UT tackles climate change, resource management with multidisciplinary approach

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Published on June 25, 2019 at 12:00 am

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The population of Texas is expected to double to 55 million by the year 2050, according to the Texas Demographic Center.

In 2016, UT established Planet Texas 2050, a multiyear and multidisciplinary project to tackle problems the state faces related to resource management and an increased population. The Planet Texas project covers topics such as where water will come from in the future, how to improve the energy grid and how to keep Texans safe during weather-related crises.

While the project uses science to study the effects of climate change and population growth in Texas, it also incorporates disciplines such as English, classics and art. This multidisciplinary aspect has been important in solving problems Texas will face in the near future, said Michael Young, a member of the Planet Texas organizing committee.

“All research is really about working with people,“ said Young, associate director of the Bureau of Economic Geology. “Our ability to work really well with one another, that’s what we’ve done really well with Planet Texas.”

Two key aspects of this approach are turning raw data from the project into more relatable stories and trying to understand how communities have previously responded to similar problems that exist today, said Heather Houser, an associate English professor and Planet Texas committee member.

The Texas Water Stories project, which falls under the larger umbrella of Planet Texas 2050, collects modern stories from farmers and ranchers across Texas, Houser said.

“We are really aiming to understand how people have been resilient in the past and presently,” Houser said. “So instead of imposing strategies for resilience before we get to know communities, (we are) actually going and learning about what people have been doing up until now.”

Another project, Population Dynamics in Premodern Societies, analyzes population movements from premodern societies to understand how these communities responded to overpopulation and increased water usage.

“The premodern society component of Planet Texas … looks at how ancient societies have adapted or failed to adapt to extreme environmental changes and extreme population shifts,” Houser said. “Some of those projects are looking at Greco-Roman societies (and societies) in South America and Central America.”

Planet Texas hopes to bridge the gap in knowledge between academics, policymakers and the community, said Suzanne Pierce, a research scientist at the Texas Advanced Computing Center and Planet Texas committee member.

“Through a process called codesign, everyone is participating actively … and that really transforms the methods and approaches that you see in a traditional academic research project,” Pierce said. “Knowledge from people who are living on the ground and (people) in government agencies is as important as … the most technical and complex knowledge that comes out of (research) circles.”