

Solving the West's water problems will require tapping into multiple resource streams

At ASU's 'Transforming Water, West' event, leaders push beyond scarcity toward systems, investment and collaboration

By Marshall Terrill , ASU News
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Hundreds of water experts from across the United States convened at Arizona State University last week to tackle the West's mounting water challenges, seeking solutions that go beyond scarcity toward coordinated systems, investment and collaboration.

"Water stress is not just a constraint. It is a signal that our current systems are misaligned with the realities of climate, society and economic demand," said [Upmanu Lall](#), director of the [ASU Water Institute](#) at the [Julie Ann Wrigley Global Futures Laboratory](#).

The "[Transforming Water, West](#)" convening brought together more than 400 scientists, entrepreneurs, investors and policymakers with a shared understanding that incremental change is no longer enough. The region's water challenges demand something more coordinated and more ambitious.

Held March 20 in Tempe, the event felt less like a traditional conference and more like a working session. Conversations moved quickly from formal remarks to casual exchanges about infrastructure, climate adaptation and investment strategies.

"Better ideas remain essential, but the sector now needs more than just good analysis," said Heramb Ramchandran of [Sciens Water](#), a research-driven investment company that identifies opportunities in the water sector shaped by long-term macro trends. "It needs implementation. It needs collaboration across utilities, industry, government, academia and capital providers."

That tone carried into a recorded message from ASU President Michael M. Crow at the start of the conference.

“The old ways, they just simply won’t work,” he said. “We need to start thinking about multiple pathways, multiple options, multiple ways of solving problems.”

The shift from rethinking to transforming reflects a broader recognition that the systems governing water in the West must be rebuilt, not just refined. Organizers emphasized systems thinking, linking water to economic growth, ecosystems and communities.

That philosophy came to life throughout the day. A technology showcase highlighted new treatment methods and data-driven management systems. A startup and investor pavilion buzzed as entrepreneurs pitched ideas and financiers searched for scalable solutions.

Participants broke into focused discussions on infrastructure, public policy and water markets. In one room, attendees debated how Arizona’s markets could evolve. In another, wastewater was reframed as an economic opportunity, with decentralized systems emerging as a potential path forward.

That idea was central to the keynote from [Bruce Rittmann](#), a Regents Professor of environmental engineering and director of the Biodesign Swette Center for Environmental Biotechnology at ASU.

“For more than 110 years, we’ve relied on activated sludge,” he said. “It works, but it is a giant energy consumer and a big generator of biosolids.”

“These wastewaters have valuable resources in them that we are tossing away,” Rittmann said, who received the 2018 Stockholm Water Prize. “We’re treating the water, but we’re throwing away the resources.”

Rittmann described a future in which wastewater systems function as resource factories — recovering energy, nutrients and reusable water.

“The past has been an expensive way to squander valuable resources,” he said. “The future is to take these wastewaters and get value out.”

Rittmann noted how dramatically perspectives have shifted over time.

“My talk was, ‘Don’t waste your time on it, it won’t work,’” he said, recalling his stance in 1985 on anaerobic treatment. “Now I’m saying not only can we do it, we must do it,” he said.

That urgency extended beyond technology to the role of capital.

“Water is an underinvested sector,” said Palak Jauhari of [Plug and Play](#), a company that connects technology startups with large corporations.

“A single large data center today uses about 5 million gallons of water per day,” she said. “That is a town’s worth of demand.”

Startups are already responding.

“We’re able to cut that water consumption by 50%,” said Ben Thomson of [Nona Technologies](#), which specializes in electrochemical water treatment and portable desalination systems.

Others in the sector say the shift is not just about reducing use but redefining how it is tracked and understood.

“As we continue transforming how we treat water, we need to think about how we measure water,” said Heather Tugaoen, CEO of [Watergenics](#), which focuses on real-time water quality monitoring, sensors and data analytics.

At the same time, researchers warn that long-standing biological challenges continue to drive massive costs across industries.

“Biofilms represent a \$4 trillion problem, whether it’s biocorrosion in infrastructure or contamination in medical devices,” said Paul Westerhoff, Regents Professor in the [School of Sustainable Engineering and the Built Environment](#) at ASU, pointing to inefficiencies in existing systems.

“More than 12,000 people a year die from infections related to urinary catheters. In the U.S., cooling towers can harbor legionella and other problems. In Brooklyn, people have died from legionella linked to cooling towers. There are also clogged pipes, mold in homes and many other issues.”

Across sessions, a consistent theme emerged: No single solution will define the future of water. Progress will come from integrating technologies, policies and investment strategies.

“Just convening and bringing people together from a diversity of backgrounds is great because we need to have important conversations,” said [Jay Famiglietti](#), Global Futures professor in ASU’s [School of Sustainability](#), where he serves as director of science for the [Arizona Water Innovation Initiative](#). “The opportunities to transform through technology, and for academics to partner with these startups, are just amazing. It’s a fantastic opportunity, especially just before [World Water Day](#).”

