TWRI 2020

ANNUAL REPORT

Helping Texans make every drop count since 1952

Texas Water Resources Institute
make every drop count

TWRI.TAMU.EDU

WHO WE ARE

The Texas Water Resources Institute (TWRI) has helped solve Texas' water issues through research, education and outreach for 68 years.

Established in 1952, TWRI became the state's official water resources institute in 1964. We are one of 54 institutes within the National Institutes for Water Resources that are partially supported by the U.S. Geological Survey.

We deliver science-based, community-supported solutions for the state's pressing water quantity and quality challenges through internal expertise and external collaborations.

We provide:

- project development and management
- stakeholder engagement
- watershed and aquifer assessment and planning
- bacterial source tracking
- water conservation research
- geospatial analysis
- professional training
- public outreach

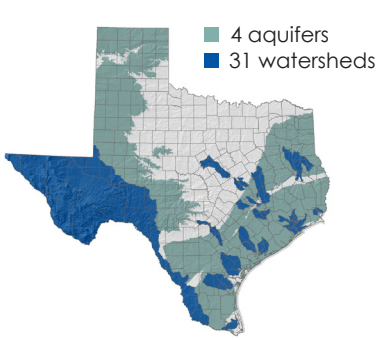
We connect research teams and communities to multidisciplinary expertise. We do this by serving as a gateway to a national network of water institutes, the Texas A&M University System and other universities and water resources organizations.

We are a unit of Texas A&M AgriLife Research, Texas A&M AgriLife Extension Service and the College of Agriculture and Life Sciences at Texas A&M University.

We collaborate with all Texas A&M System units engaged in water resources research and outreach. We maintain strong collaborations with

- Texas A&M College of Engineering
- Texas A&M College of Geosciences
- Institute for Science, Technology and Public Policy, Bush School of Government and Public Service
- Texas A&M Law School in Fort Worth

IMPACTS & ENGAGEMENTS



$3,596,523
— in new external grants —

Project collaborations

25 internal TAMU System

54 external collaborators

3 regional colleges

82 total collaborators on 70 projects

Social media followers

Twitter: 4,212 (7% increase)

Facebook: 2,064 (12% increase)

Instagram: 1,000 (27% increase)

Pinterest: 464 (2% increase)

7,742 total followers (10% increase)

52 news releases

114 media mentions

63 presentations to

5,490 people in attendance

16 students supported

4,848 Facebook users engaged

123,778 Facebook users reached

50 publications

4,880 *txH$_2$O* magazine subscribers

10,767 newsletters subscribers

PANDEMIC PIVOTING

Just as the COVID-19 pandemic changed everyday life in 2020, the pandemic also changed how TWRI tackled water research and conservation outreach. We began conducting trainings and holding conferences in a remote, online format. Far from just a way to get by in an unprecedented global catastrophe, the changes were surprisingly successful.

With online, remote programs, TWRI saw better, broader participation from stakeholders across our educational programs and events. Because they were not limited by the need to travel, stakeholders "attended" TWRI programs from all over Texas and beyond.

Below are three key successes of TWRI's pandemic pivot.

PROGRAM HIGHLIGHTS

RESTORING & PROTECTING: INTRODUCTION TO MODELING WORKSHOP

The annual Introduction to Watershed Modeling workshop has in the past been heavily promoted and a high turnout event, generally including 20 to 30 in-person participants. However, the switch to a virtual event opened the floodgates to participation from around the state.

A single email blast about the April 15, 2020, virtual workshop resulted in so much interest that participation had to be capped at 100 people, and a waiting list was created. On the day of the workshop, there was consistent participation from 80 to 95 attendees over the course of the daylong event.

SUSTAINING & ENHANCING: TRANSBOUNDARY GROUNDWATER CONFERENCE

The October 14–15 U.S.-Mexico Transboundary Groundwater Conference, themed "Innovation and Creativity: Strategies for Unprecedented Challenges," was the first major conference of the Permanent Forum of Binational Waters. An average of 140 participants hailing from numerous U.S. and Mexican states attended the two-day event. However, unlike an in-person international conference, which usually see more attendees from the host country than from the visiting country, the Transboundary Groundwater Conference saw relatively equal numbers of attendees from Mexico and the United States.

