

USGS/NIWR FY2023 National Grants Programs

Proposal Preparation Guidance

March 9, 2023



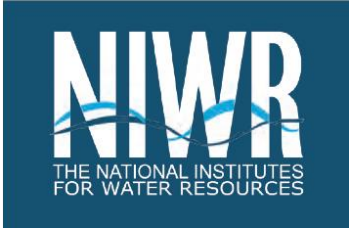
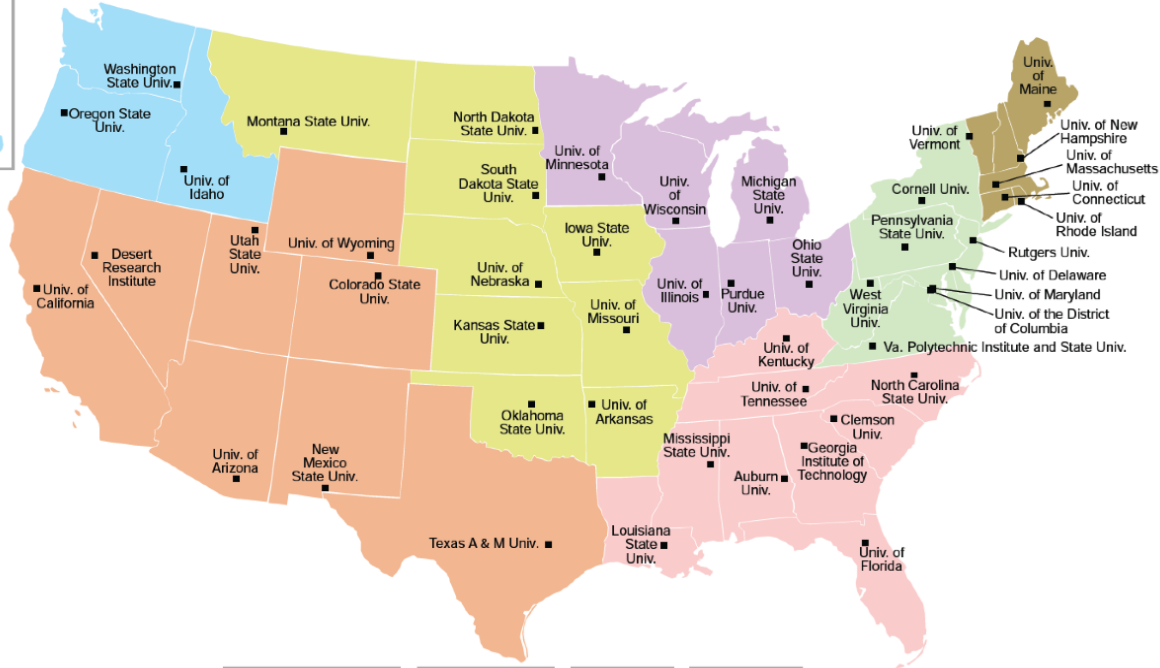
Institute of Water Research
MICHIGAN STATE UNIVERSITY

Water Resources Center
UNIVERSITY OF MINNESOTA



Today's webinar:

- Introduction to NIWR and state water centers/institutes
- Eligibility and how to apply
- 2023 104g-General, AIS and PFAS grants – including research priorities
- Overview of RFPs with emphasis on budget criteria
- USGS collaboration
- Self selecting breakout rooms for each program (104g-General, PFAS, AIS)



Eligibility

- Any investigator at an accredited institution of higher learning
- Investigators in each state must submit through the Water Resources Research center or institute in that state



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How to apply:

- Work with your state WRRRI contact
- Great Lakes:
 - IL – Amy Weckle
 - IN – Laura Esman
 - MI – Jeremiah Asher
 - MN – Sarah Roth
 - OH – Linda Weavers and John Lenhart
 - WI – Jennifer Hauxwell
- Application requirements may differ in each state
 - Be aware of submission deadlines
 - Note that some states provide submission guidance documents



