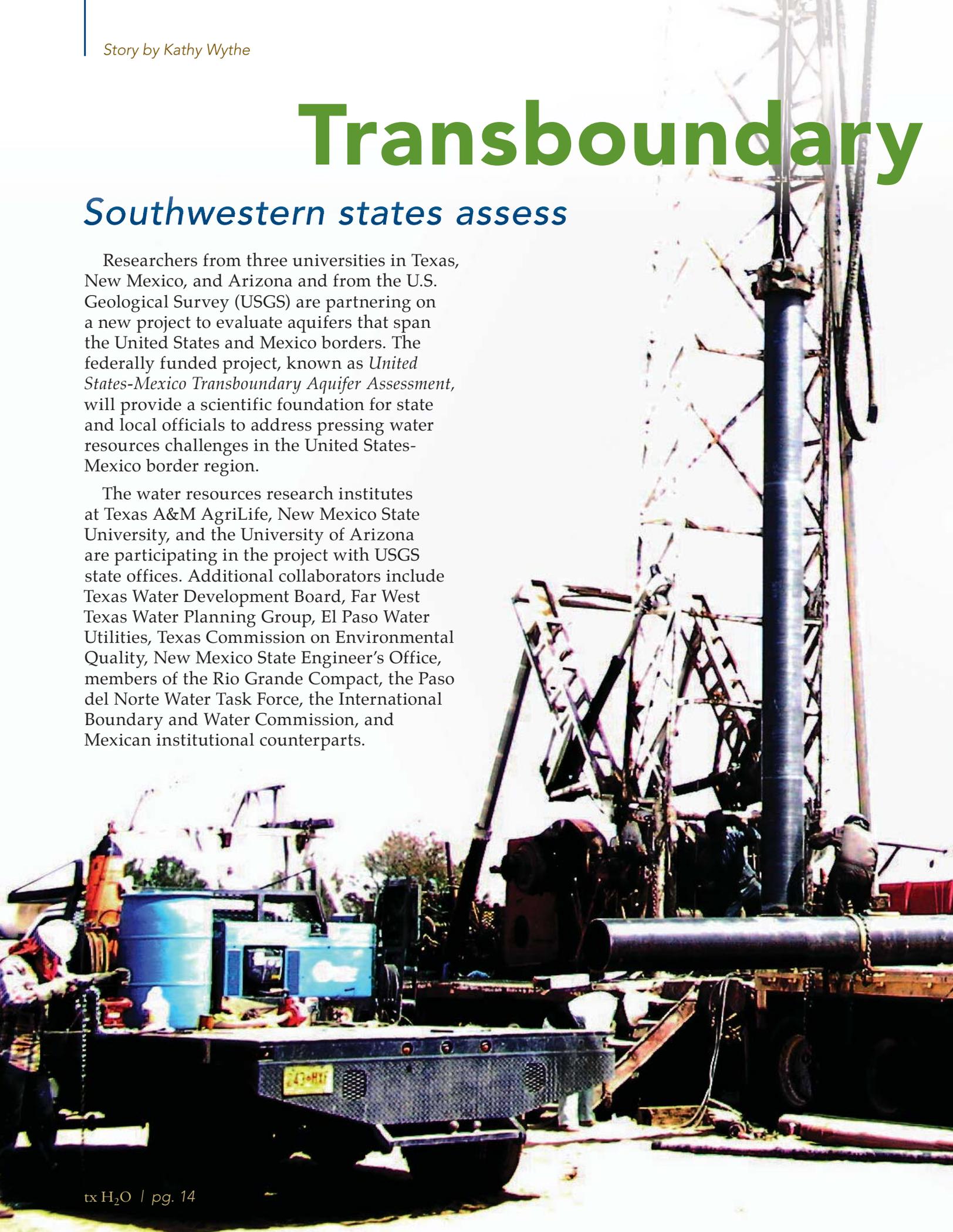


Transboundary

Southwestern states assess

Researchers from three universities in Texas, New Mexico, and Arizona and from the U.S. Geological Survey (USGS) are partnering on a new project to evaluate aquifers that span the United States and Mexico borders. The federally funded project, known as *United States-Mexico Transboundary Aquifer Assessment*, will provide a scientific foundation for state and local officials to address pressing water resources challenges in the United States-Mexico border region.

The water resources research institutes at Texas A&M AgriLife, New Mexico State University, and the University of Arizona are participating in the project with USGS state offices. Additional collaborators include Texas Water Development Board, Far West Texas Water Planning Group, El Paso Water Utilities, Texas Commission on Environmental Quality, New Mexico State Engineer's Office, members of the Rio Grande Compact, the Paso del Norte Water Task Force, the International Boundary and Water Commission, and Mexican institutional counterparts.



aquifers

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—Karl Wood, director of the New Mexico Water Resources Research Institute at New Mexico State University

Dr. Ari Michelsen, director of the Texas AgriLife Research and Extension Center at El Paso, serves as principal investigator for Texas. He said the U.S.-Mexico border region is experiencing rapid economic and population growth. With these increases comes additional demand on water resources across the border region.

“Water is a major factor in the economic development of these areas,” said Karl Wood, director of the New Mexico Water Resources Research Institute at New Mexico State University. New Mexico State is the lead institution for this project.

Because surface water is scarce and unreliable, the area relies heavily on groundwater in aquifers. Municipal and other water users are increasing their use of groundwater, raising concerns about the long-term quality and availability of this supply, Michelsen said.

“Groundwater is the major and, in many areas, the only water source for much of the U.S.-Mexico border region,” he said. “It is used for all the drinking water in southern New Mexico, all of Juarez, Mexico, and for half of the El Paso area.” ➔





Groundwater is an important source of water for farmers in irrigating their fields in the border region of southwestern United States and Mexico. The United States-Mexico Transboundary Aquifer Assessment project will evaluate the aquifers that hold the groundwater.

Using groundwater for irrigation is also a factor because of the continuing drought that has affected these areas, Wood said.

Wood and Michelsen said that one of the greatest problems is that not much is known about the aquifers. The project will address these questions: How extensive and how deep are the aquifers? Which directions are the aquifers flowing? What is the quality of the aquifers at various depths? How fast are they recharging or declining in supply and quality?

Answers to these questions will help with understanding and managing the groundwater, Michelsen said.

The Texas and New Mexico research groups are starting with the Mesilla Basin Aquifer, which underlies portions of New Mexico, Texas (near El Paso), and Mexico. Other priority aquifers set to be studied are the Hueco Bolson Aquifer in Texas and the Upper Santa Cruz and Upper San Pedro aquifers in Arizona and Mexico. Researchers may add others during the study.



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director of the Texas AgriLife Research
and Extension Center at El Paso

Sen. Jeff Bingaman of New Mexico sponsored the 2007 bill authorizing \$50 million over ten years for the project. Co-sponsors included Sen. Pete Domenici of New Mexico, Sen. Jon Kyl of Arizona, and Congressman Silvestre Reyes of Texas. The program was partially funded in 2008 with \$500,000 to begin the project.

“The overall goal is to develop a sound, scientific understanding and assessment of the aquifer extent, amount of water available, movement, use, and quality of our shared border aquifers,” Michelsen said. “This

information is critical to protecting water quality to safeguard human health and ensure sustainable economic development along the U.S.-Mexico international boundary.” 