Inclusive planning to support climate resilience with the Equitable Resilience Builder (ERB) Tool

Presenters: Keely Maxwell, Marissa Matsler, Maureen Shacklette (NSSC)

US EPA Office of Research & Development

Chesapeake Bay Climate Resiliency Workgroup
August 15, 2024

Community Engagement and Planning for Watershed Resilience

Grand Rapids Urban Waters Federal Partnership

https://storymaps.arcgis.com/stories/0f304067072d40a6a9d21f398902e990

What is ERB?

A downloadable tool for inclusive resilience planning for disasters and climate change

Who might use it:
- State, county, municipal, Tribal, territorial agencies
- Emergency managers, environmental and public health departments, land use planners
- Community organizations

Use it to plan for:
- Climate adaptation
- Disaster resilience
- Hazard mitigation

It helps you:
- Engage with community groups and agencies
- Assess local hazards, equity, and resilience of social, built, and natural environment systems
- Identify and evaluate actions to take to support resilience in an equitable way

The tool provides:
- Suggestions for collaborative activities
- A space to save and store materials
- Visualizations of results

ERB Team Positionality Statement

We, the ERB team, offer this positionality statement[1,2] in an effort to make transparent the ways in which our professional roles, training, and life experiences have shaped the development of the Equitable Resilience Builder.

We are a team of mostly white, female-identifying researchers in the EPA Office of Research and Development who share a passion for environmental stewardship and public service. We aim to advance environmental equity and justice as an integral part of EPA's mission to protect human health and the environment for all Americans. We have been trained in environmental and social sciences in the United States, and we acknowledge that the legacies of our scientific disciplines such as anthropology, ecology, and urban planning include systemic racism and exclusive practices that have led to generational harm by contributing to colonial resource extraction and dispossession[3,4,5]. As federal and civilian researchers, we work to be self-reflective about our frames of reference, seek perspectives that are different from our own, and integrate other forms of knowledge and scientific practice into our work such as indigenous science and knowledge and lived experiences of community members.

Disasters and climate change increasingly affect all people, however most of us do not come from communities that experience the greatest vulnerability and impacts and environmental injustices. As we strive to bridge federal science and community needs to make sure our research benefits the places we work, we prioritize engagement with impacted communities and practitioners of equitable resilience to inform our work. This is an iterative process, and we continue to learn from our interactions with practitioners and leaders that are building resilience in their communities.

Social & economic processes that create vulnerability

Environmental Injustice • Lack of Healthcare • Redlining

Lack of Access to Information • Inequities in Relief

Economic Insecurity • Discrimination • Racism

Impact some more than others

in multiple overlapping ways

Why resilience and equity?
Disproportionate impacts of climate change

Why resilience and equity? Avoid inequitable impacts of resilience projects

ERB centers equity in *content* and *process*

Outreach and engagement techniques
- Youth engagement guide
- "Centering equity" tips for each activity

Storytelling exercises
- Prompts for team meetings, community workshops
- Assessment begins with *local knowledge* and adds in scientific data
- Build relationships that support resilience

Participatory evaluation of resilient systems
- Indicator card sorting activity
- Use results to prioritize actions to take

Centering Equity Icons

Icons	Theme	Icon	Theme
♥	Empathy	🛡	Trust
👥	Representation	👥	Collaboration
⌀	Networking	🎙	Voice
∞	Adaptability	🎧	Active Listening
☂	Vulnerability	🍎	Local Knowledge

5 Customizable Sections

Plan — Goal [...] team

Find partners for grant applications

Engage — Diagr[...]ions, engagement plan

Demonstrate need or problem

Assess — Community st[...] mapp[...]

Strategize Actions — Action identif[...] strateg[...]

