

# THE INDIGENOUS RESILIENCE CENTER AT THE UNIVERSITY OF ARIZONA

Advancing Resilience of Native Nations



The Indigenous Resilience Center (IRes) works with tribes to co-develop solutions to environmental challenges within the nexus of food, energy, and water. IRes's mission is to center Indigenous ways of knowing in environmental solutions and to train the next generation of community leaders.

Located within the Arizona Institute for Resilience, IRes is a central hub at UArizona for tribal resilience research, tribal outreach, and teaching. We support a collaborative team of STEM faculty who work within the center to create a robust community of Native and Indigenous STEM scholars and students who respectfully honor traditional knowledge and tribal sovereignty.



## OUR CURRENT PROJECTS

- Develop and support an interdisciplinary, connected network of university researchers working with tribes on resilience
- Focus on food, energy, water systems, health and the environment, addressing indoor air quality and toxic air pollutants, chronic health conditions and nutrition, and traditional agriculture, as they relate to Indigenous communities
- Use models, community surveys, educational outreach, GPS, and GIS
- Leverage existing academic, extension, research, and training programs at UArizona related to tribal and Indigenous resilience
- Provide direct support for on-the-ground tribal resilience projects
- Investigate biogeochemical processes that affect the accumulation of metals and microbial community changes in areas impacted by mining and wildfire
- Partner with Universities, Tribal Colleges, and community groups

## HIGHLIGHTS

### NANO-FILTRATION WATER UNIT

- Our faculty have co-lead the development and deployment of solar nano-filtration unit (SNF) technology to supply clean drinking water to remote, off-grid homes on the Navajo Nation.
- IRes works closely with the Navajo community or households to learn their needs and their willingness to use the units. The team then makes modifications after assessing this feedback.
- IRes works with organizations and the Navajo Nation to develop workforce skills to turn over the project to the community for long-term implementation.

### NAVAJO WaterGIS

- Our faculty have developed an interactive internet GIS mapping application to display water well locations and water quality results for the Navajo Nation. This makes thousands of results publicly available in a convenient tool that deepens accessibility and use of water quality data.
- A mobile application for use on Android phones in areas without internet connectivity is underway.
- This has been a collaborative project with the University of Arizona, University of New Mexico, and Northern Arizona University.

### INTEGRATING INDIGENOUS AGRICULTURE

- The IRes faculty are piloting projects related to upscaling traditional agriculture in Indigenous communities for the benefit of tribal health.
- IRes will consult with tribes to conduct nutritional analyses on traditional foods that will aid in the process of ensuring a healthy diet for tribal members.
- IRes will invite collaborative partners including federal, state, tribal and local governments as well as NGOs to also tackle the issue of Indigenous health.



**14%**  
U.S. Native American households lack access to electricity



**35%**  
dwellings are **not connected to central power or potable water** (on the Navajo Nation)



**370M (5%)**  
Indigenous peoples around the world protect **80% of global biodiversity** on a mere **25%** of the planet's land



ARIZONA INSTITUTE FOR RESILIENCE  
**Indigenous Resilience Center**



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