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Timeline

February 23

USGS released RFP

Early-mid April

Proposal submission deadline to WRRRI

April 27

WRRRI proposal submission deadline to grants.gov **by your State Institute**

~September

USGS announces funding decisions

~January 1, 2024

Funded projects begin (delays always possible)

Other deadlines may include (state dependent):

Notice of Intent (NOI) submitted to WRRRI

Submission of budgets and budget justifications

2023 104g National Programs

- 104g-General
- Aquatic Invasive Species
- Per- and polyfluoroalkyl substances (PFAS) Grants

All three programs focus on:

- water problems and issues of a regional or interstate nature beyond those of concern only to a single state, and
- Concerns related to specific program priorities identified in each RFP

104g-General, AIS, PFAS common objectives

- A. Promote the dissemination and application of the results of the research funded under this program, both to the scientific community and to the general public.
- B. Assist in the training of scientists in relevant water-resource fields. Proposals that include a strong educational component (student support) are encouraged, as are those from early-career faculty.

104g-General additional program objective:

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 strongly encouraged. Collaborative proposals should describe in detail the respective roles of the USGS and the applicant in the proposed work. It is anticipated that in FY2023 the USGS will have internal funds available for modest support of USGS scientists on selected proposals.

104g-General Priority #1

National-scale evaluation of water budget: Retrospective or predictive analyses using hydroclimate-forcing data sets, with emphasis on CONUS404, which was developed in a USGS- NCAR collaboration. Additional guidance includes

- Emphasis on prediction of water-budget components through a variety of interpretive approaches
- Incorporation of how uncertainty in hydroclimate-forcing propagates to water budget components
- Consideration of both retrospective and projected conditions.

Rasmussen, R.M., Liu, C., Ikeda, K., Chen, F., Kim, J., Schneider, T., Gochis, D., Dugger, A., and Viger, R., 2023, Four-kilometer long-term regional hydroclimate reanalysis over the conterminous United States (CONUS), 1979-2020: U.S. Geological Survey data release, <https://doi.org/10.5066/P9PHPK4F>.

104g-General Priority #2

Socioeconomics: Integrate ongoing USGS research and data collection in order to assess socioeconomic and ecological vulnerability to compounding extreme events and develop adaptation measures. This proposed project should undertake new research (e.g., [Water Use and Social and Economic Drivers Program](#)) to understand the vulnerability of urban (e.g., trans-basin diversions), agricultural (e.g., reservoir management), and ecological (e.g., endangered species) water-use sectors to drought and compounding hazards such as wildfire. Additional guidance includes:

- Provide a quantifiable portfolio of risk for water-use sectors (including ecological and socio-economic)
- Develop climate futures and planning scenarios for relevant institutions: management, communities, other institutions

Aquatic Invasive Species (AIS) additional program objective:

Promote aquatic invasive species research as related to hydrodynamics, water quality, control technologies, and(or) human dimensions in the upper Mississippi River basin to address critical needs, including integration with ongoing USGS science and monitoring.



Aquatic Invasive Species Grants (AIS) Priorities

- **Effects:** Research that improves our understanding of the effects of aquatic invasive species on lakes, rivers, and associated tributaries in the upper Mississippi River basin, including changes to water quantity, water quality, and ecosystem dynamics.
- **Characteristics:** Research that identifies physical, biological, and chemical characteristics of water bodies that infer resistance and resilience to the distribution, establishment, and effects of aquatic invasive species in the upper Mississippi River basin. Research is needed to better understand these interactions to guide management decisions that will improve invasive species management and result in positive effects on aquatic ecosystems.
- **Management:** Research on assessment of the detection, spread, and management of aquatic invasive species in the upper Mississippi River basin and the connections to human dimensions, both socially and economically. Note that this does not include physical control of AIS.