Evaluate actions potential impact and cost

Monitor and document impact

Move Forward — Implementation, funding, monitoring

Equitable Resilience Builder
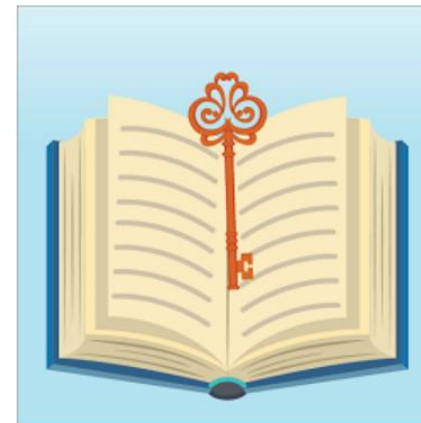## Inclusive planning for disasters and climate change

What is ERB?

- The 5 sections of ERB
- How ERB centers equity
- Examples of ERB projects

Get Started

- Start a new project
- Continue your project
- Explore the tool

Support

- Quick-start guide
- How to customize ERB
- About

EPA

What Communities Get from Using the ERB

STRONGER COMMUNITY CONNECTIONS AND NETWORKS

LEARNING ABOUT HAZARDS, EQUITY, AND RESILIENCE

ACTIONS AND COMMITMENTS TO IMPLEMENT THESE ACTIONS

VISUALIZATIONS

DOCUMENTATION OF THE ASSESSMENT

One-on-One Coaching

Goals:
- Support ERB tool users
- Evaluation and tool improvement
- How it works
  - Coaches are EPA staff with community engagement experience
  - Meet 2 hours per month one-on-one with the community core team

Interested?
- Email Eisenhauer.Emily@epa.gov or Nee.Raven@epa.gov

Open (Free) Office Hours 2nd Wed. 3rd Fri.

Thank you! Questions?

ERB tool and user guide

https://www.epa.gov/emergency-response-research/equitable-resilience-builder

ERB team and contributors

Authors, EPA Office of Research and Development: Keely Maxwell, Emily Eisenhauer, Susan Julius, Meridith Fry, Brittany Kiessling, Marissa Matsler, Lauren Oliver, Ian Reilly (ORISE), Maureen Shacklette (NSSC), Raven Nee (ORISE), Siena Henson (ORISE)

EPA Office of Water: Jeanine Finley, Ashley James

The Lab at OPM: Maggie Ollove, Sara Romanoski

Software development: Environmental Modeling and Visualization Lab/ ARA

Community case studies: EPA Regions 2, 4, 5, FEMA, NYS, Climate Resilience Consulting, Adaptation International, KLA

Additional reading

Fry, M., et al. (2023). Centering equity in the development of a community resilience planning resource. *Climate Risk Management* 40:100520. https://doi.org/10.1016/j.crm.2023.100520

Eisenhauer, E. and J. Finley. (2022). *Equitable Resilience to Flooding: A resource for practitioners on understanding economic, health, and social vulnerabilities and inequities in response and recovery.* Washington, D.C. EPA/600/R-23/214. https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=359626&Lab=CPHEA

Maxwell, K. (2018). A coupled human-natural systems framework of community resilience. *Journal of Natural Resources Policy Research* 8 (1-2): 110-130. https://doi.org/10.5325/naturesopolirese.8.1-2.0110

EPA (2017). *Evaluating Urban Resilience to Climate Change: A Multi-Sector Approach.* Washington, D.C. EPA/600/R16/365F. https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=NCEA&di

References

1. Secules, S., McCall, C., Mejia, J. A., Beebe, C., Masters, A. S., L. Sánchez-Peña, M., & Svyantek, M. (2021). Positionality practices and dimensions of impact on equity research: A collaborative inquiry and call to the community. *Journal of Engineering Education*, *110*(1), 19-43.

2. Bourke, Brian. 2014. "Positionality: Reflecting on the Research Proces." The Qualitative Report 19,33. https://core.ac.uk/download/pdf/51087095.pdf

3. Gupta, A. and Stoolman, J. "Decolonizing US Anthropology." American Anthropologist 124,4, 778-799. https://doi.org/10.1111/aman.13775

4. Trounstine, J. (2018). *Segregation by design: Local politics and inequality in American cities*. Cambridge University Press.

5. Trisos, C.H., Auerbach, J. & Katti, M. Decoloniality and anti-oppressive practices for a more ethical ecology. *Nat Ecol Evol* 5, 1205–1212 (2021). https://doi.org/10.1038/s41559-021-01460-w