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State looks at impact of climate on water

*By Brandi Grissom / Austin Bureau
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Water in the Rio Grande is the lifeblood for farmer Johnny Stubbs' livelihood.

"Without surface water, there wouldn't be any farming community all along the Rio Grande anywhere," said Stubbs, who grows cotton and other crops in El Paso County.

This year, state officials for the first time will study how climate changes affect the availability of water in the Rio Grande. A bill, by state Sen. Eliot Shapleigh, D-El Paso, requires the Texas Water Development Board to report those findings before the next legislative session in 2009.

"Every human needs water to survive," Shapleigh said. "Where, how, and at what cost we secure that water are some of the most important issues in Texas' future."

Other states, Shapleigh said, have already begun researching how increasing temperatures caused by global warming will impact natural resources.

In California, the studies have resulted in major changes, including strict limitations on pollution from cars and industry and new water management strategies, said Gregg Garfin, deputy directory for outreach at the University of Arizona's Institute for Study of Planet Earth.

"You have to go through these steps, gathering information and looking at policy initiatives, so that you can initially be prepared" when changes do occur, Garfin said.

Drastic rain events, followed by long dry periods, more severe erosion and warmer temperatures are what scientists expect along the Rio Grande in Texas, said John Zak, chairman of biological sciences at Texas Tech University. Zak has conducted field studies on climate change in Big Bend National Park since 1995.

Those conditions, he said, affect not only water availability, but also the makeup of the soil that plants need to grow and the appearance of the region in which border residents live.

"Our children's children are going to see a very different kind of landscape," Zak said.

The only recent consideration Texas has given to climate change and water planning has been a brief mention in the state's 50-year water plan adopted last year. Planners at the Texas Water Development Board wrote in the document that global warming trends do not necessarily hold true for Texas.

"When considering the uncertainties of population and water demand projections, the effect of climate change on the state's water resources over the next 50 years is probably small enough that it is unnecessary to plan for it specifically," the report states.

Now, though, planners at the agency are looking at studies done in other states for guidance in examining how the Rio Grande is affected by climate change, said Carolyn Brittin, director of water resources planning at the water development board.

Brittin said she plans to ask the water development board to also study climate change affects on water resources statewide.

Studying what rising temperatures mean to water in the state, Shapleigh said, will help lawmakers prepare for Texas' future needs.

It could help them decide, he said, where new reservoirs should be built, which cities need boosts in underground water supplies and what conservation plans could help save the most water.

"You want to understand (it), so you can predict consequences and make informed choices," he said.

For farmer Stubbs, though, the studies amount to a pile of books on some agency engineer's desk in Austin.

What counts when it comes to making a living off the land, he said, is knowing that the weather is always going to change and always comes in cycles. Some years are hotter and drier, some are cooler and wetter and sometimes, he said, it's just unpredictable.

"You base your decision every year on resources you have available to you," he said. "You're going to get in real trouble if you base your operation on theory or guesstimate. You gotta look at what's real."

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