

2025 Annual Report



The University of Texas at Austin
Jackson School of Geosciences



The University of Texas at Austin
Environmental Science Institute

Table of Contents

1. Mission
2. A Letter from our Director
3. Research Programs
4. Community Engagement Programs
5. Education Programs
6. Financials
7. Staff
8. Sponsors & Partners

Mission

To advance the understanding of the environment and sustainability through the development of interdisciplinary research, education and outreach programs.

About

The [Environmental Science Institute](#) (ESI), founded in 2000 by The University of Texas at Austin, is an interdisciplinary institute for scientific research, education, and outreach in environmental studies. ESI serves as a hub for integrating studies of Earth, life, and technological systems, while advancing science, technology, engineering and math (STEM) education, and sharing environmental research of local and global significance.



Letter from the Director

Thank you for your continued support of the Environmental Science Institute (ESI). For more than two decades, ESI has connected scientists, students, educators, and communities to address pressing environmental challenges.

This year, ESI expanded its community engagement through programs such as *Hot Science – Cool Talks* and Hot Science TV, which bring STEM research to broad audiences. Education remains central to our mission, offering students a mix of interdisciplinary courses and hands-on experiences through internships and research opportunities.

ESI also builds research networks that bring together universities, nonprofits, and local stakeholders to amplify impact. Through the BRIDGES program, we're connecting researchers with communities to address local resilience challenges. Meanwhile, the Texas Water Research Network, now comprising hundreds of researchers and stakeholders, exemplifies our commitment to collaborative solutions for water issues.

We invite you to explore this annual report and the work made possible through your support.

Sincerely,
Dr. Jay Banner
Director, Environmental Science Institute



Community Engagement Programs

The BRIDGES Program

BRIDGES connects UT Austin researchers with local communities and other stakeholders to address resilience challenges in water and air quality, land use, and climate. By pairing community knowledge with academic expertise, BRIDGES advances community-driven research with measurable, real-world impact.

Program Video: <https://bit.ly/UTBRIDGES>

Scale & Collaboration

- Partnership with community organization, PODER, builds trust and impact
- Academic engagement spans 6 UT colleges
- 7 Community Fellows engaged across Austin neighborhoods
- Mutual learning between researchers and residents



Community Engagement Programs



"I thought this would be a good thing to be a part of, and hopefully...help weave a conversation together that is proactive and healthy for our community"
- Community Fellow



The BRIDGES Program

8 active projects

330 community surveys

informing resilience research

Community Reach & Impact

- *Boggy Creek*: Water sampling identified elevated E. coli levels and collaboration with the City of Austin led to infrastructure repairs that improved water quality
- *Austin's Colony*: Ongoing monitoring and data sharing empowers residents to advocate for clean, accessible and affordable drinking water.
- Students gained hands-on research experience; five projects presented at national conferences

Community Engagement Programs

Hot Science - Cool Talks

Hot Science - Cool Talks (HSCT) is a nationally recognized STEM series that brings world-class research to learners of all ages through engaging public events. Held six times a year, each program features 75-minutes of hands-on *Cool Activities* followed by an engaging presentation from a leading scientist.

The 2025 HSCT season

2,700+ Attendees

including 700 K-12 teachers & students

70 HSCT Partners

leading hands-on *Cool Activities*



***"Attending was a powerful reminder of how science isn't just done in universities or labs...It was a great way to build community around real, active research."
- UT Undergraduate Student***



Community Engagement Programs

Hot Science TV

Inspired by *Hot Science - Cool Talks*, *Hot Science TV* is a documentary series that showcases leading scientists sharing the excitement of scientific discovery through vivid storytelling with educational content to captivate and educate a diverse audience, along with comprehensive educator guides available at HotScience.TV.



“[HSTV is] super informational and engaging, and easy to understand and digest due to its relatable language and media.”
- STEM Educator

In 2025, HSTV...

- Expanded access through a PBS Austin partnership on PBS LearningMedia
- Demonstrated *HSTV*'s impact through research on student engagement and motivation, earning international recognition at an education conference in Mexico.