By the end of the day, a clearer picture had begun to take shape. The West’s water challenges remain complex, shaped by climate change, population growth and competing demands. But there is growing alignment around how to respond.

“Someone asked me yesterday if it is my goal to save the world,” Lall said. “And the answer is yes, but it’s got to be done with all of you here.”

This story originally appeared on [ASU News](#).

Main image



The "Transforming Water, West" conference, held on Friday, March 20, at the Walton Center for Planetary Health on ASU's Tempe campus, brought together technology leaders, researchers and entrepreneurs to explore water solutions for Arizona and the region. Photo by Charlie Leight/ASU News

Text image(s)



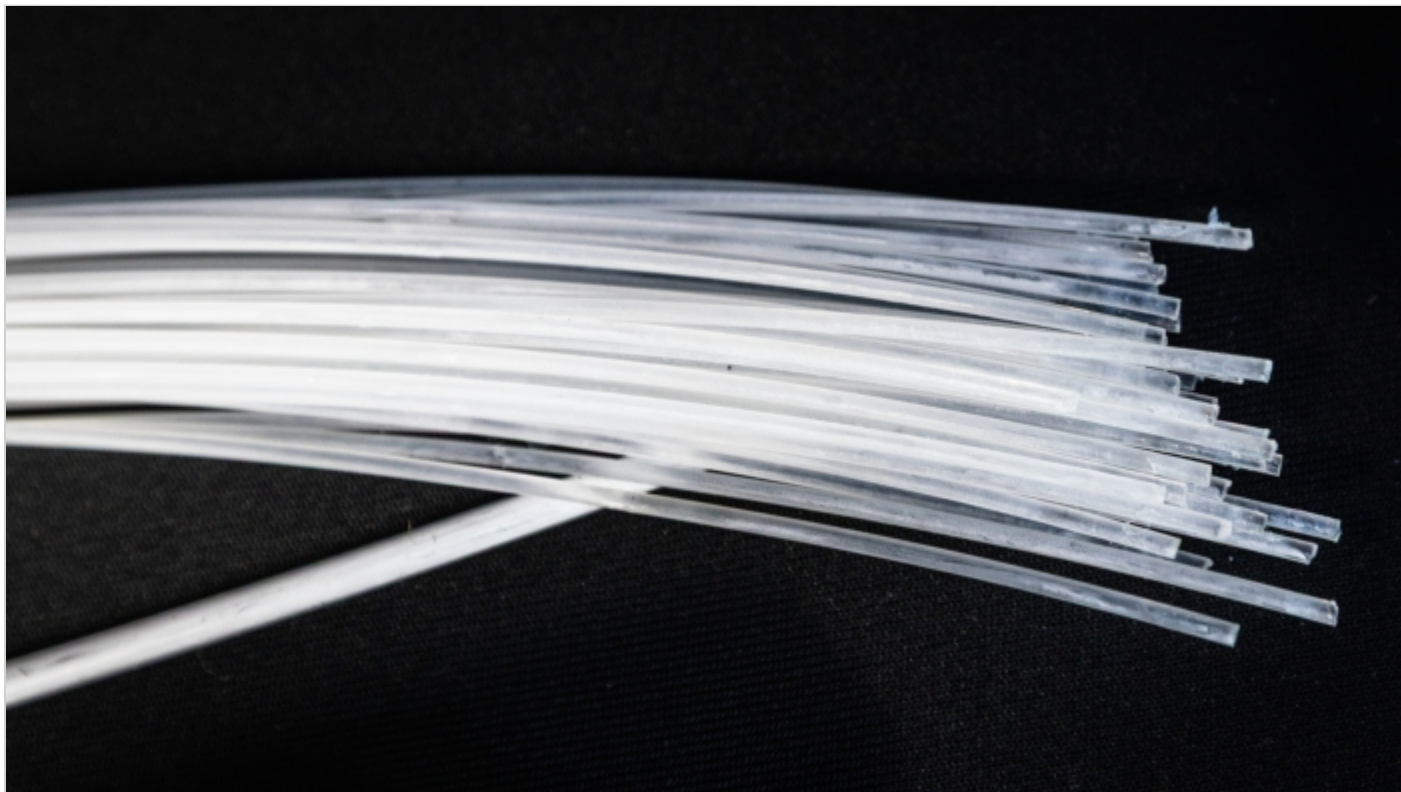
Upmanu Lall, director of the ASU Water Institute, delivers opening remarks at the "Transforming Water, West" event held at ASU's Tempe campus on March 20. Photo by Charlie Leight/ASU News



ASU Regents Professor Bruce Rittman delivers the keynote talk during the "Transforming Water, West" event held on ASU's Tempe campus. Photo by Charlie Leight/ASU News



Kelly Westerhoff, who along with her husband, ASU Regents Professor Paul Westerhoff, created H2Optic Insights, talks about their company with conference attendees at the "Transforming Water, West" event. Photo by Charlie Leight/ASU News



H2Optic Insights uses visible and UV-C light to create chemical-free solutions that stop biofilm and remove contaminants from water. Photo by Charlie Leight/ASU News