRANTS PROGRAM  
ANNOUNCEMENT  
FY 2017**

**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; exploration and advancement of our understanding of changes in the quantity and quality of water resources in response to a changing climate, population shifts, and land use changes; development of methods for better estimation of water supply, both surface and groundwater, including estimation of the physical supply and of the economic supply of water; development and evaluation of processes and governance mechanisms for integrated surface/ground water management; and the evaluation and assessment of conservation practices. 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 non-federal sources. ~~Preproposals must be submitted to your State Institute or Center by 5:00 PM, Eastern Time, February 15, 2017 and invited full proposals to the National Competitive Grants Program must be submitted to the grants.gov internet site at <http://www.grants.gov> not later than 5:00 PM Eastern Time, June 1, 2017 by the university at which the Institute or Center is located.~~ Funds have not yet been appropriated for this program for FY 2017. The Government's obligation under this program is contingent upon the availability of funds.

**SUBMISSION OF PREPROPOSALS AND INVITED FULL PROPOSALS**

Preproposals and full proposals under this Announcement must be submitted using the following process:

1. Preproposals must be submitted by the PI's to their State Water Institute or Center (see <http://water.usgs.gov/wrri/index.php>) for approval following the template in **Attachment A**. The State Water Institute or Center will forward the preproposals to the USGS National Program Office for the peer panel evaluation and up to 30 preproposals will be selected and invited to submit a full proposal. Submitting a preproposal does not obligate the PI to submit a full proposal.

2. Each invited full research proposal must be submitted to grants.gov (<http://www.grants.gov/>) in PDF format (following template **Attachment B**) by the university at which the Water Resources Research Institute or Center approving the proposal is located, along with:
  - a. SF-424 (Application for Federal Assistance),
  - b. SF-424B (Assurances),
  - c. Full proposal in pdf format containing,
    - i. Cover Page
    - ii. Proposal
    - iii. Budget Breakdown Form (**Attachment C**),
    - iv. Budget Justification Form (**Attachment D**),
    - v. Budget Summary Form (**Attachment E**),
    - vi. Matching Commitment Letter, and
    - vii. Letters of Support if Provided

## 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 Earl Greene at the address below or to:

Dr. Daniel Devlin, Director  
Kansas Water Resources Institute, Kansas State University  
44 Waters Hall  
Manhattan, Kansas 66506  
(785) 532-0393  
ddevlin@ksu.edu

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

Program Office

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Phone: 443-498-5505  
eagreene@usgs.gov

Grants Office

Kimberly L. Dove  
Office of Acquisition and Grants  
MS 211, U.S. Geological Survey  
12201 Sunrise Valley Drive  
Reston, Virginia, 20192  
Phone: 703-648-7487  
kdove@usgs.gov

## 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. It is anticipated in FY2017 the USGS will have internal funds available for modest support of USGS scientists on selected proposals.

Potential applicants seeking collaborative opportunities are encouraged to contact USGS scientists directly (<http://water.usgs.gov/nrp/science.php>) or Water Science Center Directors ([http://water.usgs.gov/district\\_chief.html](http://water.usgs.gov/district_chief.html)).

- 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.

## III. RESEARCH PRIORITIES

Proposals are sought on the topic of improving and enhancing the nation’s water supply and availability, and promoting the exploration of new ideas that address or expand our understanding of water problems, 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 advancement of our understanding of changes in the quantity and quality of water resources in response to a changing climate, population shifts, and land use changes; including associated economic, environmental, social, and/or infrastructure costs.
- Development of methods for better estimation of water supply, both surface and groundwater, including estimation of the physical and/or economic supply of water.

- Development and evaluation of processes 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**

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

#### **V. APPLICANT ELIGIBILITY**

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/index.php>). 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 preproposals must be submitted through their State Water Institute or Center by the deadline established in this announcement. The invited full proposal along with the SF-424 and SF-424B and budget forms must be submitted through grants.gov (<http://www.grants.gov>) by the university at which the Institute or Center is located. Each invited full 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.

#### **VI. COLLABORATION BY FEDERAL EMPLOYEES**

- Federal employees may, and are encouraged to, collaborate with college or university investigators in this program.
- Federal employees may not serve as a principal investigator, but may serve as a co-principal investigator.
- Federal employees and agencies may not receive federal funds for any purpose under these awards.
- Federal employees and agencies may not serve as a source of matching funds under these awards.
- Federal employees must prepare a Statement of Government Involvement, which is to be included with a collaborative proposals.