Per- and polyfluoroalkyl substances (PFAS) additional program objective:

Promote per-and polyfluoroalkyl (PFAS) substances research as related to the nation's water quality as well as the social and(or) economic implications that might drive or be affected by PFAS. This includes integration with ongoing USGS science, monitoring, and goals, including those summarized by Tokranov and others (2021; <https://doi.org/10.3133/cir1490>).

Per- and polyfluoroalkyl substances (PFAS) Priority #1

Media-specific methods: Enhanced methods for detection on specific media, with a clear indication of

- new or different compounds,
- new or different methodological approaches,
- lower detection levels for specific media or compounds, especially with respect to EPA health guidelines for PFOA (Perfluorooctanoic Acid) and PFOS (Perfluorooctane Sulfonate).

Media of interest include (in ranked order) (1) Tissues/plasma, (2) sediment, (3) air or interfaces, (4) water.

Per- and polyfluoroalkyl substances (PFAS)

Priorities #2 & 3

Atmospheric sources: Improved understanding of atmospheric exchange in PFAS distribution and fate. This may include methods to determine transport of PFAS to the atmosphere and to subsequent receiving waters, such as a water method that determines "new" compounds based on their likelihood to occur in the atmosphere.

Processes oriented at molecular level: Process-oriented research of PFAS fate, transport, and effects, with emphasis on *molecular-level* understanding of PFAS precursor transformation, sorption dynamics, or mechanisms of bioaccumulation and(or) biological/ecological effects.

Federal collaboration

- Collaboration with USGS or other federal scientists is encouraged
- Federal employees may not be a PI but can be a co-PI
- Federal agencies may not receive funds from these grants
 - **For Annual Competitive (104g-General) Grants ONLY:** USGS scientists can obtain internal research funds to support their activities. A workplan & budget are needed. Funding for collaborator is from USGS, not included in proposal budget.
- Contact your state WRRI for assistance in identifying USGS collaborators
- <https://www.usgs.gov/mission-areas/water-resources/connect>

USGS Perspectives -GL region



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For those of you outside the Great Lakes region, <https://www.usgs.gov/mission-areas/water-resources/connect>

Budget requirements

- Up to \$310,000 in federal funds can be requested under the 104G-General opportunity
- Up to \$279,000 in federal funds can be requested under the AIS and PFAS opportunities
- Proposals can be for up to 3 years, budgets should be prepared in 12-month increments

Budget requirements

- 1:1 match requirement for project as a whole AND each 12-month budget period
- Facilities and Administrative (F&A or 'indirect costs') cannot be paid from federal funds
- Unrecovered F&A on both federal and non-federal direct costs can be used toward the 1:1 match requirement

Example budget summary – 104g General

Item	Federal	Non-federal	Total
A: Direct costs	310,000	90,500	400,500
B1: F&A on federal portion (55% of A:Fed)		170,500	170,500
B2: F&A on non-federal portion (55% of A:Nonfed)		49,775	49,775
C: Total (A + B1 + B2)	310,000	310,775	620,775

NOTE: F&A will differ for each state. Please check with your state WRRRI contact.

Budget requirements

- PIs can request salary from the federal funds, limited to 2 months of salary per year
- Budget Justification –
 - ❖ Justify and distinguish the federal funds requested from the match contribution.
 - ❖ Provide details
 - ✓ Number of samples/testing kit capacity x Number of tests and cost per test
 - ✓ Subawards to provide same level of detail
- Use the USGS provided templates

Free advice for making proposals competitive

- Connect with other teams who are applying to the same RFP
 - Very low chance of USGS funding two proposals that are similar
 - Differentiating proposals will improve everyone's chances
 - Diversity, equity, inclusion, and justice
 - Student involvement
 - Regionally or nationally important (doesn't mean you need people spread throughout the region, but that the research needs to be regionally relevant)
 - Make sure you READ the review criteria from the RFP as you write your proposal
 - Make sure to answer the specific priority stated in each RFP