Holding the conference remotely removed the hassle of attendees travelling internationally. Additionally, the presence of real-time translators for both Spanish and English allowed participants speaking different languages to interact almost seamlessly together despite not speaking one another's language. The increased accessibility and ease of participation allowed the event to embody its mission to explore innovative perspectives of transboundary groundwater resources management between Mexico and the United States.

ENGAGING & EDUCATING: RIPARIAN TRAININGS AND THE URBAN RIPARIAN SYMPOSIUM

The pandemic forced all of TWRI's training events to go online. It did not take long for instructors to notice there were more participants attending the events and from all over Texas. Though riparian programs are targeted to specific watersheds, there is also a lot of general information that is widely applicable. Holding the programs online allowed organizers to still target a certain watershed while also allowing people from anywhere to participate and learn about riparian issues.

This yearlong experience in 2020 also translated into some unexpected success in 2021, allowing TWRI to deliver on an often-requested option. Past in-person Urban Riparian Symposia had concurrent sessions that forced participants to decide which to attend. Participants have often asked for the ability to attend all of the sessions or be able to review them afterward. With a year of experience hosting online events and preparing them to be viewed asynchronously, TWRI personnel were able to meet this request for the Urban Riparian Symposium on February 10–12, 2021. Since everything was recorded, participants could participate in the live event and then go back and watch the other sessions at their leisure.

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EXPANDING OUR IMPACT

THE CIRCLE OF RESEARCH: OLD PROJECTS AND NEW

The tidal cycle of research sees some projects end just as others begin. TWRI saw the long-running Ogallala Water Coordinated Agriculture Project preparing for its end in 2020 just as the initial efforts for the new Dallas urban water project — tentatively named the Urban Water Innovation and Sustainability Hub, or "Urban WISH" — were beginning.

OGALLALA WATER COORDINATED AGRICULTURE PROJECT (CAP)

The Ogallala Water CAP began in 2016 and ran through early 2021. It was a USDA-NIFA-funded multidisciplinary research and outreach project focused on helping address issues related to groundwater declines in areas dependent on the Ogallala Aquifer. The collaborative project was led by Colorado State University and brought together over 70 researchers from nine institutions across six states. It has fostered excitement and collaboration to find solutions to the problem of water declines in the Ogallala Aquifer.

The project's final event, the 2021 Ogallala Aquifer Summit, was originally slated for March 2020. The event was postponed due to the COVID-19 pandemic, but the added 13-month wait time did not slow down the energy of project partners and stakeholders. Participants in this final event left energized to continue the interactive effort to find innovative answers to the needs of and threats to the aquifer, even after the end of the project.

DALLAS URBAN WATER INNOVATION AND SUSTAINABILITY HUB (URBAN WISH)

The new Dallas Urban Water Innovation and Sustainability Hub (Urban WISH) launched in 2021. The project is a new opportunity to build the research vision on urban water sustainability, a topic that is critical to the wellbeing of the Dallas Metroplex. The goal of the Urban WISH program is to address the current and future water sustainability challenges in a fast-growing region. We focus our efforts in six practice areas: (1) blue-green infrastructure; (2) urban water equity; (3) science of urban extension; (4) hydrological services; (5) urban water reuse and conservation; and (6) urban water and data science. Our interdisciplinary approach addresses critical science questions that are interconnected with the needs of urban residents. By tackling the science of sustainable urban water from a convergent perspective, our research will not only benefit stakeholders but include stakeholders from its very inception.

Urban WISH is a TWRI initiative of the Texas A&M AgriLife Research and Extension Center at Dallas. The Dallas Metroplex is one of the fastest-growing, most dynamic urban spaces in the country, making it an ideal location to pioneer a more engaged approach to dealing with the unique and growing challenges of urban water sustainability and security. Water is always a critical component of any urban system. A place as dynamic as Dallas demands that water researchers engage a diverse set of stakeholders and cultivate new partnerships; Urban WISH is poised to do just that.

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SOCIAL MEDIA: @TXWRI

Texas A&M AgriLife

Texas A&M University

Photo credit: Chantal Cough-Schulze, TWRI.