

A Framework Applied Three Ways:

Co-Developing and Implementing Community Science Solutions for Local Impact



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Communities and scientists working together, using Earth and space science to advance local priorities

Thrivingearthexchange.org

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TEX Centennial Mission

By 2019, Thriving Earth Exchange will launch 100 partnerships, engage over 100 AGU members, catalyze 100 shareable solutions, and improve the lives of 10 million people.

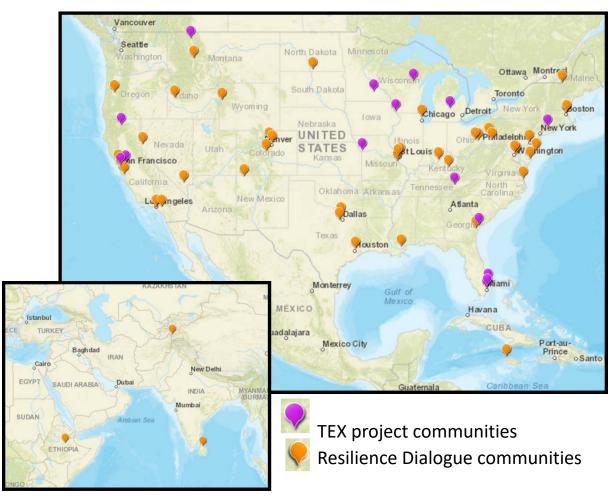






Community Impact

- Over 65 Projects;25 completed
- Impacting over 12 million people
- Project results at thrivingearthexchange.org/our-impact







Community Science:

When scientists and communities do science together to advance one or more community priorities.

Community Science Values

- community context & local knowledge
 - trust & partnership
 - Collaborative planning and action
 - people, process, results
 - community impact •







Benefits of Community Science

- Inspires innovative research
- Engages diverse communities
- Develops new skills
- Advances science learning
- Increases support for science
- Cares for the Earth
- Pays it forward





TEX Statement on Integrity in Community Science

Definition

Community science is defined as the process by which scientists and communities do science together to advance one or more community priorities. Doing science includes defining questions; designing protocols; collecting and analyzing data; and using scientific knowledge in decision-making and planning. Communities can be communities of geography, communities of practice, or people bound by common interests. Community Science has several benefits:

- It advances community priorities and scientific knowledge
- It increases communities' understanding of science and scientists' understanding of communities
- It enhances the scientists' ability to contribute to societal goals and communities' ability to leverage science
- It broadens participation in science and expands access to scientific knowledge, especially with communities that have been historically underserved and under-represented in science
- · It promotes transparency in decision-making, planning and research

All these benefits depend on and derive from the integrity of community science.

Purpose

This statement is intended to document and share the principles of community science. It was designed for and by TEX participants, but it rests on broader principles. Pragmatically, it is designed to be a foundation for successful community science projects launched through TEX and a starting point for developing operational practices for individual projects. Many cultural traditions and a growing body of research suggest that articulating shared values and responsibilities at the start of a cooperative project improves outcomes and impact. TEX hopes to inspire the larger scientific community and encourage strong and expanded collaboration between communities and scientists for the common good.

Foundations

- Community science is based on the highest standards of integrity in research, as articulated, for example, in the <u>Singapore Statement on Research Integrity</u>, which AGU has used as the foundation for AGU's <u>Scientific Ethics and Professional Integrity Policy</u>.
- Community science follows the highest standards for ethical engagement with communities.
 One statement of those standards is the <u>Principles for the Ethical Engagement in Public Health</u>, from the American Public Health Association and the Association of Schools of Public Health.

Comments due 15 January http://bit.ly/TEXstatement



How TEX does community science

SCOPE MATCH Define projects that A pro-bono use Earth Science to scientist to work advance local with community priorities leaders SOLYE OF APPLE **SHARE SOLVE** Celebrate your success and share your methods. Ongoing coachi connections to I impact THRIVING EARTH

How it Works: Milestones (Scope)

Milestone	Key Outcomes
1. Community Context	TEX Project Liaison (the person who represents TEX and is initiating the relationship with the community on behalf of TEX) understands the community and its priorities, strengths, and weaknesses.
2. Connecting to Earth and Space Science	Community representative (the person(s) who represent(s) the community) understands the nature of TEX and ESS and what they could achieve by working with a volunteer Earth or space scientist.
3. Outlining a Project	TEX project liaisons and community leaders agree on a project that uses Earth and space science to advance a community priority.
4. Writing a Project Description and Confirming Community Buy-in	A project description that describes the project scope, expected outcomes, and scientific partner role.

