



COMMITTEE LOOKS TO INTEGRATE RESEARCH INTO DROUGHT PLANNING

A group of Texas university professors and agency staff has formed a Drought Technology Steering Committee to better understand how university research-based information can help in understanding and facing drought in Texas.

According to Dr. David Maidment, professor and associate director of the Center for Integrated Earth System Science at the University of Texas, since Senate Bill 1 in 1997, which followed the last severe drought in 1996, the state has made an effort to develop a secure infrastructure for long-term water planning. The current drought, however, has exposed the state's vulnerability in coping with near-term decision-making, he said.

"What the drought has revealed is that critical issues are now 10 days or weeks or months away rather than 10 years away," he said.

The state needs a better ability to "see ahead" for at least a few months more than it currently has to determine what and when water shortages may occur and the ability to make statistical projections for longer periods, he said.

"We don't have a synthesized situational awareness of the current condition of our water system statewide," Maidment said. "We need to be able to see ahead six to 18 months for rational decision-making.

"What we are trying to do in the drought technology steering committee," he said, "is bring the best data and models and science that we can and to interact with our state government water leaders and other water stakeholders so we can move forward with the best insight and understanding of what the future conditions are going to be."

The Lower Colorado River Authority is an example of making decisions based on simulation models of what could happen, he said. Based on its simulations, the river authority decided not to release water for rice irrigation this year.


In conjunction with the committee, Dr. John Nielsen-Gammon, state

climatologist and professor in Texas A&M University's Department of Atmospheric Sciences, conducts weekly Texas Drought Monitor Coordination conference calls. During these calls, information about drought and its effects are discussed, and changes to the U.S. Drought Monitor that would more accurately reflect drought conditions are recommended.

Maidment said he would like to see a Texas Water and Climate Model developed that integrates weather and climate models to continually trace the volume and movement of water throughout the state. Tracking and qualifying soil water movement and streamflow; changes in water storage systems; and land surface features such as soil type, land cover and green vegetation fraction could be integrated in the model. Texas A&M's contribution in the development of such a model is very important, especially the aspects dealing with soil, vegetation and agriculture, he added.

"I am concerned if we are ever faced with a sustained year-to-year drought," Maidment said. "Although we can't change the physical circumstances that we are faced with, we can change how we react to those (circumstances)."

Agency members of the steering committee are Brenner Brown, Texas Water Development Board, chairman; Kathy Alexander, Texas Commission on Environmental Quality; Mike Bewley, Texas Department of Emergency Management; and David Bradsby, Texas Parks and Wildlife Department. University of Texas members are Maidment, Dr. Jay Banner, Dr. Cedric David, Dr. Danny Reible, Dr. Michael Webber, Dr. Gordon Wells, Dr. Zong-Liang Yang and Dr. Michael Young. Texas A&M members are Nielsen-Gammon and Dr. Binayak Mohanty. Texas Tech University is represented by Dr. Ken Rainwater.

More information can be found on the committee's website at texasdroughtinfo.org/. 

A partial skeleton in the hot Texas desert. iStockPhoto. © Clint Spencer.