**VII. FEDERAL FUNDS**

- A. Funds have not yet been appropriated for this program for FY 2017. 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 2017 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. **As per the Water Resources Research Act 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. PREPROPOSAL AND INVITED FULL PROPOSAL DUE DATES**

Investigators must submit their preproposals (PDF format) to their State Water Resources Research Institute or Center prior to 5:00 PM Eastern Time, February 15, 2017. Only preproposals filed by that time will be transmitted to the National Grants Competition Preproposal Peer Review Panel. Thirty preproposals will be invited to submit a full proposal to the National Grants Competition. Invited full proposals must be submitted as an application package (Full Proposal, SF-424 and SF-424B, Matching commitment letter, budget breakdown, budget justification and budget summary) to grants.gov by the university that houses the State Water Institutes or Centers prior to 5:00 PM Eastern Time, June 1, 2017. Only full proposals submitted by that time will be transmitted to the National Grants Competition Full Proposal Review Panel for review.

## **XI. PREPROPOSAL AND INVITED PROPOSAL PREPARATION AND REVIEW PROCESS**

### **A. Preproposals**

Each preproposal will need to be written following the template (**Attachment A**). Preproposals which meet the requirements of this Announcement will be evaluated by a peer review panel composed of Institute directors, university scientists, and USGS employees experienced in water resources research. Preproposals will be reviewed according to the following criteria:

25 Points: Relevance and Importance. - The extent to which: (1) the preproposal 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 this RFP (Section III); (2) the subject is of particularly high importance to present and future water resources management programs; and (3) the preproposal includes collaboration with the USGS if appropriate.

25 Points: Scientific Merit. - The extent to which the preproposal (1) has potential to expand fundamental knowledge in its specific area(s); (2) is scientifically sound; and (3) demonstrates cognizance of past work.

25 Points: Expected Results and Benefits. - The extent to which the preproposal describes the how the potential outcomes and the potential realistic impacts of the proposed work.

15 Points: Information Transfer. - The extent the preproposal actively addresses the eventual transfer of results to user groups and whether it actively addresses the impact that the results could have?

10 Points: Training. – The extent to which the preproposal has a strong educational component, provides for student support, and engages a principal investigator near the beginning of his or her career?

## B. Invited Full Proposals

Each invited full proposal will need to be written following the template (**Attachment B**). Full proposals which meet the requirements of this Announcement will be evaluated by a peer review panel composed of Institute directors, university scientists, and USGS employees experienced in water resources research. Proposals will be reviewed according to the following criteria:

20 Points: Relevance and Importance. - The statement of relevance and importance is a critical component of the proposal review process. Describe the 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. Document the magnitude of the situation and relevance of the issue/problem to state, regional and national issues. Why is this project/topic innovative and important? Does the proposal include collaboration with the USGS if appropriate?

20 Points: Scientific Merit. – The extent to which the proposal (1) has potential to expand fundamental knowledge through the stated goals and objectives; (2) is scientifically sound through the description of the research objectives; and (3) demonstrates cognizance of past work.

20 Points: Expected Results and Benefits. – The extent to which the proposal describes the how the potential outcomes and the potential realistic impacts of the proposed work.

10 Points: Information Transfer. – The extent the proposal actively addresses the eventual transfer of results to user groups how it will deliver the potential impacts of the research proposed.

10 Points: Training. – 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: Qualifications of the Investigators. 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: Budget. 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.

Full 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, 2017. The project start date must be no later than September 30, 2017.

## **XII. 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.

Year	Total Funds Available	Number of Proposals Received	Number of Proposals Funded	Minimum. Federal Funds Awarded	Maximum. Federal Funds 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
2014	\$963,704	68	4	\$230,839	\$248,556
2015	\$999,289	101	4	\$250,000	\$249,329
2016	\$856,004	83	5	\$109,123	\$249,625

\*The program did not receive funding in FY 2007 and FY 2013. Projects selected in FY 2007 were supported with FY 2008 funds. A program competition was not held in FY 2008 nor held in FY 2013. Projects Descriptions of the projects selected for funding since 2002 are provided at (<http://water.usgs.gov/wrri/national-competitive-grants.php>).

### XIII. REPORTING REQUIREMENTS

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

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

National Competitive Grant (104g) Preproposal Form – RFP G17AS00027

Number assigned by USGS: \_\_\_\_\_

**TITLE:**

**PROPOSED INITIATION DATE: September 1, 2017**

**PROPOSED COMPLETION DATE:**

**FUNDING LEVEL (Cap of \$250,000 federal funds and a maximum of a 3 year duration)**

**(A) FEDERAL FUNDS REQUESTED: \_\_\_\_\_**

**(B) PROPOSED COST SHARING: \_\_\_\_\_**  
[Must equal at least a 1:1 match]

**Preproposal must be submitted in PDF format, length is limited to no more than 4 pages (12-point font) and at a minimum address the following:**

**STATEMENT OF RELEVANCE AND IMPORTANCE:**

The statement of relevance and importance is a critical component of the preproposal review process. Describe the 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. Document the magnitude of the situation and relevance of the issue/problem to state, regional and national issues. Why is this project/topic innovative and important? Does the preproposal include collaboration with the USGS if appropriate?

