

Water institute tackles new ground

State program aims to be resource for businesses, agencies

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The founders of the Arizona Water Institute have set themselves a lofty, improbable-sounding goal: make this arid state synonymous with water.

At the very least, make it a leader in water research and technology, an equally steep hill to climb in the middle of a desert where most of the rivers don't even flow year-round.

"It's a significant challenge," said Kathy Jacobs, executive director of the institute since December. "There really isn't anything else like it. We are inventing something new."

What that invention will look like is evolving, but state officials envision the institute as a resource for small-town water managers, big-city water providers, tribal leaders, state agencies, private businesses from corner cafes to multinational corporations and even other countries.

The institute would focus on all things water, from finding it, moving it, keeping it clean, conserving it, and finding its place in the natural environment. Among the long-term goals: creating technology that would bring in revenue and create jobs, allowing the institute to sustain itself.

All that from something that doesn't even have its own building.

Gov. Janet Napolitano hatched the idea of a "virtual water university" in November 2004 as part of her call for a culture of conservation. The plan called for pooling the water-research resources of Arizona's three public universities into one "virtual" outlet that wouldn't have a campus or student body.

As the idea developed, state officials decided to rename the project the Arizona Water Institute, in part to avoid any confusion about its role or whether it was a university at all. Financing will come from the university system to start, but officials hope grants eventually will help foot the bill.

The state wants to keep that bill low. Although the institute may get its own headquarters, planners still envision a lean staff adept at tapping resources without adding layers of bureaucracy. Right now, Jacobs and an assistant are the only full-time employees, working from the fifth floor of a University of Arizona building in Tucson.

All three universities focus on water issues, with programs such as the Water Resources Research Center at the University of Arizona, the Global Institute of Sustainability at Arizona State University, and ongoing hydrogeology studies at Northern Arizona University. The institute's charge is to harness those programs and make what they do more accessible to everyone from residents to businesses.

"We want to overcome the gap between the people who generate science and those who use it," Jacobs said. "Many people or groups may not be all that comfortable calling up a university for help. Many people are also frustrated that they can't find the information they need. It may be available, but it's just not easily accessible."

The institute can offer immediate help to state agencies by linking them with university programs or data, said Alan Stephens, the governor's chief of staff for operations. The Department of Environmental Quality, for example, is interested in working on new water-quality studies, while the Commerce Department would like help on technology development.

But Stephens said the state is also hearing from businesses interested in water-efficient technologies. Chipmaker Intel, which uses enormous amounts of water in its production processes, is involved with an early project that could lead to a technology-exchange forum.

"They're not giving up proprietary information, just what they know about the use of water," Stephens said. "It's in everybody's interest to stretch the use of water."

Jacobs said Arizona's universities are gaining renown for water-related research. The state has produced groundbreaking water policy, such as a requirement that developers prove they have a 100-year water supply before building subdivisions. Arizona is also winning praise for storing water underground in a "water bank," a program other states are trying to replicate.

"We've got something to offer," she said. "We're providing a channel for something people are interested in anyway."

The institute plans to gear its work toward a broad series of challenges:

- Developing water management and conservation practices for Arizona and other arid regions.
- Developing ways to expand water supplies through sustainable planning and decision-making.
- Shoring up vulnerable water supplies with better climate modeling.
- Encouraging development of sustainable industry and technology that could be exported worldwide.

Napolitano has stressed the mission of developing technology that could produce revenue for the state and create jobs. Among the ideas the institute expects to study: testing and improving water quality; enhancing water purification, recycling and wastewater treatment; and developing water conservation technology for specific uses, such as in restaurants or agriculture.

"I think we can really help rural areas bring in outside money and resources and help create jobs in those communities," Stephens said. "We can then get the technology out quicker."

The first challenge is coordinating the various offices and centers at the three universities and finding the most efficient ways to pool their resources and distribute information. One person will be designated at each school to work with Jacobs.

"We want to avoid the ivory-tower syndrome and find ways to link academia and the real world," she said.

Based on the response from the outside, Jacobs thinks the state is on to something. She's heard from private consultants, Fortune 500 companies and even the National Academy of Sciences, all pitching ideas for studies or projects.

"My phone was ringing off the hook as soon as I got the job," she said. "It's almost like people have been waiting for this."