

# Climate change takes back seat to decision-making in water security: researcher

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Phoenix, the sixth largest U.S. city, is vulnerable to water shortages even without climate change because of heavy outdoor water use and fragmented governance, according to research conducted at the Decision Center for a Desert City (DCDC) at Arizona State University.

"Scientists, decision-makers and the general public have different perceptions of Phoenix's water problems," said Patricia Gober, a geographer and Senior Sustainability Scientist at ASU's Global Institute of Sustainability.

"Scientists see a demand problem, decision-makers see a supply problem; and residents see someone else's problem," said Gober, a founding director of DCDC. Gober will present findings from simulation modeling and the principles of decision-making during a session on [water security](#) on Feb. 17 at the annual meeting of the [American Association for the Advancement of Science](#).

Under the National Science Foundation's Decision Making Under Uncertainty program, DCDC developed an integrated [simulation model](#) – WaterSim 4.0 – and tested it with local water stakeholders to explore decision tradeoffs for a range of climate and policy futures.

"Tradeoffs involved choices between indoor and outdoor [water use](#), residential densities and per-capita water use, prevailing lifestyles and groundwater sustainability, and a more compact versus sprawling city," said Gober.

Results indicated that business-as-usual growth and current lifestyles will stress regional water supplies, even without [climate change](#)," said Gober. "The risk of future shortage and groundwater overdraft can be substantially reduced by higher urban densities, a shift from oasis landscape treatments, slower growth, and fewer backyard swimming pools."

Climate change, according to Gober "offers us the opportunity to think seriously about what kind of future we want and what we are willing to do to get there. We can build a less climate-sensitive city than we now have."

Gober splits her research and scholarship between Arizona State University, where she is a research professor in the School of Geographical Sciences and Urban Planning in the College of Liberal Arts and Sciences, and a professor in the Johnson-Shoyama Graduate School of Public Policy at University of Saskatchewan.

Provided by Arizona State University

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