**RESEARCH GOALS AND OBJECTIVES:**

Describe the goals (desired results) and objectives of the proposed work. State objectives in a way that enables measurable comparison to expected project results.

**RESEARCH APPROACH:**

Describe the project design and explain how the work will accomplish the stated objectives.

**EXPECTED RESULTS AND BENEFITS:**

Describe the expected outcomes of the project. What new solutions and/or opportunities will be available to the hydrologic scientific community and/or management agencies? What impact will successful completion of this project have on the state, region or nation?

**INFORMATION TRANSFER AND EDUCATION:**

Describe how results will be communicated to the relevant user groups and how it will deliver the potential impacts of the research proposed.

**PRINCIPAL INVESTIGATOR:**

**AFFILIATION:**

**CO-INVESTIGATORS (name/position/affiliation):**

**PRINCIPAL INVESTIGATOR SIGNATURE:**

**DATE:**

**PHONE NUMBER:**

**EMAIL ADDRESS:**

National Competitive Grant (104g) Proposal Form – RFP G17AS00027

Number assigned by USGS: \_\_\_\_\_

**COVER PAGE (Does Not Count Towards 12 Page Limit)**

**TITLE:**

**PROPOSED INITIATION DATE: September 1, 2017**

**PROPOSED COMPLETION DATE:**

**WATER RESOURCES RESEARCH INSTITUTE OR CENTER:**

**FUNDING LEVEL** (Cap of \$250,000 federal funds and a maximum of a 3 year duration)

**(A) FEDERAL FUNDS REQUESTED:** \_\_\_\_\_

**(B) PROPOSED COST SHARING:** \_\_\_\_\_  
[Must equal at least a 1:1 match]

**FOCUS CATEGORIES.** Choose a maximum of three focus categories from the list provided (Attachment F), with the most preferred focus category first.

**RESEARCH CATEGORY.** 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.

**KEYWORDS.** Enter keywords of your choice descriptive of the work.

**PRINCIPAL INVESTIGATOR(S).** Provide name, academic rank, university, email address and phone number of all principal investigators.

**CO-PRINCIPAL INVESTIGATOR(S).** Provide name, academic rank and university (or title and federal agency), email address and phone number of all co-principal investigators.

**ABSTRACT.** Provide a brief (one-page) description of the problem, methods, and objectives. Please be as descriptive as possible but do not exceed one-page, 12 point font.



## PROPOSAL

**Must be submitted in PDF format, and 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 Literature Citations/References (item 10), Investigator's Qualifications (item 11). Proposals exceeding the 12-page limit will not be considered in the competition**

1. Title. Please use the same title as was entered in the Web form under item 1, above.
2. Statement of regional, interstate, or multi-state water problem. Include an explanation of the need for the project, who wants it, and why.
3. Statement of results or benefits. Specify the type of information that is to be gained and how it will be used.
4. Nature, scope, and objectives of the project, including a timeline of activities.
5. Methods, procedures, and facilities. Provide enough information to permit evaluation of the technical adequacy of the approach to satisfy the objectives.
6. Related research. Demonstrate by literature and communication citations the similarities and dissimilarities of the proposed project to completed or on-going work on the same topic.
7. Training potential. Estimate the number of graduate and undergraduate students, by degree level, who are expected to receive training in the project.
8. Statement of Government Involvement. 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. As part of the narrative the USGS employees are encouraged to include a budget (not more than \$35,000). The USGS budget is not to be included as part of the budget information in items 12, 13, and 14.
9. Information Transfer Plan. 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).
10. Literature Citations/References
11. 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.

12. Budget Breakdown, as requested using form (See **Attachment C**).
13. Budget Justification, as requested using form (See **Attachment D**).
14. Budget Summary, as requested using form (See **Attachment E**). Note: Multi-year projects will be fully funded with FY 2017 funds, if funded. The budget must be complete for all years of the project.
15. Matching Commitment Letter. The proposal 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. Scanned legible pdf documents are acceptable. The USGS does not need the originals.