Research Programs

ESI fosters interdisciplinary research on water, climate change, ecosystems, and urbanization to deepen understanding of human-environment interactions.

Texas Water Research Network

**260+ researchers
and stakeholders**

**4 peer-reviewed journal
articles published**

TWRN Fall Meeting Impact

- 98 participants at 12th TWRN Meeting
- Panels, talks and posters on emerging contaminants and climate-driven risks
- Collaboration with the *Texas Water Journal*
- 7 extended abstracts to be published



***“The meeting has been instrumental in making my collaboration with the Edwards Aquifer Authority possible.”
- Dr. Shujuan Mao, UT Austin***



Research Programs

RAPID Response to Kerrville Floods

- NSF-funded project: Emergency Collection of Tree-Ring Archives from Bald Cypress Killed or Damaged in the July 2025 Guadalupe River Flood
- Working to recover centuries of flood history data from bald cypress tree ring data to improve flood-risk understanding and future protection
- Collaboration with the Kerr County Sheriff's Office, local sawmills, and property owners to access salvaged, scientifically valuable wood
- Jay Banner featured on [CBS Evening News](#), sharing geological, climatological, and hydrological perspectives on the flooding



Education Programs

Academic Impact

- ESI established new degree programs, including a B.S. in Environmental Science across three UT colleges
- Developing new Bridging Disciplines Program in Community Resilience and the Environment (under review)
- Funded development of a new course, *Zero-Waste Consulting for a Sustainable World*
- Expanded access to [sustainability degree pathways](#)
- Supported the [Mitchell Sustainability Symposium](#) (200+ attendees)
- The [Bleed Orange, Live Green survey](#) found that 70% of undergraduate and graduate students are interested in sustainability careers



Education Programs

Courses

Sustaining a Planet and [Environmental Resilience Science](#) courses offer foundational and field-based training

Internship Partnership

Dell Technologies provides year-long, paid sustainability internships

**4 interns selected and
2 full-time job offers (2025)**

Research

National Science Foundation [Research Experience for Undergraduates](#) program offers intensive research training

21 years of impact
training 194 students

**70% of students from
non-research (R1) institutions**



*“The REU program helped me narrow down my future career and graduate school plans”
- REU Student*



Meet Our Team



- Jay Banner, Director
- Jose L. Abella Gutiérrez, Research Scientist Associate
- Angelina DeRose, STEM Community Engagement Prog. Coord.
- Chase Cobb, Academic Program Coordinator
- Mashal Awais, Community Engagement Program Coordinator
- 140 affiliated faculty

Contact us at our Main Office

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Financials

Historical Overview since ESI's founding in 2000

- \$30.7M+ External Funding Secured to date
 - E.g., Federal agencies, foundations, industry, private philanthropy
- \$4.8M Internal University Investment to date
 - E.g., Provost, College of Natural Sciences, Jackson School of Geosciences
- For every \$1 invested by UT, ESI generated \$6.40 in external funding

2025 Highlights

- \$0.61M — Current grant revenue
- \$1.3M — Pending Awards
- \$3M — Proposals in preparation
- Principal support: U.S. National Science Foundation, Cynthia and George Mitchell Foundation, and Winn Family Foundation

Partners & Sponsors

We are grateful to our many valued sponsors and partners for their support.

Institutional Home

- Jackson School of Geosciences

Government Sponsors

- National Science Foundation
- Edwards Aquifer Authority
- City of Austin
- Texas Water Journal

Community Partners

- PODER
- Barton Springs Edwards Aquifer Conservation District
- ESI Advisory Council

Foundation Sponsors

- Cynthia and George Mitchell Foundation
- Winn Family Foundation

Corporate Sponsors

- Dell Technologies Inc.
- Stantec
- H-E-B

Endowment Support

- Billy Carr Teaching Fellowship
- David and Alicia Martineau
- Leon and Leroy Jones
- Pam and Rom Welborn
- Sigman Family
- Michael and Elizabeth Tomsu

We also extend our thanks to the hundreds of individual donors who make this work possible.



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