

Idaho Awarded \$20 Million to Study Future Energy and Water Use in State

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MOSCOW, Idaho — Idaho researchers will receive \$24 million for a new research project on the impact of changes in climate, population and technology on energy and water use in Idaho.

The funding comes through a \$20 million five-year award from the National Science Foundation (NSF) Established Program to Stimulate Competitive Research (EPSCoR), with the state contributing an additional \$4 million.

Researchers from University of Idaho, Boise State University, Idaho State University, the Coeur d'Alene Tribe and the Shoshone Bannock Tribes are leading the award in collaboration with utility companies, state and federal government agencies, and Idaho cities and counties. Researchers will work to identify energy and water use strategies that will be resilient to Idaho's changing needs, based on ongoing feedback from communities.

"This project is necessary right now because the intersection of water and energy issues is critical to Idaho's people, industries and livelihoods," said Idaho EPSCoR Director [Andrew Kliskey](#), who is the research project principal investigator and a U of I professor. "It demonstrates big picture, use-inspired, science-informed approaches."

The project is titled Idaho Community-Engaged Resilience for Energy-Water Systems (I-CREWS).

"NSF EPSCoR in Idaho plays an instrumental role in strengthening education, collaborations, research excellence and competitiveness in support of Idaho's Higher Education Research Strategic Plan, which recognizes research as a key to student success and Idaho's future economic vitality. The research dollars from NSF will help Idaho identify solutions to some of the most pressing questions our state faces — water and energy resiliency," Gov. Brad Little said.

Water and energy systems rely on each other. In Idaho, water generates more energy than other sources — such as natural gas, coal power plants and solar power — through both hydropower and other power generation processes. Energy is needed for many uses, including irrigating crops and delivering water

to humans. But drought and climate change limit water availability. Idaho will need to balance its demands on these two interdependent resources as the state's population increases, technology advances and community priorities evolve, say the researchers.

Through the EPSCoR award, the researchers will identify strategies for energy and water use that will be resilient to future changes across a range of Idaho's communities, landscapes and watersheds.

"Idaho is the perfect place for this study, because we have a variety of ecosystems, community types and management practices," Kliskey said. "We have everything from the semi-arid south to northern temperate forests and a cross section of rural towns, Native American communities and urban centers. By having such a variety of case studies, we hope our findings will be helpful for many communities across the West as they plan."

The research project will probe how social systems, such as government decision-making and local knowledge, inform how urban, rural and tribal communities handle future energy and water use challenges. Idaho communities will have direct access to findings as they emerge throughout the project.

"By working with communities, we think the resulting energy and water use strategies will be more effective and equitable," Kliskey said. "There is a much better chance the community will support and implement sustainable strategies if there is community engagement during the planning stage."

EPSCoR awards are designed to enhance research competitiveness across the country. The project will advance research and education across multiple disciplines, computer modeling capacity, workforce development initiatives and research partnerships in Idaho.

I-CREWS will involve more than 35 university and college faculty, plus eight new early-career hires, 10 postdoctoral researchers, 20 graduate students and more than 120 undergraduate researchers, with supporting projects reaching more than 500 students and community members. Students will hone the technical skills necessary to fill energy and water systems workforce needs.

Partnerships are also planned with state and federal agencies, the Center for Advanced Energy Studies, public and private utilities, Idaho National Laboratory and tribal nations. A Tribal Nation Research Network will be created to support the development of tribally originated research.

“The collaborative effort that this award represents is phenomenal, with the partnership among all levels of our higher education institutions, the Tribal Nation Research Network and other agencies and utilities,” said Doyle Jacklin, Chair of the Idaho EPSCoR Committee. “This level of cooperation will be integral to creating more resilience to the vast changes Idaho is experiencing in our communities.”

The co-principal investigators are U of I Professor [Karla Eitel](#), U of I Professor [Alistair Smith](#), BSU Associate Professor [Kathleen Araújo](#) and ISU Professor [Donna Lybecker](#).

For a complete list of partners and more information, view the [NSF EPSCoR news release](#) and [Idaho EPSCoR I-CREWS website](#).

This project is anticipated funding to the Regents of the University of Idaho by the National Science Foundation. The anticipated FY23 funding released is \$2,099,031, of which 100% is the federal share and the anticipated total funding authorization is \$20,000,000.

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U of I Moscow is located on the homelands of the Nimiipuu (Nez Perce), Palus (Palouse) and Schitsu’umsh (Coeur d’Alene) tribes. We extend gratitude to the Indigenous people that call this place home, since time immemorial. U of I recognizes that it is our academic responsibility to build relationships with the Indigenous people to ensure integrity of tribal voices.