If letters of support for the application are provided, they should be scanned and uploaded as part of the proposal. **Letters of support do not count against the 12-page limit.**

## Budget Breakdown

## Attachment C

### BUDGET BREAKDOWN\*

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

Project Title:

Cost Category	Federal	Non-Federal	Total
1. Salaries and Wages	\$	\$	\$
- <u>Principal Investigator(s)</u>			
- <u>Graduate Student(s)</u>			
- <u>Undergraduate Student(s)</u>			
- <u>Others</u>			
Total Salaries and Wages			
2. Fringe Benefits			
- <u>Principal Investigator(s)</u>			
- <u>Graduate Student(s)</u>			
- <u>Undergraduate Student(s)</u>			
- <u>Others</u>			
Total Fringe Benefits			
3. Tuition			
- <u>Graduate Student(s)</u>			
- <u>Undergraduate Student(s)</u>			
Total Tuition			
4. Supplies			
5. Equipment			
6. Services or Consultants			
7. Travel			
8. Other direct costs			
9. Total direct costs			
10a. Indirect costs on federal share	XXXXXXXX XXXXXXXX		
10b. Indirect costs on non-federal share	XXXXXXXX XXXXXXXX		
11. 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

Attachment D

### BUDGET JUSTIFICATION\*

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

Project Title

<p><b>Salaries and Wages for PIs.</b> Provide personnel, title/position, estimated hours and the rate of compensation proposed for each individual.</p>
<p><b>Salaries and Wages for Graduate Students.</b> Provide personnel, title/position, estimated hours and the rate of compensation proposed for each individual. (Other forms of compensation paid as or in lieu of wages to students performing necessary work are allowable provided that the other payments are reasonable compensation for the work performed and are conditioned explicitly upon the performance of necessary work. Also, note that tuition has its own category below and that health insurance, if provided, is to be included under fringe benefits.)</p>
<p><b>Salaries and Wages for Undergraduate Students.</b> Provide personnel, title/position, estimated hours and the rate of compensation proposed for each individual. (Other forms of compensation paid as or in lieu of wages to students performing necessary work are allowable provided that the other payments are reasonable compensation for the work performed and are conditioned explicitly upon the performance of necessary work. Also, note that tuition has its own category below and that health insurance, if provided, is to be included under fringe benefits.)</p>
<p><b>Salaries and Wages for Others.</b> Provide personnel, title/position, estimated hours and the rate of compensation proposed for each individual.</p>
<p><b>Fringe Benefits for PIs.</b> Provide the overall fringe benefit rate applicable to each category of employee proposed in the project. . Note: include health insurance here, if applicable.</p>
<p><b>Fringe Benefits for Graduate Students.</b> Provide the overall fringe benefit rate applicable to each category of employee proposed in the project. Note: include health insurance here, if applicable.</p>
<p><b>Fringe Benefits for Undergraduate Students.</b> Provide the overall fringe benefit rate applicable to each category of employee proposed in the project. Note: include health insurance here, if applicable</p>
<p><b>Fringe Benefits for Others.</b> Provide the overall fringe benefit rate applicable to each category of employee proposed in the project. . Note: include health insurance here, if applicable.</p>
<p><b>Tuition for Graduate Students.</b></p>
<p><b>Tuition for Undergraduate Students</b></p>
<p><b>Supplies.</b> Indicate separately the amounts proposed for office, laboratory, computing, and field supplies. Provide a breakdown of the supplies in each category.</p>
<p><b>Equipment.</b> Identify non-expendable personal property having a useful life of more than one (1) year and an acquisition cost of more than \$5,000 per unit. If fabrication of equipment is proposed, list parts and materials required for each, and show costs separately from the other items. A detailed breakdown is required.</p>
<p><b>Services or Consultants.</b> Identify the specific tasks for which these services, consultants, or subcontracts would be used. Provide a detailed breakdown of the services or consultants to include personnel, time, salary, supplies, travel, etc.</p>
<p><b>Travel.</b> Provide purpose and estimated costs for all travel. A breakdown should be provided to include location, number of personnel, number of days, per diem rate, lodging rate, mileage and mileage rate, airfare (whatever is applicable).</p>
<p><b>Other Direct Costs.</b> 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.</p>
<p><b>Indirect Costs.</b> Provide negotiated indirect ("Facilities and Administration") cost rate.</p>

\* This form is provided as a worksheet only.

Budget Summary

Attachment E

BUDGET SUMMARY\*

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

Project Title:

COST CATEGORY	Federal Year 1	Non-Federal Year 1	FEDERAL YEAR 2 <sup>#</sup>	NON-FEDERAL YEAR 2 <sup>#</sup>	FEDERAL YEAR 3 <sup>#</sup>	NON FEDERAL YEAR 3 <sup>#</sup>	TOTAL ALL YEARS <sup>#</sup>
1. Salaries and Wages for: - - - - - - Principal Investigators - Grad. Students - Undergrad. Students Total Salaries and Wages	\$	\$	\$	\$	\$	\$	\$
2. Fringe 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)		\$		\$		\$	\$

ACID DEPOSITION	ACD
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
SURFACE WATER	SW
TOXIC SUBSTANCES	TS
TREATMENT	TRT
WASTEWATER	WW
WATER QUALITY	WQL
WATER QUANTITY	WQN
WATER SUPPLY	WS
WATER USE	WU
WETL	