Scope Milestone 2: Connecting to Earth and Space Science (ESS)

Key Outcome

Community representative (the person(s) who represent(s) the community) understands the nature of TEX and ESS and what they could achieve by working with a volunteer Earth or space scientist.

Example

Clark is a city planner with Smallville, KS. His community is prone to increasing earthquakes. The city has just approved funding to build a much needed highway. Through a discussion with a TEX project liaison, he learns that a seismologist may be able to provide insights into making the highway more earthquake resistant.

How will we know when we've completed this step?

The TEX project liaison is able to make the connection to community priority(ies) and their connection to geoscience. The community representatives should be able to talk to their colleagues about AGU, Earth and space sciences (ESS) and TEX's mission of leveraging Earth and space scientists to work with communities to advance their priorities. The TEX project liaison can tell one or more stories of how ESS could support the community priorities.

Key questions to address

- What is ESS?
- What are the community priorities?
- What are the connections between the community priorities and ESS?
- What are some examples of how ESS could help advance one or more of the community priorities?

Suggestions from successful projects

- Share examples of how other communities have used ESS to address their priorities you can
 use other TEX projects for that,
- It's preferable to have multiple ESS connections on the table
- Use brainstorming rules don't tell people why things won't work, instead try to think of ways to make them work
- "Yes and,"

TEX Support

TEX Project Liaisons can help schedule the call and lead the discussion.



thrivingearthexchange.org/milestones/



Three Ways to practice Community Science



1-on-1 TEX Project



Online Dialogues



Cohort-based Collaboration

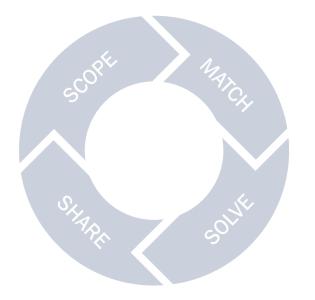




One-on-one TEX Project

Each project team has a dedicated TEX Liaison who helps them scope, match, solve and share.

- Best for:
 - Communities that have a clear objective
 - Communities with resources for extended engagement
 - Communities with a clear timeline
- Strengths:
 - Customized support
 - Self-paced





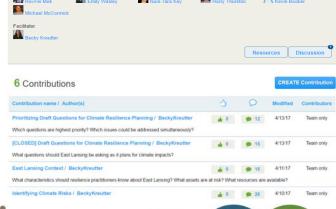


Online Dialogues

Small groups of community leaders & scientists engage in facilitated, online discussion focused around scoping.

Antioch Framing Dialogue 2017

- Best for:
 - Communities exploring their environmental impacts
 - Communities seeking insights from a diverse experts
 - Communities considering multiple actions
- Strengths:
 - Encourages wider community engagement
 - Enables consultation with multiple scientists
 - Can lead to a 1-on-1 TEX Project



Antioch's climate risks, challenges, and opportunities. If you have additional comments that you couldn't get to this week, please feel fr

What climate risks and opportunities does Antioch face? resilience issues and how can Antioch involve them?









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Cohort-Based Collaboration

Project Launch Workshops



Community Science Connect







Cohort-Based Collaboration

Several project teams support each other through scope, match, solve and share.

- Best for:
 - Project teams that want to collaborate with other project teams
 - Projects that are localized examples of a broader issues (e.g. flooding)
 - Leveraging and adding to existing relationships
- Strengths:
 - Peer-to-peer learning and support
 - "I'm not in this alone."
 - Shared timelines and structure





Science to Action Innovations

- TEX has created a place and a structure for communities and scientists to connect.
- Every project informs and contributes to future projects in TEX and beyond.

Want to get involved?
Visit:
thrivingearthexchange.org/scientists





Thank You!

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